

UNDERSTANDING LIFE

BACKWARD

BUT LIVING LIFE

FORWARD



**Analyzing to Understand
but Envisioning Possibilities
to Incentivize Action**

Martha Stark MD

UNDERSTANDING LIFE BACKWARD BUT LIVING LIFE FORWARD

**Analyzing to Understand but
Envisioning Possibilities to
Incentivize Action**

Martha Stark, MD

Faculty, Harvard Medical School

Copyright © 2021 Martha Stark

e-Book 2021 International Psychotherapy
Institute

All Rights Reserved

This e-book contains material protected under International and Federal Copyright Laws and Treaties. This e-book is intended for personal use only. Any unauthorized reprint or use of this material is prohibited. No part of this book may be used in any commercial manner without express permission of the author. Scholarly use of quotations must have proper attribution to the published work. This work may not be deconstructed, reverse engineered or reproduced in any other format.

Created in the United States of America

If you downloaded or accessed this ebook from anywhere other than www.freepsychotherapybook.org please report the offending organization to ebooks@theipi.org.

“Life can only be understood backwards;
but it must be lived forwards.”

Soren Kierkegaard

Table of Contents

- Chapter 1. [A Synergistic Approach To Mental Health](#)
- Chapter 2. [Solution-Focused, Action-Oriented Brief Treatments](#)
- Chapter 3. [Somatic Memory Reconsolidation—
psychomotor Psychotherapy.](#)
- Chapter 4. [Limited Potential Versus Unbounded Possibilities](#)
- Chapter 5. [The Dynamic Nature Of Memory.](#)
- Chapter 6. [A Window Into The Mind](#)
- Chapter 7. [The Healing Power Of Optimal Stress](#)
- Chapter 8. [Memory Integration \(models 1–4\),
versus Memory Reconsolidation
\(model 5\)](#)

- Chapter 9. [Spooky Action At A Distance](#)
- Chapter 10. [Interdependence Of All Five Modes
Of Therapeutic Action](#)
- Chapter 11. [The Neuroplastic Synergy Of
Mindfulness And Intentionality.](#)
- Chapter 12. [Overview Of Quantum
Disentanglement Statements](#)
- Chapter 13. [Understanding Life Backward And
Living Life Forward](#)
- Chapter 14. [Controversy Surrounding The
Concept Of Memory.
Reconsolidation](#)
- Chapter 15. [From Determinism To Free Will](#)

[References](#)

About the Author

Martha Stark, MD, a graduate of Harvard Medical School and the Boston Psychoanalytic Institute, is a Holistic (Adult and Child) Psychiatrist and Innovative Psychoanalyst in private practice in Boston, Massachusetts.

Martha is Faculty, Harvard Medical School; Co-Founder / Co-Director / Faculty, Center for Psychoanalytic Studies; Faculty, Psychiatry Redefined; Faculty / Scientific Advisory Board, Academy of Comprehensive Integrative Medicine; Adjunct Faculty, William James College and Smith College School for Social Work; Former Faculty, Boston Psychoanalytic

Institute and Massachusetts Institute for
Psychoanalysis.

Martha is an award-winning author of nine books on psychoanalytic theory and practice – several of which are “required reading” at a number of psychoanalytic training institutes and in various psychodynamic psychotherapy programs both in this country and abroad.

Board Certified by the American Association of Integrative Medicine, Martha contributes chapters to integrative medicine textbooks and articles to peer-reviewed toxicology / environmental medicine journals. She also serves on the editorial / advisory boards of various holistic health publications.

Martha is a frequent national and international lecturer on such holistic psychiatry and integrative medicine topics as “The Therapeutic Use of Optimal Stress to Provoke Recovery: Stronger at the Broken Places”; “The Wisdom of the Matrix: Integration, Balance, and Harmony”; “The Stark Sandpile Model of Healing”; “Neuroinflammation and Depression: When the Domain of the Pain Is the Brain”; “Therapeutic Memory Reconsolidation: The Mechanism by Which the Brain Updates Itself”; “Modes of Therapeutic Action”; and “Relentless Hope: The Refusal to Grieve.”

Martha writes – “For me, the pleasure that I get from a ‘good therapy hour’ is akin to the joy that I get from dancing West Coast Swing with a good partner and to music that I love (be it Rascal

Flatts, Bruno Mars, or the Backstreet Boys). For many years I have been an avid dancer of West Coast Swing (officially designated the “state dance” of California).

“Both therapy and West Coast swing are all about ‘mutuality and give-and-take’ – all about ‘intimate and intensely pleasurable connection’ between two people who are ‘exquisitely attuned to even the slightest nuance in the other’s engagement.’

“Unlike any other dance, West Coast Swing involves alternately ‘compressing’ and then ‘extending’ the ‘connection’ between the two dancers’ bodies – which is what creates the ‘beautifully rhythmic, captivatingly smooth, and mesmerizingly fluid look’ that characterizes the

dance – and, quite frankly, characterizes a ‘good therapy hour’ as well!”

Introduction

My Psychodynamic Synergy Paradigm (PSP) is an integrative approach to the psychotherapy of patients with deeply embedded emotional injuries and relational scars resulting from unmastered traumatic experiences in the past, compromising the quality of their lives in the present, and undermining their dreams for the future. PSP is a method of treatment that aims to advance patients from psychological rigidity to psychological flexibility such that once they have come to understand their lives backward and their compulsion to repeat, they can focus on envisioning new possibilities, expanding their horizons, and living their lives forward.

A SYNERGISTIC APPROACH TO MENTAL HEALTH

PSP (Stark 1994, 1999, 2016, 2017) was developed by me, a psychoanalyst and integrative psychiatrist who has long been interested in both the complex interdependence of mind and body and the actual process by which psychotherapy patients (whatever the level of their health) are released from the toxicity of their past and empowered to embrace love, work, and play to their greatest potential going forward.

Elaborated over the course of 30 years and drawing upon the finely honed wisdom of both long-term, in-depth treatments (most of which are

psychoanalytically informed) and short-term, intensive treatments (many of which rely upon brain-based strategies), PSP features five models —the first four of which focus on the relationship between the past and the present while the fifth focuses on the relationship between the present and the future.

Models 1–4 (representing, respectively, the classical psychoanalytic perspective, the self psychological perspective, the contemporary relational perspective, and the existential-humanistic perspective) are in the tradition of understanding our history as our destiny; which we are condemned to repeat unless we can remember it. My freshly minted Model 5 focuses on our destiny as our choice; which is ours to create if, in the present, we can take embodied

ownership of our need to extricate ourselves from the ties that bind us to our past so that we can construct a new narrative for ourselves going forward.

In essence, whereas Models 1–4 emphasize recognizing the entangled relationship between past and present and understanding, on the deepest of levels, all the ways in which the toxicity of the past has suffused the present, Model 5 emphasizes disentangling the past from the present, envisioning alternative possibilities for the future, and committing to action in alignment with that vision going forward.

Put simply, Models 1–4 require that we take ownership of the past, while Model 5 requires that we take ownership of the future.

Finally, whereas Models 1–4 focus on teasing out, working through, and grieving early-on relational traumas, Model 5 focuses on challenging, and adaptively updating, the narratives that were constructed as a result of those early-on relational traumas.

Juxtaposition of Reactivated *Old Bad* with Envisioned *New Good*

Consider the case of a patient who resists venturing into new social situations for fear of being shamed by others.

Models 1–4 would focus on exploring the historical roots of this irrational fear and on then gradually working it through—quite possibly within the context of the transference—by way of

grieving whatever early-on disappointments and heartbreak might have given rise to it.

Model 5, however, would highlight the patient's fear of being shamed as outdated and maladaptive and would then repeatedly and decisively challenge this learned expectation of being shamed by highlighting the possibility of experiencing, going forward, something different and better. The jolting violation of expectation resulting from this repeated and decisive juxtaposition of envisioned *new good* with reactivated *old bad* would ultimately generate enough cognitive, emotional, and somatic dissonance that a new, more reality-based narrative would be locked in, or reconsolidated, in the place of the old, now-disconfirmed one—such that, going forward, the expectation would

be not of being shamed but of being, say, accepted (Small 2015).

In essence, in Model 5 the adaptive updating of narratives results from ongoing, dramatic, and embodied challenging of preconceived, ill-founded expectations with new, more relevant experiences (whether real or simply envisioned) that violate those expectations—such that the conditioned responses will be disconfirmed and forward movement jumpstarted.

Alloying the Pure Gold of Analysis with the Copper of Direct Suggestion and Hypnotic Influence

As will later become clarified, the recent addition of Model 5 to my psychotherapy paradigm—almost 30 years after the first models

were conceived—is indeed in the tradition of Freud’s (1919) eventual acknowledgement that, in order to broaden its range of applicability, the “pure gold of analysis” might well need to be “alloyed” with the “copper of direct suggestion ... and hypnotic influence” (p. 168).

Advancing from Psychological Rigidity to Psychological Flexibility

Please note that the therapeutic action in the psychoanalytically informed Models 1–4 is generally described as involving transformation of *rigid defense* into *flexible adaptation*, whereas the therapeutic action in the neuroscientifically informed Model 5 is generally described as involving transformation of *outdated, disempowering narratives* that misguidedly fuel

defense into *updated, empowering narratives* that felicitously enable adaptation.

Whatever the model being referenced, however, *old bad* and *new good* will be the terms used to represent, respectively, psychic structures that are rigid, outdated, and growth-disrupting and psychic structures that are flexible, updated, and growth-promoting—key players in the therapeutic action of PSP.

An additional point of clarification: Throughout this book, repeated reference will be made to *body consciousness* (roughly the emotional right brain) and *brain consciousness* (roughly the analytic left brain). More specifically, the term body consciousness will be used to capture the essence of what

neuroscientists describe as the subconscious and what clinicians describe as the unconscious. Brain consciousness will be used to encompass everything within the patient's conscious awareness, which, as we shall see, will include Model 5 *mindful awareness* (accessed by way of mindful attention to what lies hidden within body consciousness) and *psychodynamic awareness* (acquired as a result of painstaking psychodynamic work in Models 1–4).

Transformative versus Transformational Impact

I will be using the word *transformative* (signifying *having the power to transform*) to describe the subtle, characterological shifts effected by the therapeutic action in Models 1–4.

In line with those neuroscientifically inclined clinicians who embrace the concept of therapeutic memory reconsolidation (Ecker et al. 2012, 2013; Feinstein 2019), however, I will be reserving the term *transformational* (signifying *dramatic change*) to describe the more major, targeted changes effected by the therapeutic action in Model 5.

Patterns of Relating to the Self, Others, and the World

A point of clarification with respect to Model 5: Mental schemas (neocortical memory networks), implicitly held memories, emotional learnings, relational expectations, emotional and relational knowings, attachment schemas, derivative narratives, embodied beliefs, patterns

of neural activity, cognitive patterns, mindsets, schematic knowledge, coherent constructs, deeply embedded preconceptions, entrenched reactivity, unconscious core schemas, constructed cognitions, and procedurally organized meanings are all terms that can be used interchangeably.

In essence, they describe mental programs stored in the brain, the distributed networks of which are encoded in those portions of the corticolimbic system (including the dorsolateral prefrontal cortex, anterior cingulate cortex, amygdala, and hippocampus) that are responsible for learning, memory, stress management, and self-regulation.

Additionally, whereas memory researchers tend to refer to something learned as a *memory*,

clinicians who embrace a reconsolidation-based approach tend to refer to things learned as either *narratives* or *(emotional) learnings*.

The reason for this is that most clinicians, unlike laboratory researchers, think of a memory as referring to something that the patient recalls having happened (for example, a specific childhood event that involved, say, being criticized) and of a narrative or emotional learning as the more generalized mental model that had then been constructed as a result of that experience (for example, the relational expectation that, going forward, people would be critical). By contrast, laboratory researchers think of a memory as referring to the generalized mental model itself. But both clinicians and

neuroscientists speak of *therapeutic memory reconsolidation* and understand it similarly.

In any event, whatever the term being used, the intent will be to convey the idea of (1) internal models, (2) perceptual filters, and (3) generalizable patterns of relating to the self, others, and the world—all of which translate events and experiences in the past into unconscious expectations for the future.

Conditioned Responses as Both Blessing and Curse

For the most part, as we go about our daily lives, our mental models eliminate the element of surprise for us because these deeply ingrained mental schemas, many of which we constructed early on in our lives in an effort to make sense of

the relational traumas to which we were being exposed, are the filters through which we now act, react, and interact with the world.

Whether we unwittingly come to experience others as *old bad* (by way of projection) or we unwittingly exert interpersonal pressure on others such that they become *old bad* (by way of projective identification), little guesswork will be involved for us as we move through our days and interface with the world—ever expecting and therefore, at least on some level, ever experiencing everything as familiar and therefore familiar (Mitchell 1988). In fact, most of what we think, feel, and do will be automatic, reflexive, conditioned, learned, habitual, unevolved, and mindless because of what had come before.

In truth, making the unconscious assumption that there will always be more of same is both a blessing and a curse (Ecker et al. 2013). On the one hand, implicit emotional and relational learnings are a blessing because they enable us to navigate our way deftly through situation after situation, without the need painstakingly to figure out from scratch every new situation. We simply know what to do, and we know it quickly (Ecker et al. 2013). On the other hand, these implicit knowings are a curse because they perpetuate the outdated, maladaptive, restrictive, and no-longer-relevant narratives that we unwittingly constructed as young, unevolved children in a desperate attempt to make sense of early-on relational privations, deprivations, and insults.

Cognitive, Affective, Relational, Existential, and Quantum Approaches

As we shall see, all five PSP models (the long-term, in-depth Models 1–4 and the short-term, intensive Model 5) involve advancement of the patient from defense to adaptation by way of mastering an optimal stressor. To facilitate recall, all five defenses start with the letter *R*, all five adaptations start with the letter *A*, and all five optimal stressors start with the letter *D* (preceded in Model 1 by the word *cognitive* to capture its essence; preceded in Model 2 by the word *affective* to capture its essence; preceded in Model 3 by the word *relational* to capture its essence; preceded in Model 4 by the word *existential* to capture its essence; and, finally,

preceded in Model 5 by the word *quantum* to capture its essence).

By the same token, the prepositions *within* (Model 1), *for* (Model 2), *with* (Model 3), *between* (Model 4), and *beyond* (Model 5) are specifically designed to speak, roughly, to the directionality of the therapeutic action.

Parenthetically, it has been suggested that defenses are the lies we tell ourselves in order to avoid the pain in our lives (Frederickson 2017); adaptations are the things we come up with in order to make the best of bad situations; and stressors are the obstacles we overcome in order to make ourselves stronger at the broken places.

From Cursing the Darkness to Lighting a Candle

With respect to the therapeutic action in the psychoanalytically informed Models 1–4, all four involve transforming psychological rigidity into psychological flexibility—as optimal stressors are worked through, as defensive need is incrementally replaced by adaptive capacity, and as defensive reaction is gradually transformed into adaptive response—such that, metaphorically speaking, reflexive *cursing of the darkness* evolves into the more reflective *lighting of a candle*.

As noted above, Models 1–4, representing four different schools of *psychodynamic psychotherapy*, are all informed by time-honored psychoanalytic concepts and focus on the working through of early-on relational traumas that had once been overwhelming and therefore

defended against but that can now, against the backdrop of a therapy relationship characterized by a collaborative alliance, secure attachment, empathic attunement, and authentic engagement, be processed, integrated, and adapted to. This will ultimately enable the patient to extricate herself from her infantile attachments, her relentless pursuits, and her compulsive repetitions.

As elaborated elsewhere (Stark 1994, 1999, 2015, 2016, 2017, 2019):

Model 1 (enhancement of knowledge *within*) is the interpretive perspective of classical psychoanalysis, an approach that focuses on gradual transformation of the patient's *resistance* (the defense) to acknowledging anxiety-provoking truths about herself and her internal conflictedness into *awareness*

(the adaptation) of those uncomfortable truths and insight into their genetic underpinnings, or historical roots.

The cutting edge of the therapeutic action in Model 1 will involve working through *cognitive dissonance* (the optimal stressor) between the patient's ever-evolving adaptive capacity to recognize both her investment in remaining stuck and the price she pays for refusing to let go.

Model 2 (provision of corrective experience for) is the deficiency-compensation perspective of self psychology and those object relations theories emphasizing *internal absence of good*, an approach that focuses on gradual transformation of the patient's *relentless hope* (the defense) and refusal to confront—and grieve—*anxiety-provoking truths* about the limitations and inadequacies of the objects in her world into serene, albeit sober, *acceptance* (the adaptation) of their separateness and immutability. In other

words, Model 2 involves the patient's facing, head-on, the excruciatingly devastating reality of her heartbreak—that it was what it was and is what it is.

The cutting edge of the therapeutic action in Model 2 will involve working through *affective (or optimal) disillusionment* (the optimal stressor) in the face of the patient's ever-evolving adaptive capacity to confront—and mourn—the futility of her relentless pursuits.

Model 3 (engagement in authentic relationship *with*) is the intersubjective perspective of contemporary relational theory and those object relations theories emphasizing *internal presence of bad*, an approach that focuses on gradual transformation of the patient's unwitting *re-enactment* (the defense) of the unmastered relational traumas sustained during her formative years into *accountability* (the adaptation) for the

compulsive repetition of these dysfunctional relational patterns in the here-and-now.

The cutting edge of the therapeutic action in Model 3 will involve relational detoxification (the optimal stressor) as a result of the patient's ever-evolving adaptive capacity to *negotiate at the intimate edge* (Ehrenberg 1992) of *authentic relatedness* to her therapist.

And Model 4 (facilitation of heartfelt moments of meeting *between*) is the existential-humanistic perspective, an approach that focuses on gradual transformation of the patient's *relational absence* (the defense), psychic retreat, and schizoid withdrawal from the world because of early-on shattering heartbreak into *accessibility* (the adaptation) and an ever-evolving capacity to deliver the parts of herself that are most hidden, most vulnerable, and most precious into intimate relationships and into life itself.

The cutting edge of the therapeutic action in Model 4 will involve the patient's ever-evolving capacity for *existential dependence* (the optimal stressor) as she slowly *overcomes her dread of surrender to resourceless dependence* (Khan 1972) upon others, *relinquishes her illusions of grandiose self-sufficiency* (Modell 1993), *lets go of her affective nonrelatedness* (Modell 1993), and, despite her terror, dares to allow herself to be found and engaged.

Please note that these first four models, informed as they are by schools of treatment that embrace psychoanalytic concepts, primarily aim to enhance the patient's adaptive capacity to know painful truths about herself (Model 1), to know painful truths about others (Model 2), to take responsibility for what she plays out in her relationships (Model 3), and to let her most vulnerable self be found (Model 4).

In other words, psychoanalytically informed treatments focus on helping patients gain in-depth and comprehensive understanding of how it is that they have come to be as they are. The emphasis is on insight, awareness, understanding, knowledge—but not on action. The therapist’s implicit hope, of course, is that patients, inspired by all the wisdom and adaptive capacity they have garnered along the way, will then simply take it upon themselves to change how they relate to the self, others, and the world and modify their behavior accordingly—but that is not the therapist’s explicit expectation. In fact, psychodynamic therapists who need their patients to change or need them to get better are sometimes faulted for having countertransference

or, in Freud’s disapproving words, *therapeutic zeal* (Freud 1940).

From Awareness to Action—The Birthing of Model 5

“When you’re always looking back, you can’t see what’s coming”

2020 Kia SUV

So what about patients who have come to understand their lives backward but, despite having been in years of long-term, in-depth treatment, are not taking action to live their lives forward? What about patients who remain stuck and fundamentally unfulfilled in their lives, despite having acquired deep insight into their inner workings (the goal in Model 1), despite having confronted and grieved heartbreaking

truths about the objects of their desire and the futility of their relentless pursuits (the goal in Model 2), despite having taken ownership of the unresolved dysfunctional dynamics they compulsively re-enact on the stage of their lives (the goal in Model 3), and despite having dared to let themselves be found such that they can now embrace at least occasional moments of meaningful and joyous connection with others (the goal in Model 4)?

It could be said that such patients are suffering from a form of *analysis paralysis*. They might indeed now be more aware (Model 1), more accepting (Model 2), more accountable (Model 3), and more accessible (Model 4) and, on some level, their lives might indeed be now working better for them as a result; but, on

another level, they are not loving, working, or playing to their greatest capacity, realizing their dreams, or fulfilling their potential.

Particularly challenging are patients who, despite all that they have come to understand about their entanglement with a toxic past and about the deeply ingrained, self-limiting narratives that they constructed as a result, continue to cling to these disempowering narratives that, sadly, are fueling their dysfunctional symptoms and aberrant behaviors and disrupting their movement forward in life.

A prime example of thwarted potential and immobilizing enmeshment with a toxic past was the young man I saw in consultation a long time ago—a man who had been in a psychodynamic

treatment (and on medication) for many years and had come to know himself deeply but was still very stuck in his life and desperately unhappy. He reported to me that every single day after work he would sit in the dark in his living room, hour after hour doing nothing, his mind blank. By his side would be his stereo and a magnificent collection of his favorite classical music. The flick of a switch and he would feel better—and yet, night after night, overwhelmed with immobilizing despair, he would never once touch that switch.

It was this young man's story and the sobering stories of countless other therapy patients who have found themselves paralyzed in their efforts to move forward in their lives that prompted me to expand PSP to include a fifth

mode of therapeutic action, one that would more explicitly address the importance of symptomatic relief and actual behavioral change in promoting well-being, that is, one that would more explicitly privilege not just thinking and feeling differently but actually doing differently.

Indeed, Charles Krebs (2013) reminds us that we must never lose sight of the fact that open, self-organizing, complex adaptive (chaotic) systems—and certainly human beings are such systems—*resist perturbation*. In other words, no matter how compromised they might be in their functionality, self-organizing systems—fueled as they are by their homeostatic tendency to remain constant over time—are inherently resistant to change. It is important that we never lose sight of the fact that our patients, much as they might

protest otherwise, have an inherent inertia that must be overcome if they are ever to evolve from psychological rigidity and defensiveness to psychological flexibility and adaptability.

And so it was that Model 5 was birthed—a model that directly and boldly confronts seemingly intractable inertia with an eye to empowering patients to take control of their lives by constructing new, more reality-based narratives.

Model 5 (envisioning of possibilities *beyond*) is a quantum-neuroscientific approach to symptomatic relief and behavioral change, a perspective that focuses on decisively transforming the *refractory inertia* (the defense) of a patient who, despite knowing better, remains

entrenched in her inaction into *actualizing action* (the adaptation) designed to optimize her potential.

Importantly, inertia can mean either remaining at rest (unable to move forward) or remaining in motion (unable to stop). In the prophetic words of Lao Tzu, “If you do not change direction, you may end up where you are heading.”

As we shall see, the cutting edge of the therapeutic action in Model 5 will involve *quantum disentanglement* (the optimal stressor) as learned expectations deriving from the toxicity of the patient’s past and fueling her inertia in the present are challenged by real (or imagined) experiences that disconfirm those expectations.

The result of repeated and decisive challenge of old, disempowering narratives will be the locking in, or reconsolidation, of new, more empowering narratives.

SOLUTION-FOCUSED, ACTION-ORIENTED BRIEF TREATMENTS

Because Model 5 makes use of some of the brain-based strategies (most especially, therapeutic memory reconsolidation) employed by the various brief therapies to provoke sudden, dramatic symptomatic relief and behavioral change, in what follows I will be classifying Model 5 as a short-term, intensive approach to the therapeutic action—even though it is not specifically brief. Like many brief treatments, however, Model 5 is a brain-based, targeted, problem-oriented, solution-focused, action-oriented, goal-directed, future-oriented approach

that, over the course of a long-term, in-depth psychotherapy, will periodically come into play whenever Models 1–4 have been advancing insight (that is, understanding life backward) but not sufficiently provoking action (that is, living life forward).

Additionally, just as most brief therapies directly target the defenses fueling the patient’s trauma-related symptoms and behaviors, so too Model 5 becomes relevant when, in the moment, the spotlight is on the patient’s growth-impeding inertia and the maladaptive, outdated, restrictive, and disempowering narratives she constructed as a young child in a desperate attempt to make sense of things—relational narratives that now, unfortunately, are fueling her inaction and thwarting her ability to move forward.

The various brief therapies include, but are not limited to, Acceptance and Commitment Therapy (ACT) (Hayes et al. 2016), Eye Movement Desensitization and Reprocessing (EMDR) (Shapiro 2017), Short-Term Dynamic Psychotherapy (Davanloo 1977), Intensive Short-Term Dynamic Psychotherapy (ISTDP) (Frederickson 2013; Coughlin 2016), Accelerated Experiential Dynamic Psychotherapy (AEDP) (Fosha 2000), Rapid Resolution Therapy (RRT) (Connelly 2019), Emotion-Focused Therapy (EFT) (Greenberg 2016), Cognitive Behavioral Therapy (CBT) (Beck 1979), Dialectical Behavior Therapy (DBT) (Linehan 2014), Solution-Focused (Brief) Therapy (de Shazer 1994), Short-Term Anxiety-Provoking Psychotherapy (Sifneos 1992), Neuro-Linguistic

Programming (NLP) (Bandler & Grinder 1990), Internal Family Systems (IFS) (Schwartz 1997), Somatic Experiencing (SE) (Levine 1997), Hakomi Method / Sensorimotor Psychotherapy (Ogden et al. 2006), Focusing-Oriented Psychotherapy (Gendlin 1998), Pesso Boyden System Psychomotor (PBSP) (Pesso 1969), Narrative Therapy (Schafer 1994), Motivational Interviewing (Miller & Rollnick 1992), Hypnotherapy (Braid 2013), Emotional Freedom Techniques (EFT) / Meridian Tapping (Craig 2011), Energy Psychology (Eden & Feinstein 2008), Positive Psychology (Seligman 2006), and Coaching (Kauffman 2006), to name a few!

Over the course of the past 10 to 15 years, I have had the opportunity to broaden my therapeutic horizons by immersing myself in the

study of a variety of these short-term treatments. In addition, I have had the privilege and pleasure of watching numbers of video recordings of sessions conducted by master clinicians trained in these methods. And I have been overwhelmingly impressed.

Indeed, it has been an eye-opening experience for me, a psychoanalyst by training, to bear witness to the often dramatic and abrupt changes resulting from these time-limited, intensive treatments that, when compared to traditional psychodynamic approaches, are much more targeted, specific, solution-focused, action-based, goal-directed, future-oriented, and no-nonsense.

Quite frankly, it has also been a humbling experience for me. In truth, I have rarely had the

opportunity to watch any of my psychoanalytic colleagues at work. For whatever complex mix of reasons, we (myself included) do not tend to video record our sessions. I know that our patients do indeed benefit tremendously from the deep, characterological work that they do with us—but those changes, although profound and often hugely impactful in the long run, are more subtle and sometimes less obvious in the short run.

And so it has been a breath of fresh air—and inspirational—for me to be exposed to these powerfully effective, brief treatments.

Powerful Stories of Dramatic Transformation

Model 5 was inspired not only by my

exposure to the numbers of short-term, brain-based therapies that have had remarkable success in targeting the maladaptive defenses of patients who remain entrenched in their inaction and thwarted in their potential, but also by the stories (below) of Juanita, Alina, and George, all of whom appear to have experienced immediate, seemingly miraculous relief of their symptoms as a result of having had their brains zapped in one way or another. All three received sudden, shocking jolts to their system—jolts that, put simply, would seem to have triggered resynchronization of disturbed patterns of neural activity.

Whatever the underlying mechanism, the three transformational vignettes that follow were

profoundly impactful and further incentivized me to delve into the neuroscientific literature on learning and memory so that I would be able to expand my understanding of how the brain can be rewired and the mind reprogrammed.

Juanita’s Mind-Boggling Experience with an Opioid—Clinical Vignette

What follows is something that Juanita, a psychotherapy patient on whom I did a consultation several years ago, reported to me.

Juanita had been struggling to get over the pain of her grief about the loss of a man whom she had felt was the love of her life. Together for almost 10 years, she and Eduardo had shared what appeared to be an almost storybook life together, although her own, not yet fully processed history of having been sexually abused

by her stepfather made her a reluctant sex partner, sadly for both she and Eduardo.

One day, Juanita accidentally discovered, to her absolute heartbreak, that Eduardo had been having an affair with one of his colleagues at work. This precipitated a series of major arguments and, ultimately, a breakup, with Eduardo finally moving out.

Juanita, not only overwhelmed with grief at the loss of Eduardo but also unable to forgive herself for the part she knew she had played in his straying because of her unresolved issues, then found herself experiencing such acute psychic distress that she became profoundly and immobilizingly depressed—and even found

herself contemplating suicide as a possible escape from the pain of it all.

One evening, exhausted from the effort of having struggled through each and every day since their breakup, Juanita, someone who ordinarily shunned the idea of using recreational drugs and even medications prescribed by doctors, blindly reached for a few of the hydrocodone pills that she still had in her possession from the time when her wisdom teeth had been extracted. Her intent was not to kill herself but to find oblivion in reduced consciousness and sleep.

Fortunately, Juanita did not die and, instead, after becoming sedated, somewhat numbed, and a bit calmer, eventually fell into a deep, opioid-

induced sleep. Upon awakening hours and hours later and more refreshed than she had felt in weeks, she suddenly realized—to her total amazement and delight—that the pills prescribed by her dentist to relieve physical pain had actually obliterated her psychic pain. As Juanita reported it to me, it was almost as if she, in discovering the possibility of living without deep psychic pain (by virtue of the opioid-induced numbing), was able to reframe her entire experience of loss as a manageable, albeit still heartbreakingly sad, way of living.

In any event, Juanita's mind-boggling experience of an opioid-induced repositioning of herself in relation to what had felt like unbearable grief is a dramatic demonstration of how changes in the state of the brain will impact mental health

—which is why Juanita’s experience could accurately be described as both mind-boggling and brain-changing!

Alina’s Miraculous Release from the Tyranny of Obsessive Love—Clinical Vignette

What follows is an intriguing experience that my friend Alina had a number of years ago.

Particularly distressing for Alina was her obsessive love for Josh, a man whom she knew would not be right for her. Among other things, he was married. Although she and Josh had had very little actual contact, the several times they had run into each other had been extremely exciting for Alina and she was finding herself becoming increasingly obsessed with fantasies about him and the possibility of having a future with him—despite the fact that there were no

indications that his marriage was in trouble or that he was even all that interested in her.

A therapist herself and in a long-term psychodynamic therapy, Alina had come to understand that her intense longing for Josh was probably related, at least in part, to unresolved oedipal feelings that she still had in relation to her dad, a very seductive man with whom she had had a very intimate, albeit complicated, relationship.

But despite Alina's ever-evolving awareness that some of what she was experiencing in relation to Josh was fueled by unmastered yearnings for her dad, she remained tormented by her obsessive love for this inappropriate (for a whole mix of reasons) and unavailable man—

fantasies that, although pleasurable and compelling, were also self-defeating and filled her with self-loathing and shame.

One day, Alina was involved in a serious car accident and suffered a bad concussion. Although she recovered fairly quickly, she did sustain some permanent memory loss, most especially with respect to the events leading right up to the accident. Even though an investigation was done into the cause of the 2-car accident and the scene was reconstructed, Alina's retrograde amnesia persisted and she herself was never able to retrieve the memory of the events preceding the crash, which made it more difficult to figure out the insurance piece and which driver had been at fault.

In any event, it was shortly thereafter that Alina, with mixed feelings of relief and disappointment, suddenly realized that, after the car accident, she had simply stopped obsessing about Josh! In fact, all thoughts of Josh had miraculously vanished—and it had happened through no conscious intent on her part!

As I later came to formulate things, Alina was probably engaging in her favorite guilty pleasure, namely, fantasizing about Josh, as she was driving and right up to the moment of actual impact with the other car. The retrograde amnesia that she suffered as a result caused her to forget not only the pre-crash events but also her obsessive thoughts about Josh!

Alina's miraculous release from the tyranny of obsessive love as a result of her retrograde amnesia was something that prompted me to think more seriously about including in PSP a more brain-based approach to the therapeutic action, one that would take into consideration not just psychodynamic awareness but also the brain's microarchitecture and its complex synaptic web of neural circuits.

The Man Who Shot a Bullet into his Brain and Cured his Obsessive-Compulsive Disorder — Clinical Vignette

What happened with respect to my friend Alina prompted me to remember an article that I had read in the *British Journal of Psychiatry* (Argyle et al. 1991) years earlier about George, a 19-year-old, obsessive-compulsive man who had

shot himself in the head in a suicide attempt and had ended up curing his mental illness without causing any other damage to his brain.

Apparently, George had dropped out of school and quit his job because, for fear of contamination by germs, his compulsive need to wash his hands hundreds of times a day and to shower continuously throughout the day made it difficult for him to live any kind of normal life.

Dr. Leslie Solyom (a psychiatrist at Shaughnessy Hospital in Vancouver, British Columbia, and someone with whom he had consulted) describes what then happened as follows: “George was also very depressed and told his mother that his life was so wretched that he would rather die. She said, ‘So look George, if

your life is so wretched, just go and shoot yourself.’ So George went to the basement, stuck a .22-caliber rifle in his mouth and pulled the trigger.” Solyom observes, “Parents of obsessive-compulsives, particularly mothers, often have cruel streaks” (as reported in a Los Angeles (AP) 23 Feb 1988 article).

George did not actually die; and the surgeons were able to remove most of the bullet, which had lodged in the left frontal lobe of his brain. They were unable, however, to get out all the fragments.

Dr. Solyom reports that when George was transferred to Shaughnessy Hospital three weeks later, astoundingly “he had hardly any compulsions left.” Presumably, the .22-caliber

slug had destroyed the section of his brain responsible for his disabling obsessive thinking and compulsive behaviors without causing any additional brain damage or even affecting his IQ.

Over the course of the next five years, George got a job and enrolled in college, where he went on to become a straight A student.

In reflecting upon the case, Dr. Thomas Ballantine (a psychiatrist at the Massachusetts General Hospital in Boston) remarked, “The idea that a man could blow out part of his frontal lobe and have his pathological symptoms cured is quite remarkable, but it is not beyond belief.”

In any event, George’s miraculous release from the tyranny of his obsessive-compulsive disorder further prompted me to think more

seriously about expanding my Psychodynamic Synergy Paradigm to include a more brain-based approach to the therapeutic action.

Musical Contrasts to Fine-Tune the Brain

Sharp, jolting musical contrasts are used in the Tomatis Method, a brain-based strategy developed by Alfred Tomatis, an internationally renowned otolaryngologist who hypothesized that errant hearing was the root cause of a variety of physical and mental ailments (Campbell 1997).

In the late 1960s, Tomatis was summoned to investigate a strange malaise that had descended upon a Benedictine monastery in the south of France. Tomatis found 70 of the 90 monks “slumped in their cells like wet dishrags”—

listless, fatigued, and depressed. He declared the cause to be not physiological but audiological and hypothesized that their enervated state was the result of eliminating several hours of Gregorian chant from their daily routines. The long, resonant tones of the glorious OOOOs and the serene EEEEs had promoted feelings of release and provided a common focus. Without those monophonic harmonies, the monks were lost (Tomatis 1992).

But once the monks were put back on their daily regimen of Gregorian chant—chanting for 10—20 minutes at a stretch, 8—9 times a day—the effect was dramatic. Within six months, the monks were once again vigorous and healthy (Tomatis 1992).

Along the same lines as therapeutic memory reconsolidation, the Tomatis Method involves the wearing of headphones that create music contrasts—done in order repeatedly to surprise and thereby retrain the brain. These contrasts are caused by continuous, sudden, and unpredictable changes in the timbre and intensity of the music being played. This element of surprise (an optimal stressor that creates a jolting mismatch experience for the listener) forces the brain to develop new networks by triggering and reinforcing its attentional mechanisms. In essence, the Tomatis Method is a gymnastic exercise for the brain, ultimately serving to promote stronger focus and attention and improved physical and mental well-being (Campbell 1997).

The Tomatis Method has also helped Gerard Depardieu and Sting (Church 2014). I hypothesize that the Tomatis Method owes its effectiveness to resynchronization of disturbed rhythms in the brain (that is, brainwave frequencies)—an adaptive response to being “shocked.”

Eye Movement Desensitization and Reprocessing (EMDR) Therapy

Another brain-based strategy designed to promote therapeutic memory reconsolidation is Eye Movement Desensitization and Reprocessing (EMDR) therapy, a well-known and highly effective psychotherapeutic method that, in order to recontextualize and detoxify traumatic memories, capitalizes upon the use of *bilateral*

alternating stimulation to engage both sides of the brain, thereby bringing to bear the analytic wisdom of the present-focused left brain on the emotional knowledge harbored in the past-focused right brain (Shapiro 2017).

The patient is instructed to focus her mind's eye on a distressing and unmastered traumatic experience, memory, or image and to let herself re-experience whatever thoughts, feelings, and sensations are evoked as she dares to remember. Alternately, repetitively, and rhythmically, the clinician then stimulates both sides of the patient's brain (whether visually, auditorily, or tactilely)—left, right, left, right, left, right, and so on.

Activating both sides of the brain in this way will bring to bear the rationality and perspective of the patient's more-evolved left brain on the processing of the reactivated traumatic memory being stored, unprocessed, in the patient's less-evolved right brain, where it has been festering and fueling her maladaptive symptoms and dysfunctional behaviors.

The bilateral sensory stimulation can involve the eyes, the ears, or touch. Early research, however, suggests that movement of the eyes back and forth behind closed lids is particularly effective in evoking the desired retrieval of traumatic memories (Shapiro 2017).

Intuitively, this makes sense, inasmuch as taking a minute to close your eyes when you have

misplaced your keys, or forgotten where you have parked your car will often make it easier to recover the memory. When faced with a difficult task, people often spontaneously close their eyes or look away. Doing so appears to enhance visualization by minimizing distractions and facilitating focus. In fact, eye closure is described in the literature as an instinctive reaction designed to reduce *cognitive load* (Vredeveltdt et al. 2011).

Once the traumatic memory has been reactivated, the window of opportunity will open for replacement of *old bad* with *new good*.

Indeed, as the patient is revisiting—visually, cognitively, emotionally, and somatically—the unprocessed traumatic experience, she is being

continuously reminded by the clinician that she is now in the present. *That was then, and this is now.*

Prompting the patient to focus her attention on both the past (as the traumatic memory stored in her right brain, or body consciousness, is being reactivated) and the present (as the analytic wisdom of her left brain, or brain consciousness, is being brought to bear) is designed to capitalize upon the patient's capacity for *dual awareness*. In other words, dual awareness is being fostered when the patient is being asked to focus her attention on what she is experiencing in the moment at the same time that she is being encouraged to step back from that experience in order to detach herself from the traumatic memory, gain distance, and recover perspective.

In the psychoanalytic literature (Sterba 1968; Havens 1976), this distinction between experiencing something and observing it is described as a split in the ego between an experiencing (or participating) ego and an observing (or reflecting) ego.

As will later be discussed at greater length, dual awareness is a capacity that will serve the patient well not only in the psychodynamically informed Models 1–4 but also in the quantum-neuroscientific Model 5.

As the bilateral alternating stimulation continues, the clinician is prompting the patient to assume a stance of detached compassion, repeatedly offering the patient such mesmerizing statements as: *Imagine yourself watching it all on*

a movie screen or a TV. But it's in the past—it's old stuff. Just notice it and let it go. Imagine yourself riding on a train and the images, thoughts, and feelings that you are having are just scenery passing by—but it's over now and you're safe. It's history—just watch it go by. Imagine yourself driving in a tunnel—but just keep your foot on the pedal and keep moving forward. That's right. That's good.

The therapeutic action in EMDR (as in Model 5) involves helping the patient maintain this dual awareness so that the traumatic experience can be tamed, detoxified, and integrated as the patient moves toward a more adaptive resolution. The net result of adaptive resolution is that the traumatic experience will no longer trigger cognitive, emotional, somatic, or behavioral

reactions. In essence, the patient's capacity for dual awareness will have enabled her, ultimately, to recontextualize the trauma, such that she will be able to reposition herself in relation to it.

Critically important will be an empathically attuned and authentically engaged therapeutic alliance, such that the patient will feel secure and held. Sometimes a *safe place* is specifically introduced during an EMDR session in order to help the patient tolerate the turbulence that will inevitably arise as she is revisiting and reprocessing the trauma.

Underlying Neural Mechanisms of EMDR

EMDR (eye movement desensitization and reprocessing) therapy appears to accomplish by day what REM (rapid eye movement) sleep

accomplishes by night. This is not surprising, inasmuch as shifting the eyes back and forth, whether by day or by night, will stimulate the retrieval of deeply embedded emotional memories and create an opportunity for their belated processing and desensitization (Bergmann 2019).

The claim made by EMDR practitioners is that their method produces “permanent resolution (transformational change) of traumatic memories” (Solomon & Shapiro 2008; Manfield 2016). Although an understanding of the specific neural mechanisms underlying the efficacy of EMDR is still in its infancy, a number of hypotheses have been advanced.

Coubard (2016) hypothesizes that “bilateral stimulation in any sensorimotor modality” results in “lower inhibition” and “higher distractibility,” thereby enabling “dysfunctional information” to be processed “more adaptively” and traumatic memories to be reprocessed, desensitized, and integrated.

Khalifa and Touzet (2017) propose a theory that is akin to therapeutic memory reconsolidation. Theirs is a theory of “neural cognition,” whereby EMDR is thought to bring about a shift in the neural representation of the traumatic memory from one that involves intense negative emotion (fueled by the amygdala) to a more cognitive representation of the traumatic event (fueled by the neocortex)—a representation

that will be “exempt from the previously associated strong negative feeling.”

Landin-Romero et al. (2018) hypothesize that the therapeutic effectiveness of EMDR is the result of “reciprocal inhibition” (akin to the “systematic desensitization” (Wolpe 1958) used by behavioral therapists), whereby a relaxation response is repeatedly paired with distressing memories in order ultimately to desensitize the traumatic memories.

For me, one of the most compelling explanations for the neural mechanism whereby EMDR is able to effect rapid and dramatic therapeutic change (and the mechanism espoused by Shapiro herself) is provided by the *adaptive information processing model*. This model has it

that traumatic memories, “stored in state-specific form,” are as if “frozen in time in their own neural networks” and are therefore “unable to connect with other memory networks that hold adaptive information” (Solomon & Shapiro 2008). More specifically, the therapeutic action of EMDR is then seen as expediting “transmutation” of these “dysfunctionally stored experiences” into “adaptive resolution that promotes psychological health” (Solomon & Shapiro 2008).

My own focus is less on adaptive information processing and more on therapeutic memory reconsolidation, that is, the use of bilateral alternating stimulation to override outdated, negative forces (residing in the emotional, past-focused right brain) by updated, positive forces (residing in the rational, present-focused left

brain)—once the analytic wisdom of the more-evolved left brain is brought to bear on the more fear-based, emotionally driven, less-evolved right brain.

In any event, it would seem that EMDR, by alternately activating both sides of the brain, is able to reactivate distressing memories (by way of focused attention on body consciousness) and promote elaboration of new perspectives (by way of engaging brain consciousness)—the linchpin of the therapeutic action in Model 5 as well—such that new, fresh, more adaptive perspectives can replace old, stale, no longer relevant ones.

Lakisha—From Victim to Empowered Survivor —Clinical Vignette

I am reminded of a consultation I did on Lakisha, a woman who was struggling to make

her peace with a trauma that she had experienced, years earlier when she had accepted a ride home from a party with an attractive man whom she had just met—a man who had then attempted to rape her. He had driven her into a secluded area in the woods and tried to force himself on her. By dint of her incredible determination and instinct for survival, however, Lakisha had managed to wrest herself free, to jump out of his truck, and to flee for safety. But Lakisha was haunted by the memory of the attempted rape and was having difficulty forgiving herself for having allowed herself to be seduced into accepting a ride from this man whom she barely knew.

I did one session of EMDR on Lakisha, which, in fairly short order, enabled her to reposition herself in relation to the traumatic

event, such that instead of experiencing shame because she had allowed herself to be seduced by this man she came to feel good about herself, her survival skills, and her ability to outsmart him. By the end of our session, Lakisha still remembered what had happened in the woods that dark night, but it was no longer a source of excoriating pain and charged with emotion. Rather, she reported that she was now feeling a sense of pride—and empowerment—that she had managed to save herself from being abused by this seductive and dangerous man.

In essence, Lakisha, by tapping into the analytic wisdom of her brain consciousness, was able to get enough distance from the trauma (the internal record of which had been stored in her body consciousness) that she was then able to

reprocess and detoxify the experience. In essence, she was able to desensitize the traumatic experience enough that she was able to update the narrative she had constructed of herself as gullible, vulnerable, and disempowered to one of herself as strong, determined, and empowered.

Janelle Extricates Herself from the Burden of her Father's Despair — Clinical Vignette

Ever in search of a quick cure but willing to work hard to get it, Janelle is an extraordinarily resourceful woman whom I have been seeing for about a year now. Because of financial constraints, however, our work has been limited to once or twice monthly sessions.

A married 34-year-old mother of four, Janelle —self-sufficient, smart, hardworking, and solution-focused— is impressively high

functioning and, to the casual observer, would appear to have it all.

But Janelle carries inside her a tremendous amount of psychic pain—a quiet despair, a deep sadness, a closed heart, an inner void, an insatiable hunger, an unrelenting sense that nothing will ever be enough, a profound mistrust of others, and a haunting loneliness. She is disconnected, shut down, closed off, not engaged, frozen, and terrified—terrified of being vulnerable, terrified of opening her heart, terrified of needing someone, terrified of being dependent, terrified of being hurt, terrified of being disappointed, terrified of feeling pain, terrified of feeling...

Janelle also suffers from frequent nightmares, the content of which varies but most of which involve scenes in which Janelle feels that she is in danger and her life at risk.

Early on in the treatment, Janelle came to realize, at least intellectually, that the self-protective wall behind which she hides in order to avoid being hurt or disappointed has been there for as long as she can remember. But because Janelle has so few memories of her childhood, we have never been able to understand exactly why it is that she has always felt such a powerful need to protect herself.

Several months into the treatment, I had shared with Janelle the brain-based concept of therapeutic memory reconsolidation as offering

the possibility of bringing to bear the analytic wisdom of brain consciousness on the targeting and updating of old, fearful, maladaptive narratives locked in body consciousness. Self-limiting beliefs and self-defeating narratives, I had explained, derive from unmastered early-on relational traumas and fuel present-day symptoms and defensive patterns of behavior.

Because Janelle—ever solution-focused and intent upon finding immediate relief —was clearly fascinated and eager to hear more, I had gone on to explain that, if all went well, persistent, decisive disconfirming juxtaposition of an adult perspective that was here-and-now with a childhood experience that was there-and-then would eventually trigger release from emotionally charged, traumatic memories and

their replacement with more modulated, more evolved, and more adaptive mental schemas.

I also highlighted that this deep, transformational work would be most effective were it to be conducted in the context of a collaborative relationship between patient and therapist, one that was characterized by gradually evolving mutual trust.

Although Janelle was indeed slowly relaxing into feeling more comfortable with me, she and I both recognized that, despite her ever-present impatience and persistent desire to move forward with finding solutions, but of course the exciting option of memory reconsolidation would not yet be available for her because she was unable to remember much from her childhood...

But Janelle came to her next appointment (two weeks later) with a big surprise!

After the session in which I had explained the concept of therapeutic memory reconsolidation, Janelle had found herself suddenly remembering an extremely traumatic experience that she had had when she was 14, an experience that had shaken her to her core and that, in retrospect, she realized had probably constituted a turning point in her life—and something from which she had never fully recovered.

One day her father, an embittered, depressed, and broken man who mostly kept to himself, suddenly (and uncharacteristically) turned his bitterness on her and directed some very harsh words her way. Later, however, he had gone up to

her room to apologize for his unkind and unjustified outburst.

What ended up happening, however, was that as soon as her dad began to speak, he suddenly broke down and burst into tears as he, for reasons not entirely clear, began to unload onto her all his pent-up heartbreak and desperation—unleashing psychic pain and grief that he had carried inside him for decades. Through choked sobs, he downloaded onto Janelle his brokenness, his self-loathing, his profound regret, his shattered dreams, his sense of utter defeat, and his unrelenting terror. He spoke of the gun that he always carried in a desperate attempt to make him feel safe and the whiskey that he always had close at hand in a futile effort to ease his mental anguish. He harkened back to the serious car

accident in which he had been involved as a hapless young teen, an accident that had left him with chronic physical pain and episodic seizures. With his head bowed in shame and in almost a whisper, he confessed his unrelenting despair and periodic tormented thoughts of suicide.

It was an absolutely overwhelming and heart-shattering experience for young Janelle, who could literally feel herself closing off and shutting down as she listened. To think that Janelle had been only 14 at the time—all alone and without a mother who had the capacity to tolerate pain (whether her husband's or her daughter's) and to whom Janelle could therefore have turned for comfort. Small wonder that the traumatizing experience would have marked a pivotal point in

Janelle's life and would then have fueled the nightmares that intensified shortly thereafter.

But I was now in for another surprise!

The ever self-reliant, resourceful, creative, and determined Janelle went on to tell me that, upon recovering the traumatic memory about her father, she had then decided, on her own initiative and ever intent upon moving forward in her life, to do therapeutic memory reconsolidation on herself!

Because the only times in her life when Janelle had felt safe and unafraid were when she gave herself the pleasure of an acupuncture treatment, she decided to select that setting for an ingenious experiment. With the tiny acupuncture needles strategically placed by the healer in such

a way as to facilitate the flow of information and energy throughout her body and in a deeply relaxed state, Janelle forced herself to reactivate the memory of her father's traumatic confessions and heartrending unburdening onto her of his pain, torment, anguish, despair, and terror.

Janelle made herself visualize as many of the details as she could about that fateful day 20 years earlier and made herself tune in to the range of terrifying feelings and distressing somatic sensations (including heaviness in her chest and upset in her stomach) that were being triggered as she began to remember what her heart and her body could not forget.

In an earlier session, I had suggested to Janelle that moving one's eyes back and forth

behind closed eyelids would facilitate the retrieval and reprocessing of traumatic memories because bilateral alternating stimulation would indeed facilitate accessing emotionally distressing memories held in the right brain and then bringing online the analytic wisdom of the left brain. And I had highlighted that this tapping into the wisdom of both the past-focused right brain and the present-focused left brain could be reinforced by rhythmically chanting, “*That was then, this is now.*”

As she lay otherwise still on the table, Janelle had therefore shifted her eyes back and forth, back and forth, as she was remembering, reliving, reprocessing, and softly chanting to herself, “*That was then, this is now,*” “*That was then, this is now.*” In her mind’s eye, she was envisioning her

more-evolved *adult self* holding, comforting, and protecting her less-evolved and oh-so-vulnerable-and-frightened *child self*.

By the time Janelle was able to share her story with me, Janelle was no longer remembering specific details—other than that, as soon as she got up off the table, she felt a little different, as if something had shifted inside; she felt a little lighter, a little less burdened, somehow relieved, a little more grounded, a little safer, a little freer, a little less afraid, and a little more hopeful.

In our session 12 days later Janelle, with uncharacteristic excitement, explained the uplifting experience to me as follows, “*It is as if things are now more laid to rest. I think I released*

something that day. I simply let go of the burden of my dad's pain. I realize that his pain does not have to be my story too. I don't need to carry his despair anymore—I can let go of it. It is not my responsibility. My heart had shut down when he told me about how much regret he had and how much pain he lived with. But I feel that I am beginning to let go of all that now. I feel much freer and lighter.”

Interestingly, it was not by way of grieving that Janelle experienced this transformational shift. Rather, Janelle had cleverly choreographed her own healing and masterminded, all on her own, the replacement of outdated, maladaptive, fear-infused, life-negating narratives with updated, more reality-based, more hopeful, life-affirming narratives.

Time will tell with respect to how enduring this piece of Janelle's relationship to the self, others, and the world will turn out to be over the long haul and, of course, Janelle and I continue to work on various of her characterological issues (including, for example, her discomfort with working collaboratively, her trouble tolerating delays, her reluctance to take ownership of her sexuality, and her difficulty putting into words her tender and loving feelings).

But since that time when Janelle, targeting the heaviness in her heart and the deeply embedded terror in her soul, implemented her own version of therapeutic memory reconsolidation, she really has started to feel again, to take more risks in her life, to be more open, to be more genuinely

engaged, to be more present, to be more alive,
and to be more joyful.

Oh, and the nightmares have all but
disappeared...

Play Therapy to Facilitate the Gaining of Perspective

Only recently have I come to appreciate that
play therapy with young children also creates
opportunities for the construction of new, more
adaptive narratives that will then inform the
child's relationship to the self, others, and the
world going forward. Not surprisingly, I am once
again suggesting therapeutic memory
reconsolidation as the underlying mechanism by
which the child will be able to reinvent herself.

The Squiggle Game to Co-Construct a New Narrative

The squiggle game (Winnicott 1990) is a prime example of a play therapy technique that offers the child an opportunity to co-create (with the assistance of her therapist) a new—generally more self-affirming, self-compassionate, and empowered—narrative about the child in relation to her world.

As described by the pediatrician and psychoanalyst Donald Winnicott (and slightly modified by me), the therapist takes a pencil and makes a more or less random squiggle on a large sheet of paper, simultaneously narrating the beginning of a more-or-less-random, made-up story about the shape she has just drawn.

The therapist then hands the pencil to the child, who is invited to extend the squiggle, in whatever way(s) the child might want, and to continue the story that the therapist has begun.

The game continues in this way, child and therapist alternating turns.

The narrative begun by the therapist can, initially, have more or less relevance to the child's particular situation—because, inevitably, all roads will lead to Rome and, if the therapist does not get in the way, the child will always take the story, and the drawing that accompanies it, to wherever the child might want, or need, it to go.

In fact, in no time at all, child and therapist will find themselves co-creating, with pleasure, delight, and often humor, a wonderfully playful

and fun narrative that touches upon many of the issues with which the child is dealing and which are therefore front and center in her mind's eye.

The child is being given permission and space to construct her own meanings, meanings that will usually reflect an unconscious reprocessing of otherwise unresolved issues. And because the co-created narrative, and accompanying drawing, are “out there,” both child and therapist will have the freedom to be as creative and imaginative in their meaning making as their hearts might desire.

At any point, of course, the therapist can direct the co-created narrative toward an ending, for the child, that represents a more adaptive, more empowered, and more felicitous resolution

of some of the issues with which the child is directly, or indirectly, struggling.

In essence, child and therapist are locking in, or reconsolidating, new, more self-affirming narratives in the place of the old, disempowering, and self-negating ones.

Puppet Play to Facilitate Choreographing a New Reality

As another example, puppet play creates space for a child to re-enact unresolved family issues and to communicate her feelings by using the puppets to represent key players in her dysfunctional family.

Inevitably, if given space and freedom to express how she is really feeling, the child will recreate, by way of her play and through

displacement, some version of the traumatizing dynamics in her family and the contentious interactions amongst its members. Then, in collaboration with and strongly reinforced by her therapist, the child can construct, again by way of her play and through displacement, an alternative, much happier reality—one that offers a sharp and dramatic contrast to her current dysfunctional family situation.

Indeed, if a child is repeatedly enough given the opportunity to envision and then to enact, session after session, variations on the theme of more harmonious family interactions with less tension and less fighting and if this vision is consistently enough validated by a therapist who delights in the child's creative play, then the new memories being choreographed by the child will

get locked into an updated, more self-affirming, and more hopeful narrative.

In essence, use of puppets enables the child to get distance from the immediacy of her feelings as she dares to re-enact the scenes of trauma, abuse, deprivation, and neglect that are being played out in her family, such that she will more easily be able to tolerate the horror and heartbreak of *old bad* and be freed up enough to envision and enact the possibility of *new good*.

Elaine's Crocodile Hates my Bear—Clinical Vignette

Elaine was an adorable, 7-year-old girl with whom I had the pleasure, many years ago, of working (off and on) for six months. Her mother had brought her to me for treatment because mother was concerned about Elaine's bullying

behavior with some of her classmates in school. Mother reported that Elaine, one of five children, was very quiet at home and rarely said much at all.

What is most memorable for me from my time with Elaine those decades ago was something that happened during one of the sessions in which we were engaged in puppet play.

That particular day, Elaine had bounded into my office and immediately headed for the puppets. She then grabbed from the bin, with obvious excitement and delight, a big red puppet with a very pointed snout and sharp, jagged teeth. She said it was a crocodile and not an alligator because its teeth allowed it to be more aggressive

if it wanted to be. She said that I was to take the big gray puppet (which had a little mouth and almost no teeth at all) and that I was to be a bear.

We began to play. I asked her why my bear was gray and not brown. She told me that it didn't matter and, with a twinkle in her eye, she told me that I should be quiet. Her crocodile then proceeded to attack my bear, and, with gusto, both our puppets went at it, tussling in silence for quite some time!

But suddenly her crocodile made an especially vicious attack on my poor bear and spoke words for the first time—“*I hate you! I hate you! I hate you!*”

I do not remember, these years later, how I responded, but what I do remember is that at one

point Elaine suddenly turned to me and asked, “*Is the bear my mom and the crocodile me?*”—to which I, with a twinkle in my eye, responded, “*Oh, probably!*”—to which she, clearly satisfied, responded with “*OK!*” as her crocodile went back to viciously attacking my bear, accompanied again by, “*I hate you! I hate you! I hate you!*”

Meanwhile, I was hearing from mother that Elaine was speaking up much more at home and that the teacher was no longer concerned about Elaine’s bullying behavior at school.

At the time, I thought of the work that Elaine and I were doing together as demonstrating the therapeutic power of action-oriented, abreactive play therapy.

But, as a result of my newfound appreciation for the transformational power of therapeutic memory reconsolidation, I would now formulate the work that Elaine and I were doing as also demonstrating the therapeutic impact of creating, within the context of her secure attachment to me, a startling (and embodied) juxtaposition of re-enacted *old bad* with envisioned *new good*.

The *old bad* experience was one of being invisible, of being without a voice, and of having no place to be heard except at school; the *new good* experience was one of being seen, of having a voice, and of being able to express, with no ill consequences, her anger (at mother) with conviction and passion.

From this newer perspective, the therapeutic action of this jolting mismatch experience would then be seen as involving the locking in, or reconsolidation, of a new, more positive narrative —one that would reinforce a firmer, more coherent sense of the self, others, and the world, such that Elaine would no longer need to be a bully but would be able to delight in being heard without the need to be aggressive about it.

SOMATIC MEMORY RECONSOLIDATION— PSYCHOMOTOR PSYCHOTHERAPY

More than 20 years ago, I spent a number of years studying with the extraordinarily gifted Al Pesso, who (along with his wife Diane) had developed, in 1961, a powerfully effective brief treatment model—Psychomotor Psychotherapy. Both Al and Diane had been professional dancers and therefore, not surprisingly, found themselves recognizing the importance of formulating a therapeutic approach that would involve healing of both mind and body.

Indeed, psychomotor psychotherapy is a brilliantly conceived method of treatment that aims to eliminate *old bad* body memories and to replace them with *new good* ones—its remarkable effectiveness the result of its focus on the construction of new *body (somatic) memories*.

Psychomotor psychotherapy sessions are facilitated by a psychomotor therapist and conducted in the context of a group of, say, 12 people or so, any of whom might be called upon by the patient to role-play either an historical *old bad* object or a virtual *new good* one.

The work is focused, intense, and directed and involves the body, physical contact, and touch. Once a particular symptom has been

identified, treatment of that targeted symptom can often be accomplished, to the delight of the patient, over the course of a session or two.

Deep, enduring characterological change is not the specific goal, but remission of the symptom and deep release of tension that had long been stored in the body are generally the result.

Interestingly and importantly, unlike most psychodynamic psychotherapies that emphasize the experiencing of good in the present, in psychomotor work the emphasis is on the patient's experiencing of good in the past!

In other words, the therapeutic action in Psychomotor Psychotherapy involves the patient's construction of “good past memories.”

The patient—in the context of remembering and somatically reliving the early on bad experiences at the hands of her parents—is given the opportunity to construct in the present what she wishes had happened in the past.

Accordingly, in psychomotor work a *structure* is set up in which the patient first revisits the early on traumatic scene (the *historical scene*), selects specific members of the group to role-play the *old bad* objects, and then re-experiences (in her mind's eye and in her body) the anguish, the outrage, and the devastation that she had experienced as a child in relation to them.

But the healing does not focus on the cathartic discharging of long-repressed feelings and body memories or, even, the grieving of early

on parental failures. Rather the healing is conceptualized as involving the creation of *salutary* (health-promoting) *virtual memories*, in essence, the creation of *positive false memories*—antidotes to the original trauma.

Once the historical scene has been recreated and some version of it (somatically) relived, a *healing scene* is introduced, one that will involve the patient's proactively choreographing the responses of other group members whom she now enlists to role-play childhood objects—not the actual bad ones but hypothetical good ones (ones she wishes she had been lucky enough to have had). In essence, the healing scene involves this creation by the patient of a *believable alternative*.

Interestingly, when the patient constructs a missing positive experience, there is usually a click of recognition—“Now the world is as I had always known it should be.”

The in-depth training that I did with AI in the 1990s at Strolling Woods in New Hampshire had a profound impact on me, both personally and professionally, but I struggled for years to find a way to integrate all that I had learned from AI into my clinical practice as a psychoanalyst and into my four psychodynamically informed models of therapeutic action.

At that point, little did I realize that I was experiencing the magic of somatic memory reconsolidation—understandable because, back in the 1990s, the neuroscientific concepts of

synaptic plasticity and therapeutic memory reconsolidation were but glimmers on the horizon. I did not, therefore, have the benefit of what I have since come to understand about how the brain can be rewired and the mind reprogrammed.

But based upon what I now know, I would describe AI's ingenious approach as a story about somatic memory reconsolidation. And, bar none, it has provided the single most important inspiration for my brain-based Model 5.

As AI conceptualized it (without the benefit of knowing the neuroscience that underlies therapeutic memory reconsolidation), the new salutary memory would be placed in the mind's

eye and registered in the body *alongside* the memory of what had actually happened.

Although Al's humble claim was that these newly constructed somatic memories simply took their place alongside the old traumatic ones, I believe that his approach capitalized upon the brain's neuroplasticity and that the newly constructed body memories totally (and permanently) replaced the old pathogenic ones—to which the legions of deeply satisfied patients who had the privilege of experiencing Al's magic would absolutely be able to testify.

What follows is a brief description of how the healing scene is generally constructed.

The patient enlists specific members of the group to role-play ideal figures and then instructs

them to behave in accordance with what she wishes had happened when she was a child.

For example, the patient might instruct the person she has enrolled as her ideal mother to say, "Had I been your ideal mother back then, I would have held you when you cried and you would have felt safe in my arms." And then the accommodator role-playing her ideal mother would have tenderly held the patient as she cried.

Or, "Had I been your ideal father back then, I would have delighted in your competence and would never have felt threatened." And then the patient would have been able to relax into the warm, comforting, and supportive embrace of the accommodator role-playing her ideal father.

The exact form of the ideal figure's response is dictated by the patient who, with often unbelievable accuracy and precision, somehow seems to know exactly what she would have wanted—which then elicits the oh-so-deeply-satisfying click of recognition as the somatic memory is locked in.

Crucial here is the following: Although the patient knows that the people she enlists as positive accommodators are in the present, she experiences them *as if* they had been there for her in the past.

For psychomotor work to be effective, there must be a split within the patient between what AI calls the patient's *pilot* (aka her observing ego) and what he describes as the patient's

kinesthetic/sensorimotor experience (aka her experiencing ego)—such that the patient always knows that it is really happening in the present but experiences it as if it had happened in the past. The patient must be able to hold within her this dialectical tension between what she knows to be real and what she wishes had been real.

The patient also knows that the people she enlists to role-play her ideal figures are responding to directives from her; but, interestingly, patients appear to benefit even so—taking it in as if it were real, not just role-played (taking it in as if it had arisen spontaneously from within an authentic self-motivated other and not just playacted). In other words, despite the patient's knowledge that it is she who is choreographing the object's moves, her

experience is that it is very much a 2-person, interactive process.

In essence, the patient (as agent) creates, or constructs, positive artificial memories—synthetic virtual memories or positive false memories—that are thought to serve (symbolically) as antidotes to the patient's early on bad experiences.

To be more accurate, I should actually highlight that the healing scene is not simply constructed by the patient but co-constructed by the patient and the accommodators who are role-playing her ideal figures.

In psychodynamic psychotherapy, if the patient is sobbing as she relives an early on painful experience, the therapist offers the patient

her listening presence and her empathic understanding. In psychomotor psychotherapy, however, if the patient is sobbing as she relives a past experience, the figure whom she has chosen to role-play her ideal parent holds her, soothes her, and comforts her as her body (racked with the pain of remembering just how bad it really was) trembles, shivers, convulses, collapses—and the patient takes in this powerfully healing somatic experience of being nurtured and held as if she had lived it back then.

Again, a mind-body memory is being constructed that functions as an antidote to what had actually happened.

To highlight a few additional distinctions between psychodynamic psychotherapy and

psychomotor psychotherapy:

Whereas in corrective-provision models of psychodynamic psychotherapy (typified by Model 2) the emphasis is on the therapist's ability to intuit what the patient with deficit will need in order to heal, in psychomotor psychotherapy the emphasis is on the patient's proactive efforts to create what, on some deep level, she knows she must experience in order to get better.

Furthermore, whereas in corrective-provision models of psychodynamic psychotherapy (typified by Model 2) the emphasis is on the provision in the here-and-now of the missing positive experiences, in psychomotor psychotherapy the emphasis is on the provision in

the there-and-then of the missing positive experiences.

Finally, whereas in corrective-provision models of psychodynamic psychotherapy (typified by Model 2) the emphasis is on empathic recognition of the patient's unmet developmental needs, in psychomotor psychotherapy the emphasis is on not just empathic recognition but also actual gratification of what are seen as legitimate needs.

Interestingly, in psychodynamic psychotherapy grieving (that is, confronting the reality of certain excruciatingly painful experiences and feeling all that needs to be felt in order, ultimately, to get on with life) is thought by

many theorists to be at the heart of the therapeutic action.

For example, in self psychology (a theory about the internal absence of good because of what did not happen in the early on relationship between parent and child), as the patient confronts the reality that her therapist (a stand-in for her parent) will never be all that the patient would have wanted her to be, the patient must make her peace with the reality of that disillusioning, heartbreaking truth so that she can move on.

During the process of grieving, the patient will adaptively internalize those parenting (selfobject) functions from which she had been benefiting prior to her heartbreaking experience

of being empathically failed by the therapist. Self psychology refers to this grieving of disappointment as optimal disillusionment and as resulting in transmuting (or structure- and capacity-building) internalization.

In contradistinction to this is psychomotor psychotherapy, in which the role of grieving is very different. Although the patient might well grieve as she re-experiences the historical scene and as she experiences the “pain of contrast” between what was and what she now knows could have been, it is not the grieving per se that is thought to be healing—because psychomotor psychotherapy is not about coming to terms with the reality (1) that things were as they were and (2) that there is nothing to be done now to correct for that painful truth. Rather, psychomotor

psychotherapy is about creating possibilities—for things to be, and therefore to have been, different. Psychomotor psychotherapy is not about confronting the reality that developmental needs were never, and will never be, met; rather, it is about creating a space within which the patient (in a benignly regressed child state) can experience therapeutic reactivation of thwarted developmental needs and symbolic gratification of them—a mind-body experience that is internally registered as a healing alternative (or antidote) to the original pathogenic situation.

Before I offer an extended clinical vignette, I would like to speak briefly to the critical role played by the *witness figure* in psychomotor psychotherapy.

In psychodynamic psychotherapy, the empathic therapist resonates with the patient's affective experience and offers some form of validating response—in the form, say, of "You become deeply saddened as you think about just how unprotected you were as a child." This is certainly an empathic response that will enable the patient to feel understood by her therapist.

But in psychomotor psychotherapy, things are a little different. A witness figure is created who literally bears witness to the patient's experience, offering not the statement "You become deeply saddened as you think about just how unprotected you were as a child," but "I can see how deeply saddened you become as you think about just how unprotected you were as a child." The simple addition of "I can see..." transforms an

empathic response that enables the patient to feel understood into a deeply empathic response that enables the patient to feel deeply understood and seen.

I think that part of the power of such an intervention derives from the introduction of the observer's eyes. It is much more powerful even than an intervention that introduces a listener's ears ("I can hear how deeply saddened you become as you think about just how unprotected you were as a child").

But also important, I believe, is that the intervention is being offered by a stranger, an outsider, who, in observing the patient, is able to name the patient's affective and bodily experience —which is somehow deeply affirming for the

patient. Perhaps we are speaking here to the distinction between a friend noticing how sad you look and commenting on it and someone walking down the street whom you might never before have met noticing how sad you look and commenting on it.

As a result of my more recent exposure to present-day brain-based treatments and the neuroscience that underlies rewiring the brain and reprogramming the mind, I have come to appreciate more fully the magnificence of what the very humble Al Pessò, way ahead of his time, was accomplishing by way of his focus on the construction of somatic memories (in the mind's eye and in the body simultaneously).

I believe that Al was able to construct this powerfully effective and efficient mind-body approach to healing because of both the exquisite attunement that he, as a former dancer, had developed to the flow of information and energy throughout the mind-body and his spot-on intuitive sense about what the mind-body would need in order to fill in its *holes* (the term he used to describe unmet developmental needs).

In sum, psychomotor psychotherapy, developed almost 60 years ago now, is an approach to the healing of old wounds by the construction of new virtual somatic memories as antidotes to the old actual memories. Subsequent short-term, intensive treatments, whether knowingly or not, have been following in its footsteps.

It is only now, at this very moment and as I sit here at my computer and, with tears in my eyes, am remembering my dear friend Al, that I am suddenly understanding why he would have referred to psychomotor sessions as *structures*! They are structures because his approach really is a constructivist one—one that gives the patient an opportunity to construct what she wishes had been and then to register that internally in her mind's eye and in her body as a virtual somatic memory.

Psychomotor psychotherapy was truly a forerunner to all the subsequent short-term, intensive, brain-based constructivist treatments that involve the construction, and reconsolidation, of new, updated memories in the place of old, outdated ones!

Parenthetically, I still hold dear the heartwarmingly comforting virtual mind-body memory that I, during one of my own psychomotor sessions with AI, constructed for myself (with the help of members in the group whom I selected to role-play, first, my actual (historical) parents and, then, my wished-for (ideal) parents).

The issue with which I had presented was how burdened, worried, anxious, and unhappy I so often felt because of all the responsibility that I imagined I was carrying on my shoulders—certainly (from way back) a very familiar feeling for me. I was longing to be able to feel more relaxed in my life, more carefree, and more light-hearted.

After recreating the oppressive—and, admittedly, somewhat grandiose—*historical scene* of feeling somehow responsible for everybody else’s happiness (including my sister’s), I was then able to construct a *healing scene* in which I had a mommy and a daddy (ideal parents whom I would have wanted to have had back then) who would have noticed the weight I was carrying and, lovingly and thoughtfully, would have known to take that burden upon their own shoulders—thereby freeing me up to be more relaxed and more joyous.

The healing scene that I choreographed for myself and then internally recorded as a somatic memory features me as a lively and fun-loving little girl (with shoulder-length blond hair, short

bangs, a cute little blue dress, and shiny black patent leather shoes with white socks) delightedly skipping down the street between my mommy and my daddy (each of my hands holding one of theirs)—with a broad smile and without a care in the world. Free at last...

Even as I, seated here at my desk, am calling to mind that memory now, I smile and can feel my body relaxing as I embrace that sweet, delightful image of myself as carefree and happy.

Andre's Intense Longing to Reach Out for his Dad—Clinical Vignette

Andre, a high-level executive from a South American country, upon the recommendation of a colleague, had traveled thousands of miles to Strolling Woods in New Hampshire to do a

structure with Al. His colleague had told Andre that it would be a powerfully transformational experience, but Andre was having trouble getting started in the session and found himself beginning to question the wisdom of his decision to travel so many miles in order to have the opportunity to do something that now seemed almost silly.

As Andre sat cross-legged on the floor, embarrassed, anxious, frustrated, and distressed, he began first to press the tips of his fingers into the rug on the floor in front of him and then to rub his fingertips, slowly, methodically, rhythmically, back and forth, back and forth. Meanwhile, Andre's story was beginning to unfold and take shape.

Andre's father, whom he had loved dearly, had suddenly left his wife and only child when Andre was only four years old. Subsequently, Andre had had a very intimate relationship with his mother, who had nurtured him well but had been filled with hatred for her husband because of his abandonment of the family.

After a while, Al, noting the way in which Andre was stroking the rug in front of him, suggested that Andre consider enrolling one of the women in the group to role-play Andre's real mother and that this woman be instructed to lie face down on the floor, stretched out in front of Andre underneath his fingertips.

Once this woman had positioned herself face down on the floor in front of Andre, he continued

the now more obviously tender back-and-forth stroking movements—his hands never once leaving her back.

After a while, Al suggested that Andre consider enrolling one of the men in the group to role-play Andre's real father and that the man be instructed to lie face down on the floor on the far side of the woman role-playing Andre's real mother.

Interestingly, Andre continued the gentle caressing of his mother's back but shifted his eyes—now filled with sadness, pain, and heartfelt yearning—to the back of the man role-playing his real father. Never once did Andre remove his hands from his mother's back, but now his attention was riveted on his father's back.

Andre was obviously being gripped by a powerful internal conflict—between his intense desire to reach out to touch this man (his father) and an equally intense inability to do so. Clearly, Andre wanted desperately to establish contact with his father but simply could not bring himself to break the contact with his mother.

To bear witness to Andre's agonizing struggle was profoundly heartbreaking for all of us in the group.

The *witness figure* (a role played by Al himself) observed the following: "I can see how much you long to be able to reach out to your father"—at which point Andre, still unable to break free of his mother but obviously still hungering to make contact with his father, bowed

his head (though never once taking his eyes off his father) and began to sob—deep, heartrending, anguished sobs that contorted his face and convulsed his body.

Al then introduced a *contact figure* who, upon being instructed by Andre (through broken sobs) to sit by his side, held Andre as Andre collapsed into this man's arms. Al suggested (with Andre's ready agreement) that the contact figure expand his role to that of an ideal father and that another member of the group be enrolled as Andre's ideal mother.

Andre's ideal mother took up a position on the other side of Andre and both parents encircled Andre lovingly in their arms—maintaining, all the while, contact with each other. Andre's ideal

father was instructed to say that, had he been Andre's ideal father back then, he would never have left his wife and son. Andre's ideal mother was instructed to say that, had she been Andre's ideal mother back then, she would never have felt betrayed when Andre wanted connection with his father. Both parents offered this and many other statements that indicated their commitment both to being there for Andre and to not insisting that he choose between them.

Eventually, Andre's sobs began to subside and his body began to settle into a state of deep relaxation—as he began to allow himself to take in the profoundly healing experience of being comforted and nurtured by ideal parents who would have loved each other, would have loved him, and would never have made him choose

between them. As Andre nestled in their arms, his body, once tense, visibly relaxed—a beatific, peaceful smile lighting up his face.

Andre was instructed to register the experience internally (in both his mind’s eye and his body) as a positive memory—to construct a visual, kinesthetic, sensorimotor image of that child finally finding what he had spent a lifetime in search of. Once Andre signaled his readiness, the figures who had been enrolled to accommodate were disenrolled and the structure was complete.

It was such a powerful experience for all of us in the group to bear witness to the power of psychomotor psychotherapy with this man, a high-level, self-acknowledged, obsessive-

compulsive business executive who had never been exposed to any kind of psychotherapy and had carried around inside him for decades the pain of having lost connection to his dad—but a man whose life was transformed by the mutative power of somatic memory reconsolidation.

LIMITED POTENTIAL versus UNBOUNDED POSSIBILITIES

Also inspirational and incentivizing for me was my exposure to the groundbreaking work of Bruce Lipton (2015), whose research explores several facets of the complex interconnectedness between mental phenomena and the functionality of the cells in our brains and bodies—more specifically, between our beliefs and the biology of the cells in our brains and bodies.

Indeed, the avant-garde cell biologist and stem-cell researcher Lipton presents a compelling case for the need to address the intimate relationship between mind and brain/body—an

interdependence that lends further credence to the importance, when conceptualizing the therapeutic action, of taking into consideration the impact—on brain and body—of the narratives young children construct in an effort to make meaning of the overwhelming relational traumas to which they are being exposed.

Genetic Determinism versus Epigenetic Freedom

As noted above, psychodynamically informed treatments (corresponding to Models 1–4) are in the deterministic tradition of understanding our history as our destiny and not our destiny as our choice.

My appreciation for the fact that our destinies are not simply predetermined by what had come

before (whether the actual genetic code that we inherited from our parents or the psychological environment in which we were raised) was greatly enhanced by my immersion in the cutting-edge work of Lipton (2015), who embraces a more hopeful, less deterministic, more empowering perspective, one that highlights the transformational power of our beliefs (be they positive and growth-promoting or negative and growth-disrupting).

Indeed, whether in the realm of the physical or the psychological, conventional medicine has tended to embrace the deterministic idea that our genes control our destiny, that our genes are primary and irreversible, and that our genetic blueprint seals our fate.

Certainly, psychodynamic psychotherapy also tends to espouse this idea that our psychological underpinnings determine our destiny and that unfortunately, if we are not careful, we will be ever prone to repeating our past in the present. And, as it happens, so many patients do just that! Freud, of course, referred to this ever-present compulsive and unwitting need to recreate the past in the present as the repetition compulsion (Freud 1940).

But mind-body medicine is much more optimistic and empowering, appreciating that whereas genes are indeed fundamental, epigenetics are even more critical.

Indeed, the focus of much of Lipton's scientific research has been on epigenetics

(2015), namely, the study of changes caused by modifying which genes will be switched on and which genes switched off. Epigenetics (which means, literally, *on top of* genetics) refers to reversible (external) modification of the actual structure of the double-stranded DNA molecule and not to (internal) alteration of the sequence of nucleotides in the DNA strands. In essence, epigenetic modifications—such as DNA methylation (the addition of a methyl group to the DNA strand and thought to be a risk factor for a variety of physical and mental illnesses)—alter gene expression and therefore the functionality of the cells in the brain and body.

Currently, it is fairly well established in the mainstream that lifestyle choices, environmental exposures, and aging processes impact the

physical (conformational) structure of the DNA double helix and therefore regulate which genes will be expressed and which ones will not. But Lipton goes one step further. He hastens to remind us that acquired beliefs as well—whether those beliefs are held in brain consciousness (that is, the conscious mind) or held in body consciousness (that is, the subconscious or the unconscious mind)—are epigenetic factors impacting the conformation of the DNA molecule and therefore gene expression.

More specifically, while at Stanford University Medical Center (between 1987 and 1992), Lipton’s groundbreaking research on epigenetics (2015) revealed that the mind—both brain consciousness and body consciousness—controls the functionality of all the cells in our

body by turning our genes on and off. His meticulously documented, albeit controversial, work on the *biology of belief* advanced the idea that the body's cells are controlled as much by signals from outside the cell, including the energetic messages emanating from our positive and negative beliefs, as by our genetic code. In other words, our cells (and our bodies) are controlled as much by messages from the *outside in* (epigenetics) as by messages from the *inside out* (genetics).

In essence, Lipton's scientific studies demonstrate that our beliefs do not simply exist in our minds. Rather, by way of their energy (and the electromagnetic fields they generate), our beliefs affect the membranes of our body's cells, the expression of the genes contained within

those cells, the functionality therefore of the body's tissues and organ systems, and ultimately our physical and mental health.

Critically important for Model 5 is Lipton's contention that our belief systems, once recognized, can be changed by rewriting the programs in the subconscious mind (Lipton 2015).

Over the course of the decades, Lipton has encountered much resistance to his pioneering ideas. When he had begun his research back in the 1970s, it was during the golden age of genes —and there he was, suggesting that we could modify our genes (and their expression) by changing what we believed and how we felt! In 1992, Lipton therefore made the decision to leave

academics, stating “I realized the message is more important for the average person than it is to argue in the halls of science.”

The following uplifting quote captures the essence of the epigenetic perspective that, over time, Lipton came to embrace: “I was exhilarated by the new realization that I could change the character of my life by changing my beliefs. I was instantly energized because I realized that there was a science-based path that would take me from my job as a perennial ‘victim’ to my new position as ‘co-creator’ of my destiny” (Lipton 2015, Prologue, p. xv)

Fortunately, Bruce Lipton is no longer alone in his efforts to highlight the impact of epigenetic

factors, including beliefs, on our physical and mental well-being.

As a testament to the now more broadly accepted idea of epigenetic freedom as opposed to genetic determinism, whereas many illnesses were once thought to be 90% genetic and 10% epigenetic (or environmental), now most illnesses are thought to be 10% genetic and 90% epigenetic.

Often repeated by epigeneticists is the idea that “our genes load the gun” but “the environment pulls the trigger.” This pithy concept certainly exemplifies the complex, and intimate, relationship between our genes and the environment (Ramos & Olden 2008).

Interestingly, James Vaupel and his colleagues at the Max Planck Institute for Demographic Research in Germany write, “You really learn very little about your own life span from your parents’ life spans. That’s what the evidence shows. Even twins, identical twins, die at different times.” In fact, it has been discovered that, on average, identical twins die more than 10 years apart (Vaupel et al. 1998).

Norman Cousins—Unflagging Commitment to Life—Clinical Vignette

The following is a heartwarming story that speaks to the life-giving power of our positive beliefs. Against all odds, Norman Cousins (2001), author of *Anatomy of an Illness*, recovered from a crippling case of ankylosing

spondylitis (a degenerative disease causing the breakdown of collagen) by embracing positivity.

Cousins credits his remarkable recovery to (1) his unshakable confidence in his body's innate ability to utilize its own wisdom to facilitate his healing; (2) his irrepressible good humor and unwavering cheerfulness in the face of his illness, which created an auspicious healing environment for not only himself but also the entire hospital staff; (3) his willingness to take major responsibility for his recovery by establishing a close partner relationship with his physicians; and (4) his focus on creativity and meaningful goals, which made recovery worth fighting for and life worth living.

Cousins (2001) writes, “Death is not the greatest loss in life. The greatest loss is what dies inside us while we live.”

Charles Krebs—Iron-Willed Determination—Clinical Vignette

What follows is the inspirational story of Charles Krebs and his remarkable recovery—an uplifting story about the power of intention, positive belief, and faith. Recounted in his 1998 book *A Revolutionary Way of Thinking*, Krebs’ journey back is a chronicle of exceptional courage and passionate commitment to the restoration of health against seemingly insurmountable odds.

Regarding his extraordinary recovery from a near-fatal scuba diving accident just off the coast

of Australia in 1983, which left him completely paralyzed from the waist down, Krebs writes, “It wasn’t a miracle. It was merely an energetic reality.”

Type 2 bends (decompression sickness) had left him a T10 paraplegic and confined to a wheelchair with no sensation, function, or mobility in the lower half of Krebs’s body. There are two types of bends: the first is when nitrogen bubbles form in the joints (painful but short lived) and the second—which is what Krebs unfortunately experienced—is when nitrogen bubbles form in the spinal cord, swell up, and block the flow of blood.

Krebs was given no chance whatsoever to move the lower half of his body ever again and

placed on the back ward of a rehabilitation facility in Australia, where he was prescribed minimal nursing care.

But Krebs was not to be deterred. He had a doctorate in evolutionary biology; had been a college professor of neuroanatomy; had a holographic memory enabling him to visualize nerve pathways in his body in 3D; and, because of his years of martial arts training, had a remarkable ability to use his mind to move chi through his body. Most importantly, he had iron-willed determination.

While in his wheelchair on the rehabilitation unit, Krebs would pick a muscle that did not work and, hour after hour, would run chi down the nerve pathway to the muscle. After days or

sometimes even weeks, he would eventually be able to make contact with the muscle.

Krebs began asking his physiotherapist for exercises that would activate different ones of his leg muscles, and he would then sit there, day in and day out, visualizing himself doing those exercises as he ran chi. Eventually, the muscle would move a little and then more and more.

As soon as Krebs was able to lift his foot off the floor, he would challenge himself to move up to lifting one-pound weights, then two-pound weights, and so on, each time building up his strength so that he would be able to advance to the next level.

Nine months after Krebs went into rehab as a T10 paraplegic and was told he would never walk

again, he walked out of rehab—admittedly with the aid of crutches, his “hips arched,” and his “feet dragging”—but committed to pursuing more formal training in applied kinesiology, which uses muscle testing to gather information about the body.

Since then, Krebs (2013) has developed his own energy healing method, one that integrates muscle biofeedback and acupressure (“energetic kinesiology”). His contention is that the circuit breakers in the nervous system are not in the physical body but in the energetic body. When energetic circuit breakers are switched off, the nerves will remain intact but will no longer conduct impulses. And they will remain off as long as the switch is stuck in this off, or standby, position.

Energetic kinesiology resets the circuit breakers by way of a combination of creative visualization, guided imagery, acupuncture, and neurofeedback. It is an approach to healing that offers the body the information it needs in order to restore its naturally healthy functioning.

Krebs credits his own incredible return to health with intensive use of creative visualization and, by means of muscle biofeedback to guide him, self-administered acupuncture treatments (one of the easiest and most effective ways to communicate with the subconscious mind and gather information about the body).

The net result of Krebs's self-rehabilitation has been to automate neural circuits that, for the rest of us, are activated, by birthright, with

neither thought nor conscious effort but that, for him, had to be relearned, reprogrammed, rewired. His walking and other motor functions are now “almost automatic,” “almost reflexive.” But if asked to count to ten while walking, the requirement that he shift his focus from walking to counting will cause him to lose his concentration and fall to the floor.

Heartbreakingly, Krebs is in chronic pain but, because of his choice not to be a victim, he has shared with me that he does not suffer.

As with Cousins’s almost miraculous recovery, so too Krebs demonstrates the extraordinary power of mind over matter, free will over determinism.

The Subversive Power of the Subconscious Mind

Returning once again to Bruce Lipton, whose work also illuminates the importance of recognizing the subversive power of our lightning-fast subconscious mind. Lipton's research demonstrates that the subconscious operates at a blisteringly rapid rate, a speed that is much faster than the speed at which the conscious mind operates. This certainly gives the subconscious a competitive advantage (especially when it comes to negative thought patterns arising automatically from deep within).

Although what follows might sound a bit woo-woo, I nonetheless wanted briefly to mention some of the research about which Lipton

writes in his critically acclaimed, bestselling book *The Biology of Belief* (2015).

Lipton (2015) posits that the conscious mind (by way of the well-known nervous system) processes information, on average, at the rate of 40 bits of data per second. Yes, that is fast. But the subconscious mind (by way of the less well-known extracellular, or connective tissue, matrix in which all the body's systems are embedded) processes information, on average, at the rate of 40,000,000 bits of data per second. This means that the subconscious mind is about 1,000,000 times faster and more powerful than the conscious mind, which is a daunting thought.

The lightning-quick processing of data by the extracellular matrix (also referred to as the

ground regulation system) reflects the fact that information and energy—in the form of biophotons or energy quanta—are continuously flowing at about the speed of light (186,000 miles per second) through the entire expanse of the living matrix. Because this ground regulation system is a highly ordered array of molecules immersed in salt water—molecules that are closely packed and tightly organized in a crystal-like lattice structure—the living matrix is thought to be (in the language of solid-state physics) a liquid crystal with semiconducting properties (Pischinger 1991; Oschman 2000; Rea & Patel 2010).

In any event, Lipton likens our subconscious mind (body consciousness) to a quantum computer containing massive amounts of

uncensored and unfiltered data, most of which are negative, self-limiting, and disempowering—implicitly held beliefs that, like software programs, were swallowed whole and downloaded (during the formative years of our lives) onto the quantum computer, or hard drive, of our subconscious. Thereafter and generally unbeknownst to us, these self-defeating core constructs organize our experience of the self, others, and the world and therefore control most of what we think, feel, and do.

Examples of deeply ingrained negative beliefs might include any of the following: I am a failure; I am not smart enough; I am a victim; I have already tried everything; I will never get better; I will always be sick; I will never be

happy; I am too old; I have already made too many mistakes; It is too late.

In contradistinction to these implicitly held (subconscious) negative beliefs are explicitly held (conscious) positive beliefs, which might include any of the following: *I can do this; I work hard and deserve good things; I believe in myself; Good health is my birthright; I possess a healthy mind and a healthy body; Every single day is a new day full of hope, happiness, and health.*

Unfortunately, positive beliefs are generally harder to acquire than negative beliefs, because negative beliefs were usually birthed long ago, in the developing mind of a young child—with limited capacity—attempting to make sense of the privations, deprivations, and insults to which

she was being exposed in her early-on relational experience of the world.

To compound matters, Lipton reminds us that our minds are simply more attuned to, and drawn to, these negative beliefs than to neutral or positive ones. This *negativity bias* is automatic and represents an evolutionary adaptation, needed in order to protect us from harm. But because negative beliefs are reflexive, habitual, conditioned, and mindless, they constitute a formidable opponent for a conscious mind attempting to be reflective, considered, empowered, and positive.

Viktor Frankl, an Austrian neurologist, psychologist, and Holocaust survivor, writes, “Between stimulus and response there is a space.

In that space is our power to choose our response. In our response lies our growth and our freedom” (Frankl 2006). Lipton highlights that when the (less-evolved) subconscious mind—which is “reflexive-and-often-health-defeating”—is in control, we will react defensively. But when the (more-evolved) conscious mind—which is “reflective-and-generally-more-health-promoting”—is in control, we can respond adaptively. And therein lies our freedom...

Although Lipton’s focus is not specifically on the updating of old, maladaptive, negative narratives by way of locking in (or reconsolidating) new, updated, positive narratives, his groundbreaking research on the biology of belief demonstrates, more generally, that our beliefs (conscious and subconscious)

have the power to harm and to heal both mind and body—negative ones causing mental and physical illness and positive ones promoting mental and physical wellness.

Inspired by Lipton's groundbreaking documentation of the mind-body interface and the profound impact of our minds on our brains/bodies (on both cellular and subcellular levels), Model 5 reflects a keen respect for the undermining power of the breathtakingly fast subconscious mind and the deeply ingrained negative beliefs that it harbors. At the same time, Model 5 embraces a more optimistic, self-determining perspective that, by embracing the potential for constructing positive beliefs that will override negative ones, offers the promise of hope for the future.

As will be seen, Model 5 is a forward-focused, future-oriented, empowering approach to transformational change—one that champions the synergy of mindfulness (in order to access implicitly held negative beliefs residing in body consciousness and sabotaging both mental and physical health) and intentionality (in order to install explicitly articulated positive beliefs generated by brain consciousness and designed to counteract those negative constructs)—all with an eye both to disentangling the patient energetically from self-limiting narratives that are thwarting her forward progression and to introducing self-affirming narratives that will foster the living of her life from here on out.

Binaural Beats and a Healing State of Mind

Negative beliefs can be most easily accessed and positive beliefs most effectively installed when the patient's brain is operating in the 7–8 Hz (cycles per second) crossover zone—the state of mind resulting from the intersection of alpha (deep relaxation and light meditation) and theta (deep meditation, dreams, and creativity) brainwave frequencies. This frequency is the well-known Schumann resonance, which some scientists (including many at the Max Planck Institute in Germany) believe provides a constant, globally available synchronization system that continuously stabilizes the brain, thereby promoting health, creativity, and vitality (Wever 1979; Cherry 2003).

In fact, quantum physics has it that everything in the universe vibrates at a characteristic frequency (Ball 2018). The vibrational frequency of one object can therefore harmonize with the vibrational frequency of another, at which point resonance will occur because the two objects will now be vibrating at the same frequency. As a more specific example, if you strike a tuning fork that is vibrating at a frequency of, say, 90 Hz and place it near (although not touching) another tuning fork with that same frequency, the second tuning fork will be set in motion. Another example of resonance occurs when a singer breaks a glass by singing at a certain pitch—the frequency of that tone having matched the natural frequency of the glass, thereby shattering it.

We can all achieve a *healing state of mind* when we are able to match, and resonate with, the Earth's vibrational frequency or heartbeat, which is 7—8 Hz. But this frequency cannot actually be heard. It can, however, be reproduced with *binaural beats*, a form of sound therapy whereby stereo headphones are placed over the ears and into one ear an audible frequency of, say, 200 Hz is transmitted and into the other ear an audible frequency of, say, 208 Hz is transmitted.

Astoundingly, the brain will then create an auditory illusion of the difference between the two sounds. In essence, because of the brain's capacity to synchronize its frequencies with rhythms from external stimuli, it will be able to *entrain* to the 8 Hz vibrational frequency.

More specifically, when a patient is in sync with the Earth's resonance (of 7.83 Hz), it will bring her into a more balanced state, one in which she will be more easily able both to access what lies inside and to receive input from the outside. Perhaps more accurately still, her conscious mind will be more easily able to access what lies in the subconscious (thereby reinforcing mindfulness) and her subconscious will be more easily able to receive input from the conscious mind (thereby reinforcing intentionality).

Although psychoanalysts consider dreams to be the royal road to the unconscious, neuroscientists consider this *threshold consciousness* of 7-8 Hz (also the transitional state of consciousness between wakefulness and sleep) to be the royal road to the subconscious.

By optimizing the potential for the brain (and its synapses) to be rewired and for the mind (and its mental schemas) to be reprogrammed, this threshold state of awareness creates opportunity for capitalization upon neuroplasticity.

Not surprisingly, hypnagogic states (just before falling asleep) and hypnopompic states (just before awakening) are sometimes used as a source of inspiration to foster creativity. The closer one gets to this transitional state, the clearer and more profound one's intuition becomes.

It is apparently fairly well known that Thomas Edison (who acquired a record number of 1,093 patents over the course of his life) would use hypnagogia to ignite his creativity. Over the

course of the day, he would take naps in his chair, holding a set of heavy metal balls in his palms. Once his hands relaxed and the steel balls crashed noisily to the floor, Edison would awaken suddenly with a solution (often visual) to his problem. In keeping with this are the words of Leon Brown, “The answers you seek never come when the mind is busy. They come when the mind is still, when silence speaks loudest.”

In any event, I mention this transformational brainwave frequency of 7–8 Hz and the use of binaural beats to generate that frequency (to which the brain can then entrain) in order to highlight yet another brain-based strategy that can be employed to expedite the therapeutic action. Although the generation of binaural beats is not all that easy to implement in the clinical

situation, it is nonetheless a strategy that can be used by the patient (when she is, say, at home) to create easier access to what lies inside and greater receptivity to what lies in the world around her.

Energetic Connectedness

As noted earlier, Bruce Lipton is passionate about quantum biology, that is, the application of quantum physics to an understanding of the mysterious impact of our beliefs (and the electromagnetic fields they generate) on the physical structure of our DNA and therefore on the health of our brains and our bodies—an impact that cannot be explained on the basis of classical (Newtonian) physics alone.

I do not claim to understand quantum physics and the quantum realm, but there are aspects of it with which I definitely resonate and that help me both to understand the tenacity of the patient's attachment to her past and to appreciate that—once the patient has been energetically released from that toxicity—every precious moment in time going forward will hold infinite potential if the patient can but take ownership of what truly matters to her and then commit to doing whatever she might need to do in order to realize her vision.

More specifically, the concept of *quantum entanglement* involves the mystical (electromagnetic) connection between two particles, whereby the quantum state of the one cannot be described independently of the

quantum state of the other. Entangled entities remain energetically connected, such that actions performed on the one affect the other, even when the entities are vastly separated in time and space.

I believe that this concept of quantum entanglement can be used to deepen and broaden our understanding of the powerful, mysterious, and often seemingly inextricable force fields—generated during the formative years—that negatively impact our patients across time and space and interfere with their ability to actualize their greatest potential in love, work, and play.

Might not an appreciation for the sometimes difficult-to-comprehend coupling of the patient's past with her present and the sometimes impossible-to-fathom intense attachments that the

patient has to people who have broken her heart advance our understanding of the therapeutic work that needs to be done in order to extricate the patient from her infantile attachments, relentless pursuits, and compulsive repetitions?

If so, from this does it not follow that *quantum disentanglement* must somehow be accomplished in order to *decouple* the patient energetically from the dysfunctional system and *disengage* her from the tenacious ties that bind? And might that release need to be done abruptly and dramatically in order to disrupt the momentum of the system and liberate the patient?

In the prophetic words of Lao Tzu (Heider 1986), “When I let go of what I am, I become what I might be.”

The Quantum Realm as Holding Infinite Potential

In keeping with his quantum perspective, Lipton contends that “the universe is created by our observations.” He is here reinforcing the extraordinarily uplifting and liberating idea that the quantum universe contains *infinite potential*—which, when I apply the concept to patients, highlights that there are infinite possibilities for the patient if she can but get clear on what she really wants for herself in life, can disentangle herself energetically from disempowering connectedness with past negativity, and can consciously direct positive attention and empowering energy in a new direction and into a new future—such that she will be able to create herself anew.

In essence, every entity in the quantum world is like a pluripotent stem cell, replete with possibilities just waiting to be accessed and expressed. There is infinite potential because every quantic entity traveling as a wave contains all the probabilities of all the possible locations of the particle. This wave-particle duality has it that the wave will collapse into a single particle and potential will become actual, but this will happen only if it interacts with the outside world or the observer.

Lipton (2015) captures the essence of this with the following, “The quantum universe is a set of probabilities that are susceptible to the thoughts of the observer.”

As it relates to Model 5, I will be suggesting that the quantum realm holds an infinite number of possibilities that are simply waiting to be *intended* and *actualized*. In other words and in keeping with Lipton's quantum biology, beliefs exist simultaneously in an invisible field of energy and in an infinite array of possibilities. These limitless possibilities exist as pure potential, waiting to be evoked, actualized, realized, manifested once intention is set and the wave (initially containing all the possible locations of the particle) collapses into a single particle.

In the evocative words of Gregg Braden (2006), "Quantum science suggests the existence of many possible futures for each moment of our lives. Each future lies in a state of rest until it is

awakened by choices made in the present.” In essence, the future exists in a state of potentiality, just waiting to be consciously and coherently intentioned (a pivotal concept in Model 5 to which we will be returning shortly)—and actualized.

The Theory of Possible Selves

The concept of envisioning a more actualized, future self that will be different from the present self is very much in keeping with the possible-selves theory advanced by Markus and Nurius (1986), which focuses on “how individuals think about their potential and about their future.” Hamman et al. (2010) write, “Possible-selves theory describes how future-oriented thought provides identity-relevant information and

motivation to pursue self-relevant goals” (p. 1349).

In essence, simply looking ahead to future possibilities and envisioning the actualization of one’s dreams can, in and of itself, inspire and motivate.

THE DYNAMIC NATURE OF MEMORY

Brain-Based Strategies

Generally, most short-term, intensive, brain-based treatments conceive of the process of therapeutic change as one that involves both a rewiring of the brain and a reprogramming of the mind as resistances beget resources, problems beget possibilities, and symptoms beget solutions. These transformational changes are accomplished by specifically targeting, with jolting mismatches, the defensive and self-defeating patterns of thinking, feeling, and behaving that were consolidated early on in life

and are now interfering with living life fully in the present and with taking self-affirming action going forward.

Neuroscientists had long thought that once a new learning—especially a traumatic one—was consolidated in long-term memory, it would be permanently installed. Perhaps it could then be modified, or even eclipsed, by subsequent experiences, but its essence would nonetheless remain intact, lurking beneath the surface and ever vulnerable to being reactivated—only then to be reinforced and returned to the netherworld.

Over the course of the past two decades, however, a dedicated group of cognitive neuroscientists (Nader 2003; Verkhatsky & Butt 2007; Schiller et al. 2010; Dudai et al. 2015),

ever intent upon teasing out the neural mechanisms that underlie the dynamic nature of memory, have been able to use advanced neuroimaging techniques to deepen their understanding of what actually happens, at the level of the neural synapse, when a thought is being thought, a feeling felt, or a memory remembered. These cutting-edge researchers have been able to demonstrate that, if very specific conditions are met, the complex network of synapses encoding the memory can then be remodeled and updated, such that the old memory will be deleted and a new memory put in its place.

This idea that traumatic memories, under the right circumstances, can be erased by resculpting the synapses underlying them is still somewhat

controversial and has not yet been fully accepted by the mainstream scientific community. But the idea that deeply embedded memories can be transformed, as long as very specific conditions are met, offers much hope for those severely traumatized patients who have experienced complex developmental and relational traumas and/or now suffer from post-traumatic stress disorder (PTSD).

In any event, paralleling these exciting neuroscientific advances in understanding how the brain remembers and how old memories, once formed, can be updated on the basis of new experience has been the clinical work of a dedicated group of mental health practitioners (about which more will be written shortly) who, whether intentionally or intuitively, are using

various brain-based strategies to target and transform procedurally organized traumatic memories and implicitly held relational expectations (Ecker et al. 2012, 2013; Rossouw 2014; Coughlin 2016, 2018; Feinstein 2019; Bowles 2019).

The Enigmatic Relationship Between Brain and Mind

Before we go any further, I think it is important that we examine the relationship between brain and mind. After all, brain-based treatment strategies, including those used in Model 5, will necessarily involve reference to both the brain and the mind, which raises the age-old question of how we understand the enigmatic

relationship between brain and mind and between neural and mental phenomena.

Indeed, throughout this book, I will be suggesting that therapeutic memory reconsolidation involves both rewiring the brain and reprogramming the mind. Ultimately, the therapeutic action in Model 5 involves the impact of focused intention (which is *energy* and therefore intangible) on the brain (which is *mass* and therefore tangible). In other words, Model 5 is about *mind over matter*.

It is therefore important that I at least attempt a brief explanation of how I conceive of the complex interdependence of mind and brain.

The following Miller Analogies come immediately to mind (or perhaps I mean to

brain!) for me—*The mind is to function as the brain is to structure and The mind is to energy as the brain is to information.*

Alternatively, it could be said that—*The mind is composed of patterns whereas the brain is composed of neural circuits.*

But there is another formulation that I have found to be helpful in conceptualizing the quantum entanglement between mind and brain—one that calls upon Albert Einstein’s *mass-energy equivalence*, namely, $E = mc^2$ (energy equals mass times the speed of light, in a vacuum, squared).

This famous equation highlights that, in the quantum universe, energy equals mass times the speed of light squared, that energy and mass

(matter) are interchangeable, and that they are simply different forms of the same thing.

In other words, every particle, every object, all mass, all matter has energy. More specifically, mass is concentrated energy; it is organized patterns of energy. In the words of Bruce Lipton (2015), “An atom is like a nano-tornado—a spinning force field.” It is an energy vortex, a powerful energy field.

Quantum theory ultimately speaks to the relationship between immaterial waves (E) and material particles (m) traveling way faster than the speed of light. A wave (of invisible energy) is a (visible) particle moving extremely fast!

Indeed, in the quantum universe, every quantic entity can be described in terms of both

waves and particles, which, as noted above, is a story about the wave-particle duality of quantum theory and the idea that every *thing* is both wave and particle, depending upon how the observer positions herself in relation to it.

From this it follows that the universe is not divided into the material realm (matter) and the energetic realm (energy). Rather, everything is both matter and energy.

I have selected the Mobius Strip as an elegant visual metaphor for this dual (two-sided) nature of every quantic entity. A Mobius Strip is a continuous, one-sided surface formed by twisting one end of a rectangular strip 180 degrees along its longitudinal axis and then attaching the two ends. Imagine the word *wave* written on one

surface of the Mobius Strip and the word *particle* written on the other surface. The continuity of the Mobius Strip's one-sided surface is a visual representation of the equivalence of waves and particles and, as is now being here proposed, the equivalence of mind and brain.

Why did the chicken cross the Mobius Strip?
To get to the same side.

In sum, the heart of the therapeutic action in Model 5 will ultimately be a story about the relationship between the (invisible) mind and the (visible) brain and body, between the (intangible) energy of mental schemas and the (tangible) structures throughout the living system—be they neural synapses in the brain or cellular membranes in the body.

Again, the wave holds a boundless array of unrealized (immaterial) possibilities, any one of which can be realized once the observer sets the intention to actualize it—at which point the invisible wave of infinite potential will collapse into a visible (material) particle that manifests in the real world. Simultaneously potential will become actual and envisioned will become reality.

Updating the Brain on the Basis of New Experience

The aforementioned dedicated group of cognitive neuroscientists who believe that the brain can be rewired and the similarly impassioned group of neuroscientifically inclined clinicians who believe that the mind can be

reprogrammed have come to believe that therapeutic memory reconsolidation is indeed at the heart of the process by which core change is effected—changes in the brain (and its wiring) paralleling changes in the mind (and its programming).

Although therapeutic memory reconsolidation is not always the specific term used, David Feinstein (2019) and others (Ecker et al. 2012, 2013) firmly believe that most short-term, intensive treatments, whatever their particular focus or specific lexicon, fundamentally owe their effectiveness to the therapeutic action of memory reconsolidation, whereby if certain conditions are met after reactivation of a previously consolidated memory, then the memory will return to a labile state in which it

can be erased (or nullified) and replaced by an updated, more reality-based, growth-promoting narrative (Feinstein 2019, p. 42).

In essence, Feinstein (2019) contends that, if masterfully enough implemented, depotentiation of the neural pathways encoding the implicitly held core beliefs maintaining the patient's inertia can result in the elimination of all manner of deeply ingrained, longstanding symptoms and defensive behaviors—by way of the locking in, or reconsolidating, of new, updated, more adaptive, more relevant beliefs, narratives, and memories (that is, by way of therapeutic memory reconsolidation).

Indeed, in the hands of skilled and experienced practitioners, all of these short-term,

intensive treatments have been able to demonstrate impressive and documented success in the mobilization of patients who have been stuck in their lives and unable, or unwilling, to move forward (Ecker et al. 2012, 2013; Coughlin 2016, 2018; Feinstein 2019; Ecker & Bridges 2020).

Importantly, in contradistinction to long-term, in-depth therapies that are more free-form and less directed, most short-term, intensive treatments have both the implicit and the explicit expectation that patients should acknowledge the growth-impeding forces fueling their inertia, should focus on taking embodied ownership of their need to change, and should commit to engaging in self-actualizing action going forward —doing whatever they must in order to realize

their dreams. In essence, patients are expected to “put their money where their mouth is” and to “walk the talk.” In other words, in marked contrast to those psychotherapies that are more psychodynamic and less focused on the expectation that patients should commit to doing things differently going forward, most of these brain-based treatments target specific problem areas and emphasize *committed action* as critically important for change.

Additionally, rather than the long-term, incremental, step-by-step psychodynamic process (Models 1–4), with its ongoing cycles of disruption and repair as the patient slowly but steadily evolves from illness to wellness, most short-term, intensive, brain-based treatments, which tend to involve more dramatic

transitioning from being jammed up and bogged down to being more action-oriented and future-focused, would seem to rely upon memory reconsolidation as the mechanism whereby the brain can update itself on the basis of new experience. Old, disempowering, rigid, and no longer relevant narratives will then be replaced by new, empowering, more flexible, and more relevant ones—a transformational dynamic that transcends the theories and techniques of the different schools of brief psychotherapy.

In essence, we are again speaking to the brain's remarkable neuroplasticity, that is, its innate capacity continuously to reorganize itself by forming ever-newer neural connections in response to ongoing environmental stimulation.

Neuroscientists embrace the word *plastic* to describe this state of malleability of the neural synapses underlying reactivated memories. Their intention is to reference the aforementioned concept of the brain’s synaptic plasticity or, more generally, its intrinsic neuroplasticity—the mechanism by which the brain is able to restructure and update itself on the basis of new environmental input. Jonathan Lee (2009), one of the leading researchers in the field of memory reconsolidation, has proposed that “...memory reconsolidation serves to enable the updating of memories, ultimately to maintain their predictive and adaptive relevance” (p. 420) in the face of ever-changing environmental conditions.

In the words of Alan Watts, “You’re under no obligation to be the same person you were 5

minutes ago” (Watts 2011).

Indeed, part of the impetus for broadening my psychotherapy paradigm to include a neuroscientifically informed perspective, relevant in those moments when the spotlight is on the patient’s inertia, was provided by my ever-increasing awareness of, and respect for, the various brain-based therapies that specifically and directly target the deeply ingrained mental schemas and long-established, self-defeating narratives fueling the patient’s refractory inaction and psychic stuckness.

The Narrative Changes but the Episodic Memory Remains

When therapeutic memory reconsolidation updates a traumatic memory, what is it that

changes and what is it that remains the same? Importantly, the fact of the event underlying the traumatic memory will not change, that is, the episodic memory itself will remain intact. What will change, however, will be the affective coloring of the experience, how the patient positions herself in relation to it, and the relational narrative she constructs about the self, others, and the world as a result of it.

Again, the conscious memory of the actual event will remain, but the narrative constructed as a result will have changed. The affective component of the memory will be neutralized “without changing the actual recollection of the ... event” (Kindt 2018). In other words, memory reconsolidation simply alters the patient’s emotional relationship to the specific memory

being targeted with the mismatch—without erasing the memory itself.

Maria Gains Perspective and Reframes her Father’s Abuse—Clinical Example

When Maria was a young girl, she had experienced frequent emotional abuse at the hands of her rageful, alcoholic father and, in a desperate attempt to make sense of that abuse, she had decided that it must have been she who was the bad one, she who was at fault.

But Maria, within the context of her secure attachment to a therapist who understood the transformational power of therapeutic memory reconsolidation, was fortunate enough to be offered a rapid-fire series of disconfirming experiences that repeatedly and forcefully

challenged Maria's learned expectation of being always a victim.

These juxtaposition experiences took place in conjunction with reactivated memories of her father's abuse, such that Maria was eventually able to update her self-negating narrative. No longer did she experience herself as ever at risk of being abused. Instead, Maria came to realize that it was her alcoholic father who had been the victimizer and she who was innocent.

Importantly, despite now having an updated narrative that offered a fresh, more reality-based perspective, Maria still remembered the fact of her father's abusive rages but she was no longer convinced that she had deserved the abuse and that the world was a dangerous, unsafe place. In

essence, she was able to re-interpret the entire scenario as a story not about herself as ever vulnerable to being abused but about her father as an often out of control alcoholic who would periodically fly into irrational and unjustified rages.

Hebbian Theory and Associative Learning

When a memory is being reactivated, whether the new experience that gets introduced during the four- to six-hour reconsolidation window is in line with what had been expected or at odds with what had been expected, the updated memory that gets reconsolidated will conform to Donald Hebb's (2002) neuroscientific postulate that nerve cells firing together will wire together.

In order to demonstrate Hebbian theory in action, we return now to the brief vignette that I had earlier presented about Lakisha, who had been traumatized by a near-rape experience years earlier. The EMDR session that we had done enabled her to reposition herself in relation to that traumatic event, such that she was able to construct an updated narrative of herself as no longer a powerless victim but an empowered survivor.

How might Hebbian theory explain this transformation?

In response to instructions from me (and after installing a safe place as a comforting backdrop for the more challenging work that was to follow), Lakisha reactivated the traumatic

memory of her near rape by continuously focusing, in her mind's eye, on what had happened in the woods that fateful night and by simultaneously reliving, in her heart and in her body, the outrage, devastation, shame, and sick feeling in her gut that were accompanying this reawakened, and excruciatingly painful, memory.

Were there to have been no new experience introduced at this point, then reactivating the traumatic memory and having Lakisha simultaneously relive—cognitively, experientially, and viscerally—the horror of it all would simply have served to strengthen the intensity of the horrifically traumatizing memory.

Indeed, in accordance with Hebbian theory, revisiting a trauma over and over again, without

at the same time introducing a fresh, new perspective that will reframe, or recontextualize, the traumatic experience will simply reinforce the synaptic connection between the fact of the event and both the traumatizing emotions and autonomic reactivity associated with it and the disempowering narrative to which that traumatizing experience had then given rise.

But this is not what happened for Lakisha during her EMDR session because, as a result of repeatedly and persistently tapping into the analytic wisdom of her left brain by way of our stimulating, alternately, both sides of her brain, a fresh, new perspective was indeed being repetitively introduced, such that the traumatic event of the near rape was ultimately being reframed as a story not about Lakisha as a

defeated victim but about Lakisha as a triumphant survivor.

Indeed, in accordance with Hebbian theory, the repetitive linking of the fact of the event with a more positive recontextualization of it prompted the rewiring, and reconsolidation, of updated synaptic connections between, on the one hand, the fact of the event and, on the other hand, more modulated emotions and a more empowering narrative.

After all, Hebb's postulate has it that nerve cells firing together will wire together—except that, now, Hebb's postulate provides support for the concept of synaptic plasticity and associative learning. In essence, Hebb's postulate lends further credence to the way in which the brain

(and its synapses) can be rewired and the mind (and its narratives) can be reprogrammed, which is what happens with therapeutic memory reconsolidation.

False (Negative) Memories and (False) Positive Memories

Parenthetically, when a new experience is introduced, it can be, of course, not *positive* but *negative* and, if offered during the reconsolidation window, here too neurons that fire together will eventually wire together.

More specifically, if what gets introduced is negative and repeatedly enough presented during the critical period of four to six hours, then the narrative that replaces the original narrative will be called, as we know, a *false memory*, in

essence, a false (*negative*) memory (Loftus & Ketcham 1996; Shaw 2017).

With respect to false (negative) memories, decades ago the psychologist and memory expert Saul Kassin (Kassin & Kiechel 1996) investigated the reactions of subjects falsely accused of having damaged a computer by pressing the wrong key. The participants, all of whom were indeed innocent, initially denied the charge; but when the experimenter's accomplice alleged that she had witnessed their pressing of the wrong key, many of the hapless participants signed a written confession and proceeded to confabulate details corroborating their internalized guilt.

More generally, false confessions are not all that rare. Kassin (2019), who has studied police interrogations for decades and is an advocate for overturning wrongful convictions, hypothesizes that more than 25% of the 365 (innocent) people exonerated in the last some years by the Innocence Project have actually confessed to their alleged crimes.

Kassin contends that the construction of false (negative) memories results from conflating actual memories with the content of suggestions received from others. So, too, under the right circumstances, repetitive suggestions from a (trusted) source are generally relevant for the construction of false (positive) memories as well —harkening back to Freud’s “direct suggestion”

and “hypnotic influence” as supplements for ongoing psychoanalytic work!

As we now know, if what gets introduced is positive and repeatedly enough presented during the four- to six-hour reconsolidation window, then the narrative that replaces the original traumatic memory will be, in essence, a false (or virtual) positive memory or, at least, a not-yet-entirely-true *positive* memory by virtue of the operation of therapeutic memory reconsolidation.

When One Door Closes, Another Door Opens

As noted throughout this book, decoupling the past from the present in order to eliminate its toxic impact will necessarily involve not only dismantling old, negative, and disempowering

narratives constructed by the developing child in a desperate attempt to make meaning of unresolved early-on relational trauma, abuse, deprivation, and neglect but also crafting new and empowering narratives that will reframe, or recontextualize, those traumatic experiences in a more positive, self-compassionate, and reality-based light.

To the point here are the pithy words of the neuroscientist Iryna Ethell (2018), “To learn we must first forget.”

Similarly, Norman Doidge (2007), a psychoanalyst and author of *The Brain That Changes Itself*, offers the following, “Evidence suggests that unlearning existing memories is

necessary to make room for new memories in our networks” (p. 117).

And the neuroscientist Joe Dispenza (2012), in describing his biological model of change, highlights the need to “break the habit of being yourself” in order to “reinvent a new self” and, more specifically, the need to “lose your mind” in order to “create a new one” (p. 182).

Indeed, at the heart of deconstructing old, outdated memories in order to forget and reconstructing new, updated narratives specifically designed to take their place is the freshly revamped and revitalized neuroplastic concept of memory reconsolidation.

Rewiring the Brain and Reprogramming the Mind

Again, over the course of the past 15 to 20 years, memory reconsolidation has indeed become the focus of impassioned scientific inquiry—by both the dedicated group of neuroscientists who advance the idea that it is the mechanism by which the brain is continuously updating itself on the basis of new experience (Przybylski & Sara 1997; Nader 2003; Verkhatsky & Butt 2007; Schiller et al. 2010; Dudai et al. 2015) and the neuroscientifically inclined group of mental health practitioners who hypothesize that this mechanism is the core process by which the various short-term, intensive treatments are able to heal longstanding emotional injuries and relational scars (Ecker et al. 2012, 2013; Bowlby 2019; Feinstein 2019).

Indeed, rewiring the brain (by reconfiguring its neural networks) and reprogramming the mind (by revamping the narratives—encoded by those networks—that had fueled the patient’s self-negating beliefs) will create the possibility for deep, abiding therapeutic change.

The Adaptive Capacity of the Brain

Memory reconsolidation is at the heart of learning and of how old memories—consolidated and stored in long-term memory—can be subsequently updated and reconsolidated in response to ongoing new experience and information. In essence, the brain is continuously modifying itself—structurally and functionally at the level of the neural synapse—in order to stay current and relevant. This reconstructive process

(involving both the destruction of old neural networks and the construction of new ones) speaks to the adaptive capacity of the brain and the dynamic nature of memory.

“Memory,” Oscar Wilde (2005) writes, “is the diary that we all carry about with us” (p. 34). In a 2010 *Scientific American* article on the overwriting of traumatic memories, after referencing Wilde’s quote, Daniel Lametti, a neuroscientist at McGill University, quips, “Perhaps, but if memory is like a diary, it’s one filled with torn-out pages and fabricated passages.”

In the treatment situation, therapeutic memory reconsolidation is achieved by way of providing the patient with a juxtaposition

experience that disconfirms the learned expectation. Again, this juxtaposition experience (between anticipated and actual) is the sine qua non for therapeutic memory reconsolidation, the net result of which will be quantum disentanglement of the past from the present, elimination of the target symptom and its behavioral sequelae, and advancement of the patient from refractory inertia to intentioned action in alignment with what truly matters to her, thereby allowing for actualization of potential.

Violation of Expectation

Put simply, introducing an unanticipated or even random element or event will disrupt the brain's routine ways of organizing information,

which will force the brain to reorganize itself in order to include the unexpected input, thereby altering neural patterns of connectivity.

More specifically, for eradication of amygdala-dependent traumatic memories to be permanent, *violation of expectation* (caused by the unexpected introduction of something new that disconfirms the learned anticipation of something old) must take place within the critically important four- to six-hour reconsolidation window (Schiller et al. 2010). In the neuroscientific literature, this mismatch is referred to as a *prediction error* or *novelty detection* (Schlichting & Preston 2015; Wang 2018); in the clinical literature, it is referred to as a *juxtaposition experience* or *mismatch* (Ecker et al. 2012, 2013; Feinstein 2019; Armstrong 2019).

Broadly speaking, a prediction error or juxtaposition experience is a surprising mismatch between the learned, habitual expectation of *old bad* and the reality-based, present-focused, future-oriented experience of *new good* (be that experience real or simply envisioned). Intuitively, the idea that abruptly, rapidly, unexpectedly, and decisively introducing an element of surprise in order to provoke change certainly makes sense, as does the idea that when new information (or new knowledge) directly contradicting a previous learning is repeatedly juxtaposed with what had come to be expected, the old memory will eventually be forced adaptively to update itself.

As the developmental and clinical psychologist Ed Tronick (well known for his still face experiments) describes it, the experience of

cognitive and emotional dissonance between anticipated and actual will create anxiety-provoking but growth-promoting *messiness* (Gold & Tronick 2020)—and ultimately reconsolidation at a higher, more-evolved level of health and vitality.

In other words, crucially important will be the patient's negotiating, in the context of secure attachment to the therapist, the jolting experience of a disconfirming mismatch between, on the one hand, the learned expectation of experiencing something old, dysfunctional, and painful and, on the other hand, the enlivening possibility of experiencing something new, more functional, and so much better than what had been anticipated.

In essence, the consolidated emotional learnings (in the language of neuroscience) and the implicitly held, deeply embedded, procedurally organized traumatic memories and relational expectations (in the language of psychoanalysis)—all of which are internal records of unmastered developmental and relational traumas experienced during the child’s early years and downloaded onto the hard drive of her subconscious—will be disconfirmed, again and again, by juxtaposition experiences that challenge their present-day validity.

As we shall see, if the therapist has faith in the patient’s resilience and adaptive capacity, if the patient is able to envision alternative, preferred realities going forward, and if the patient can take ownership of her need to change

in order to actualize her vision, then there will be ample opportunity for the construction of new, empowering narratives that recontextualize early-on traumatic experiences. Simultaneously, the patient will evolve from trauma victim to trauma survivor and from trauma survivor to trauma thriver (Omilian 2010).

A WINDOW INTO THE MIND

Brain imaging techniques, including functional magnetic resonance imaging, scanning microscopy, and optogenetics (a new technology that allows genetically modified neurons in the brain to be selectively turned on and off using an optical probe to deliver the light), are being used by cognitive neuroscientists to map brain activity—and, as such, they provide windows into the mind. Indeed, over the course of the past two decades, researchers have discovered that when memories are retrieved, the network of synapses encoding those memories will become unlocked

for a time-limited period (Ecker et al. 2012, 2013; Lee et al. 2017; Feinstein 2019).

This unlocking, or deconsolidation, signals the opening of the *reconsolidation window*—the brief window of opportunity when memories will become transiently sensitive to disruption by environmental input. This time-limited window appears to last about four to six hours.

Indeed, both the cognitive neuroscientists who study memory reconsolidation in their laboratories and the neuroscientifically inclined clinicians who study it in their offices agree that four to six hours is the critical time frame for the destabilized synapses encoding the traumatic memories to remain malleable and vulnerable to interference by new experience, such that the

synapses can be rewired, the memories they encode can be reprogrammed, and the symptoms those memories are fueling can be relinquished.

Expansion and Contraction of Glial Cells

Neuroimaging studies demonstrate that opening the transient four- to six-hour window is initiated by the action of several types of glial cells (particularly astrocytes and microglia)—neuroimmune cells that reside in the brain’s extracellular matrix (or interstitial space) and ensheath the brain’s neurons (Verkhratsky & Butt 2007).

Contrary to popular belief, glial cells (also known as glia after the Greek word for glue) actually outnumber nerve cells by a substantial

margin. In fact, Eric Kandel (2012), a neuroscientist and author of *Principles of Neural Science*, writes that glial cells “far outnumber neurons” by as many as 50 to one.

Current research indicates that glial cells play not a minor role in maintenance of the brain’s homeostatic balance but actually a major one. Glial cells had long been known to nourish, protect, and support the nerve cells to which they were attached. Only more recently have brain imaging studies been able to demonstrate that glial cells also play the critically important role of regulating synaptic connectivity, which they do by way of either their expansion or their contraction—alterations in size that result in either inhibitory or excitatory synaptic transmission.

More specifically, neuroimaging studies indicate that the swelling of glial cells inhibits the transmission of nerve impulses from the pre-synaptic to the post-synaptic membrane, whereas the shrinking of glial cells facilitates the propagation of nerve impulses across the synaptic space (Schleich 1894; Verkhratsky & Butt 2007).

When a memory is reactivated, the glial cells surrounding the synaptic junction will shrink in size, rendering the synapse transiently plastic (*synaptic plasticity*)—variously described as malleable, sensitive, fragile, and vulnerable to being disrupted by environmental input (Eroglu & Barres 2010; Rossouw 2014). In other words, when the glial cells contract, the network of synapses encoding the reactivated memory will

become temporarily deconsolidated, or unlocked, such that something new can be introduced.

If the something new that is introduced is a positive experience that disconfirms the learned expectation of something negative and if that mismatch is presented repeatedly enough and forcefully enough, then the new experience (and the fresh perspective to which it gives rise) will end up deleting the destabilized synapses and prompting the locking in, or reconsolidation, of new synapses encoding an updated, reality-based, growth-promoting, empowering narrative in the place of the old, outdated, maladaptive, growth-disrupting, disempowering one.

In other words, a more relevant narrative that reflects a fresh, more adaptive, healthier

perspective will be constructed—a narrative that will then become incorporated into the intrinsic fabric of the patient’s life and, going forward, will become the new filter through which the patient experiences the self, others, and the world.

In essence, therapeutic memory reconsolidation will be taking place once the glial cells return to their swollen state and lock in, or reconsolidate, the new, more adaptive meaning in the place of the old, maladaptive one.

In the neuroscientific literature, it would seem that little specific attention is paid to whether glial cells contract whenever a memory is being reactivated or if glial cells contract only when a memory has been reactivated and, at the same

time, a new experience is being presented—a new experience that mismatches the old one. This is a point of confusion in the literature and, quite frankly, glossed over by most researchers. In reading between the lines, however, I have come to believe that reactivation of memory alone suffices to prompt glial cell contraction and destabilization of the synapses encoding the memory, thereby laying the groundwork for either therapeutic memory reconsolidation (if something new is being presented) or simply reinforcement of the memory (if nothing new is being presented).

The Glymphatic System—The Garbage Truck of the Brain

Additional support for the intriguing finding that glial cells have the ability to expand and

contract has been provided by Maiken Nedergaard (2013), whose neuroimaging studies demonstrate that glial cells—by alternately swelling and shrinking—also control the flow of cerebrospinal fluid (CSF) throughout the expanse of the brain’s interstitial space.

Using state-of-the-art two-photon microscopy, Nedergaard and her colleagues at the University of Rochester Medical Center (2013) injected a fluorescent tracer into the CSF of mice and tracked the flow of this dye through the brain’s interstitial space (both when the mice were awake and when they were asleep). Her team of investigators were able to document dramatic changes in glial cell volume over the course of the sleep-wake cycle—expansion of

glial cells during daytime wakefulness and contraction of glial cells during nighttime sleep.

More specifically, Nedergaard (2013) observed that when the mice were awake, because the glial cells were swollen, there was very little interstitial space between the neurons and therefore the CSF dye could barely flow at all through the extracellular matrix. By contrast, Nedergaard observed that when the mice were asleep, because the glial cells had shrunk, the interstitial space between the neurons increased by up to 60%, thereby allowing much freer flow of the CSF dye and, as a result, much more effective drainage of the CSF (along with metabolic waste products) from the brain. In fact, Nedergaard made the astonishing discovery that the flow of CSF dye was 10 times more active

when the mice were asleep than when they were awake!

Nedergaard's studies provide compelling evidence for the existence of a series of channels (lymphatic drainage channels) extending throughout the brain's interstitium and interspersed among the brain's blood vessels and nerve cells. In essence, it is a transport system that, while we sleep at night and made possible by the contraction of the glia, forcefully flushes out of the brain the interstitial cellular debris and waste products that have accumulated over the course of the day. Playfully dubbed the "garbage truck of the brain" by Nedergaard and her colleagues (Nedergaard 2013), it is now more officially described as the *glymphatic system* (because this network of channels, regulated as it

is by glial cells, is the brain's equivalent to the lymphatic system that extends throughout the rest of the body).

In sum, glial cells serve several critically important regulatory functions. By way of their expansion and contraction, not only do glial cells regulate the transmission of nerve impulses across the interstitial space between the pre-synaptic and post-synaptic membranes but also, more generally, they regulate the circulation of CSF throughout the expanse of the brain's interstitial space, such that extracellular proteins, metabolic waste products, synaptic debris, and excess fluid can be cleared from the brain.

Not surprisingly, almost every neurodegenerative disease (including

Alzheimer's) is associated with the accumulation of cellular waste products in the brain's interstitium, waste products (like amyloid beta and tau protein) that can only be released during sleep. In the words of Nedergaard (2013), "The restorative nature of sleep appears to be the result of the active clearance of the by-products of neural activity that accumulate during wakefulness." Indeed, a good night's sleep may literally clear the mind.

Parenthetically, when Albert Einstein died in 1955, his brain was preserved in a jar of formaldehyde. Most people anticipated that his brain would be larger than average. But it was not. Thirty years later, however, something different about his brain was recognized and appreciated (Diamond et al. 2017)—Einstein's

brain had extra glial cells, especially in the association cortex (the area of the brain involved with imagination and complex thinking).

Retrograde Amnesia to Erase Distorted Perceptions—Richard Rubin

Historically, *memory consolidation* (the term proposed more than 100 years ago) referred to the process whereby a memory, labile after its initial acquisition and therefore sensitive to being modified, would become increasingly stabilized over the long term and resistant to interference from competing or disrupting factors. In other words, once a short-term memory had become fixed, or consolidated, in long-term memory (that is, once the memory had undergone long-term

potentiation), the memory would be permanently installed in the brain (Dewar et al. 2007).

The idea that deeply entrenched traumatic memories could be erased if certain conditions were met was actually the result of a cleverly designed study conducted over 50 years ago by the behavior therapists Rubin, Fried, and Franks (1969)—again, all the more remarkable because, back in the 1960s, most neuroscientists still embraced the idea that once a deep emotional learning had been acquired, it was *forever* (LeDoux et al. 1989).

The experiment that Richard Rubin and his team of investigators devised is now being widely quoted by proponents of memory reconsolidation; but it was not appreciated, at the

time, for the significance that it was later to assume.

Rubin and his group came up with the ingenious idea of capitalizing upon the well-known retrograde amnesia “produced by the disruptive effect of electroconvulsive therapy (ECT) on memory trace consolidation” at the level of the memory trace’s “structural encoding” (Rubin et al. 1969, p. 37).

Earlier studies involving the use of ECT had generally been conducted on subjects who were anesthetized and therefore unconscious during their treatments. But Rubin and his colleagues formulated the following, testable hypothesis: “If the patient’s attention is strongly directed ... to his most disturbing feelings and imagery ... and

if he is instantly given ECT (awake), there should result a significantly greater amelioration and reduction of symptoms than that obtained when ECT is given in the usual way” (Rubin et al. 1969, p. 39).

The investigators (Rubin et al. 1969) specifically selected subjects who were suffering from obsessions, delusions, and hallucinations. Then, in order to reactivate the neural mechanisms encoding the “psychopathological imagery” underlying these distorted perceptions of reality, the subjects were instructed to focus their attention on their symptoms. Rubin reasoned that having them focus their attention in this way would return the neural networks fueling the symptoms to a malleable state, which would render those circuits vulnerable to being

disrupted. ECT was immediately administered with the subjects being kept awake throughout the treatment.

Of the fifteen patients in Rubin's study (Rubin et al. 1969), seven had been previously treated anywhere from five to twenty-eight times, with routine ECT (and anesthesia)—but those treatments had been ineffective. These seven patients therefore served as their own controls.

Following a single treatment with ECT, all fifteen of the patients “improved dramatically for periods of three months to three years (the duration of the study). One relapsed after nine months but recovered after another treatment” (Rubin et al. 1969, p. 40). The authors go on to write, “The probability of the effectiveness of this

treatment resulting from chance factors only is less than 0.1%. This estimate is based on the number of previous, ineffective treatments” (Rubin et al. 1969, p. 40). To calculate this percent, they used Fisher’s exact test, more accurate than the chi-square test and recommended when the total sample size is less than 1000.

Rubin and his team astutely concluded that their study was proof that, at least in principle, the mental schemas fueling the symptoms must have been entirely obliterated because treatment with ECT prompted complete remission of symptoms only when those mental schemas were reactivated in subjects who were awake while given the electroconvulsive shock—and not when

those mental schemas were lying dormant with the subjects unconscious.

Parenthetically, although Rubin's brilliantly conceived study appeared to demonstrate eradication of *old bad*, it did not specifically address the introduction of *new good*. In other words, although the patients appeared to be released from the tyranny of their obsessions, delusions, and hallucinations, it was not clear what, if anything, got locked in, or reconsolidated, in the place of those pathological perceptions of reality.

That notwithstanding, Rubin's trailblazing experiment was ingenious and, although largely ignored by the neuroscientific community until

the 1990s, laid the groundwork for future research efforts.

Inhibition of Memory Recall by the Beta-Blocker Propranolol—Larry Cahill

The drug most frequently used in humans to “reduce the saliency of emotional memories” is propranolol, a beta-adrenergic blocker that (peripherally) dampens the stress response and (centrally) inhibits protein synthesis.

In a landmark 1994 study, Larry Cahill and his colleagues demonstrated that propranolol taken just prior to viewing an emotionally disturbing short story significantly impaired later recall of the story but did not affect recall of a closely matched, but more emotionally neutral, story (Cahill et al. 1994).

Since that time, many studies have replicated this finding that dampening stress-induced hyperarousal and inhibiting protein synthesis with propranolol will interfere with later recall of emotionally charged memories. Furthermore, because memory reconsolidation is essentially a recapitulation of memory consolidation, researchers have extended their studies to include the inhibitory impact of propranolol on the locking in of new memories in the place of old, emotionally arousing ones (Lonergan et al. 2013).

In their article entitled “Propranolol’s effects on the consolidation and reconsolidation of long-term emotional memory in healthy participants: A meta-analysis,” Lonergan and his colleagues (2013) optimistically conclude, “...propranolol reduced memory for both new and previously

learned emotional material in healthy adults. Future studies will have to test whether more powerful idiosyncratic emotional memories can be durably weakened and whether this weakening can bring about lasting symptomatic relief in various clinical populations that have at their core an emotional memory...” (p. 229).

Erasure of a Sensorimotor Skill— Matthew Walker

One of the most compelling studies of synaptic plasticity and memory reconsolidation (this one with respect to the procedural learning of a specific sensorimotor skill) was conducted by a team of researchers at Mass. Mental Health Center in Boston (Walker et al. 2003).

On Day 1, two groups were trained to tap out a simple number sequence on a keyboard (for example, 4-1-3-2). On Day 2, the first group briefly rehearsed the sequence, thereby reactivating it, and then learned a second sequence (for example, 2-3-1-4); the second group simply learned the second sequence. When tested on Day 3, participants in the first group, who had briefly rehearsed the original sequence just prior to learning the second sequence, had significant impairment in their ability to repeat the original sequence compared to participants in the second group, who had not briefly rehearsed the original sequence.

The researchers conclude that “recalling or ‘reactivating’ a previously consolidated memory renders it once again fragile and susceptible to

interference...”—such that a “competing motor pattern” can interfere with access to the original learned sensorimotor skill (Walker et al. 2003, p. 616). Their study certainly suggests the possibility that the original procedural knowledge was replaced by a subsequent learning.

Although Walker and his team were not experimenting with an emotionally charged memory and although they were not tracking what happened over the long haul, their study is nonetheless a clever one—and certainly suggests the action of something akin to memory reconsolidation.

Erasure of Fear Memories—Daniela Schiller

Daniela Schiller is a neuroscientist who leads

the Affective Neuroscience Lab at the Mount Sinai School of Medicine and, along with her colleague Joseph LeDoux, is a member of the music group The Amygdaloids. In 2010, Schiller and her research team used a non-invasive technique (involving skin conductance response) on human subjects to “target the reconsolidation of fear memories in humans” (Schiller et al. 2010, p. 49). Their findings provided fairly compelling evidence that “old fear memories [would] be updated with non-fearful information” were the new learning to be provided during a brief reconsolidation window — which, they observed, “opens shortly after reactivation and closes approximately six hours later” (p. 49). They reported, “fear responses

were no longer expressed, an effect that lasted at least a year and was selective only to reactivated memories without affecting others” (p. 49).

Schiller et al. (2010) went on to note, “These findings demonstrate the adaptive role of reconsolidation as a window of opportunity to rewrite emotional memories and suggest a non-invasive technique that can be used safely in humans to prevent the return of fear” (p. 49). They concluded “...the present study showed that updating fear memories with non-fearful information ... led to the blockade of previously learned fear responses and a lasting change in the original fear memory” (p. 52).

By way of highlighting the efficacy of memory reconsolidation, Schiller et al. (2010) specifically

address the distinction between memory reconsolidation that takes place during the six-hour reconsolidation window—which appears to result in permanent erasure of the fear memories—and those forms of therapy (for example, cognitive behavioral therapy) that rely heavily on extinction—which is thought to be effective because it establishes new competing associations but does not result in permanent erasure, inasmuch as the extinguished fear can return under certain stressful conditions.

Erasure of Memory in a Pond Snail— Michael Crossley

Some of the most exciting research to date on synaptic plasticity has been conducted by the neuroscientist Michael Crossley and his

colleagues at the University of Sussex (Crossley et al. 2019). Most of their efforts have been focused on *Lymnaea stagnalis*, a pond snail with a relatively simple central nervous system consisting of neurons in well-characterized motor circuits, which makes this snail an ideal candidate for easily interpretable brain recordings. *Lymnaea* is therefore widely used by neurobiologists for the study of learning, memory interference, and synaptic plasticity.

Crossley's laboratory has been particularly interested in the potential impact on memory of multiple learning events occurring in rapid succession (one event appetitive and compelling, the other event aversive and repellent) and the resultant "competition between consolidating memories" (Crossley et al. 2019).

In their most recent study (Crossley et al. 2019), Crossley and his team were interested in finding out what would happen were a snail, having already consolidated one learning, to be challenged repeatedly with a new learning that was being introduced during the transient “labile period of memory consolidation” (that is, within the time-limited reconsolidation window) and was engaging the same neural circuits as had been originally engaged. Indeed, they discovered that there was “retroactive interference” with the older learning as a result of “acquisition of the new memory” (p. 1)—a disruptive influence leading to the permanent erasure of the original learning and its replacement with the new learning.

Crossley and his colleagues concluded that the new learning, whether appetitive or aversive, did not simply *suppress* expression of the original memory but that it erased the original memory, such that it could no longer be retrieved at all. Their studies, while hardly conclusive, are at least suggestive that a process akin to memory reconsolidation is taking place in the snail.

In sum, with respect to the neural mechanism underlying memory reconsolidation, neuroscientists theorize that once synapses supporting the old narratives, by virtue of having been rendered plastic, become unlocked (or deconsolidated), opportunity will be created for the adaptive locking in (or reconsolidation) of new synapses in the place of the old ones, thereby nullifying the previously consolidated memories

and replacing them with new, updated mental schemas that are more accurate renderings of the self, others, and the world.

Erasure of Emotional Learnings—Bruce Ecker

No discussion of therapeutic memory reconsolidation would be complete without elaborating upon the groundbreaking work of Bruce Ecker, the person most responsible for bringing the neuroscientific concept of memory reconsolidation into the clinical realm. In fact, he was also a major source of inspiration for the inclusion of a brain-based model in my own psychotherapy paradigm.

After working as a research physicist for 14 years, Ecker (2015) transitioned to clinical work

in the 1980s and, in collaboration with Laurel Hulley, later birthed Coherence Therapy (formerly Depth Oriented Brief Therapy), which is currently regarded as one of the most highly respected of the constructivist therapies (Ecker & Hulley 1995).

But it was not until 2004 that Ecker became acquainted with the neuroscientific work on memory reconsolidation and strongly resonated with the idea that memories formed early on in life and locked into the brain by extraordinarily tenacious synapses could actually be nullified—by way of depotentiation (or deactivation at the synaptic level)—and ultimately replaced by new memories (Ecker et al. 2012, 2013, 2020). Ecker embraced this concept of memory reconsolidation as providing a scientific explanation for what he

and his colleagues had long been experiencing in their therapy work with patients exhibiting a broad range of symptoms and maladaptive behaviors.

The basis of Coherence Therapy is the principle of *symptom coherence*, which, in keeping with a constructivist perspective, maintains that symptoms, even if seemingly irrational, are actually understandable expressions of existing meaning-making constructions of the self, others, and the world. Even a patient's resistance to change is thought to make sense from the point of view of the patient's underlying mental constructs (Ecker 2015).

The goal of treatment, therefore, becomes one of *deconstructing* preconceived relational beliefs

about the self, others, and the world; facilitating the patient's gaining of experiential access to the embodied emotional learnings and implicitly held relational expectations that are fueling the patient's symptoms; and then *dissolving* and *revising* these outdated constructs, thereby eliminating the symptoms (Ecker & Toomey 2008).

Furthermore, as clinical proof of this eradication of the old learning and placement of a new, updated narrative in its stead, Ecker routinely conducts a verification process to confirm that therapeutic reconsolidation has indeed occurred (Ecker et al. 2013). He explains that, in order to confirm erasure of emotional learnings, he uses the same criteria or markers of observable change that neuroscientists use in

their laboratory studies, namely, “abrupt, lasting cessation of symptoms and [permanent] absence of symptom-generating emotional reactions in the presence of cues and contexts that formerly induced their strong reactivation, with cessation persisting without effort or counteractive measures” (Ecker et al. 2012, p. 127).

Indeed, Ecker and his colleagues have spent the last 15 years developing and further refining their ideas about how the emotional brain can be unlocked and its core beliefs unlearned, thereby eliminating symptoms at their emotional root.

THE HEALING POWER OF OPTIMAL STRESS

Whether studied in a scientific laboratory or a clinical setting, the above-referenced *erasures of consolidated memories* all involve repeated challenge of old learnings with new experiences, which introduces the idea of stress as creating both impetus for deconsolidation of outdated mental schemas and opportunity for reconsolidation of updated mental schemas.

So let us return now to the concept of optimal stress, that is, the creation of a growth-promoting balance between challenging a patient and supporting her. Optimal stress, which figures

prominently in all five PSP models, is the quintessential ingredient needed to provoke transformation and change—whether of the mind or, for that matter, of the body.

Behind this no pain, no gain approach is my firm belief in the underlying resilience that patients will inevitably discover within themselves when forced to tap into their inborn ability to self-correct in the face of environmental challenge—an innate capacity that will ultimately enable them to advance from less-evolved, defensive reaction to more-evolved, adaptive response and from outdated, disempowering narrative to updated, empowering narrative.

As I have evolved over the course of the decades, so too my understanding of the healing

process has evolved—from one that emphasizes the complex workings of the mind to one that is more holistic and recognizes the complex interrelatedness of mind and body.

Long intriguing to me has been the idea that superimposing an acute physical injury on top of a chronic one is sometimes exactly what the body needs in order to heal. Much as a field of grass can be burned in order to stimulate it to grow back, greener, healthier, and lusher than before, so too *controlled damage* can be utilized to mobilize the body's intrinsic ability to renew itself in the face of environmental impingement.

For example, the practice of wound debridement to accelerate healing speaks directly to this concept of controlled damage. Not only

does debridement prevent infection by removing foreign material and damaged tissue from the site of the wound but also it promotes healing by mildly aggravating the area, which will in turn activate the body's innate ability to self-heal in the face of challenge.

Another example of causing physical irritation or injury to provoke recovery is the practice of prolotherapy, a highly effective treatment for chronic weakness and pain in such vulnerable areas as the lower back, the shoulder, the hip, the knee. This technique involves periodically injecting a mildly irritating solution (a relatively innocuous substance like dextrose, a local anesthetic like lidocaine, and water) into the affected ligament or tendon in order to induce a mild inflammatory reaction, which will then

activate the body's healing cascade, resulting ultimately in overall strengthening of the damaged connective tissue and alleviation of the pain.

Prolotherapy is believed by many holistic practitioners to be significantly more effective than cortisone injections because these latter treatments, although sometimes able to provide immediate short-term relief of pain, will—because of their catabolic effect—cause destruction of tissue and exacerbation of pain over the long run.

Additional examples of applying mild to moderate amounts of stress in order to stimulate the body's healing cascade and/or provoke modest overcompensation in response to

disruption in the body's homeostatic balance include the following treatments:

- (1) immunotherapies (like vaccinations), whereby a single relatively small dose of an allergen is administered or a series of very small doses of an allergen are administered over a period of time in order to stimulate the body's immune system and promote the body's resistance to subsequent exposures;
- (2) homeopathic remedies, whereby minute doses of a substance that has been serially diluted and succussed to release its full energetic potential are administered in order to activate the body's innate ability to heal itself;
- (3) acupuncture, whereby an injury is simulated without actually damaging the tissue in order to balance the flow of energy throughout the system and tune up the body's repair channels;

- (4) defibrillation, cardioversion, electroshock therapy (ECT), deep brain stimulation (DBS), and transcranial magnetic stimulation (TMS), whereby controlled electric shocks are administered to the heart or brain in order to resynchronize disturbed rhythms;
- (5) high-intensity interval training (HIIT), whereby periods of short intense anaerobic exercise are alternated with less intense recovery periods in order to improve endurance, burn fat, and fine-tune the body; and
- (6) optimal challenge of the brain, whereby the mind is stressed with brain teasers and mental exercises requiring deliberate and concentrated effort in order to sharpen mental acuity, decelerate cognitive decline, and combat the effects of aging.

Interestingly, depriving oneself of half a night's sleep once a week (preferably the second half of the night) can produce a rapid, even if temporary,

restabilization of mood and recovery from depression (Leibenluft & Wehr 1992). Here too it is optimal stress that accounts for this counterintuitive phenomenon. Another example is fasting. A 36-hour water fast once a week can so significantly reduce the total body burden that mental clarity and focus can be improved dramatically (de Cabo & Mattson 2019).

Just as with the body, where a condition might not heal until it is made acute, so too with the mind, whereby the therapeutic use of optimal stress will provoke recovery by activating the system's innate ability to heal itself—the net result of which will be “stronger at the broken places.”

Indeed, over time I have come to appreciate that the therapeutic provision of *optimal stress* in a collaborative therapy relationship—against the backdrop of secure attachment, empathic attunement, and authentic engagement—is often the magic ingredient needed to overcome the seemingly intractable inability/unwillingness to change so often encountered in our well-meaning but entrenched psychotherapy patients (Stark 2008, 2012, 2014)—be that intractability in the form of the patient’s resistance to insight (Model 1), the patient’s relentless and futile pursuits (Model 2), the patient’s re-enactment of unresolved relational traumas (Model 3), the patient’s relational retreat (Model 4), or the patient’s refractory inertia (Model 5).

The Difference Between a Poison and a Medication

The noted 16th century Swiss physician Paracelsus (2004) is credited with having written that the difference between a poison and a medication is the dosage thereof. More accurately, however, one might add that it is the system's capacity—a function of its underlying resilience—to process, integrate, and ultimately adapt to the impact of the stressor that will actually make the difference.

A poison therefore is not always toxic, and nor is a medicine always therapeutic. If a depressed patient on 20 mg of fluoxetine is responding, but only suboptimally, perhaps—counterintuitively—10 mg will be the more

optimal dose and not ever-higher doses of the selective serotonin reuptake inhibitor. And whereas mild to moderate exercise will stimulate and energize the body, excessive or prolonged exercise may ultimately deplete the body of its nutrient and energetic reserves, thereby doing more harm than good.

Stressful input, therefore, is inherently neither bad (poison) nor good (medication), which is to say that the therapist's interventions are inherently neither toxic (poison) nor therapeutic (medication).

Rather, the dosage of the stressor, the underlying resilience and adaptability of the system, and the *intimate edge* (Ehrenberg 1992) between stressor and system will determine if the

patient—as a low-level reaction to the therapist’s interventions—defends and devolves to ever-greater disorganization or—as a higher-level response—adapts and evolves, by way of a series of healing cycles, to ever-more-complex levels of organization and dynamic balance.

In other words, if the interface between stressor and system is such that the stressor is able to trigger recovery within the system, then what would have been poison becomes medication, what would have constituted toxic input becomes therapeutic input, what would have been deemed traumatic stress (van der Kolk 2015) becomes optimal stress, and what would have overwhelmed becomes transformative (or transformational).

The Goldilocks Principle

In truth, the patient will find herself reacting/responding in any one of three ways to the therapist's stressful input:

Too much challenge, too much anxiety, too much stress will be too overwhelming for the patient to process and integrate, triggering instead defensive collapse and at least temporary derailment of the therapeutic process. Traumatic stress.

Too little challenge, too little anxiety, too little stress will provide too little impetus for transformation and growth because there will be nothing that needs to be mastered; too little challenge will serve simply to reinforce the (dysfunctional) status quo.

In other words, too much challenge will be traumatizing, but too little challenge will do nothing to advance the therapeutic endeavor.

Just the right amount of challenge, however, just the right amount of anxiety, just the right level of stress—to which the father of stress, Hans Selye (1978), refers as *eustress* and to which I refer as optimal stress—will offer just the right combination of challenge and support needed to optimize the potential for transformation and growth.

Like the three bowls of porridge sampled by Goldilocks—one too hot, one too cold, but one just right (which is the one she ate)—so too the dose of stress provided by the therapist's interventions will be either too much, too little, or

just right (which will be the one that works best for the patient).

Although, admittedly, some theorists believe that it is the experience of gratification itself that is compensatory and ultimately healing, most believe that it is the experience of frustration against a backdrop of gratification, frustration (or disillusionment) properly grieved, that will promote structural growth and development of adaptive capacity. Such theorists contend that if there is no thwarting of desire (no frustration), then there will be nothing that needs to be processed and integrated and, therefore, little impetus for adaptive, transmuting (that is, structure- and capacity-building) internationalizations.

It is to highlight the clinical usefulness of optimal—nontraumatic—stress to provoke healing that I am boldly putting forth the somewhat controversial (in some circles) idea that if the patient is offered only gratification and support, then there will usually be insufficient impetus for transformation and growth, especially if the patient has longstanding, deeply entrenched psychological issues. Certainly, direct support is necessary—but direct support alone is not always sufficient. In truth, direct support and optimal challenge work in concert. Direct support facilitates transformation and growth by reinforcing the system’s underlying resilience—thereby honing the system’s ability to adapt to, and benefit from, ongoing stressful input. It is then optimal challenge that will provoke recovery

and revitalization by prompting a destabilized system to adapt.

The successful working through of recursive cycles of disruption and repair will effectively create a positive (amplifying) feedback loop and, with each successive healing cycle, ever-greater adaptive capacity and functionality of the system.

The Sandpile Model of Chaos Theory

I use the *sandpile model* (Bak 1996)—a simulation model developed by chaos theorists to depict the cumulative impact over time of environmental stressors on open, self-organizing, complex adaptive, chaotic systems—as a visual metaphor for the impact of optimal stress on the mind. We certainly know that the mind is such a

system because of its ability to be open to, reorganize itself in relation to, and continuously adapt to ongoing environmental input (in the form of new experience, information, energy).

Evolution of the sandpile is governed by some complex mathematical formulas and is well known in many scientific circles; but the sandpile model is rarely applied to living systems and has never been used to demonstrate either the adaptability and resilience of the living system or the paradoxical impact of stress on it.

My contention, however, is that this sandpile model of chaos theory provides an elegant demonstration of the paradoxical impact of stress on complex adaptive, open systems—whether inanimate or animate—and that it speaks to how

we are continuously refashioning ourselves at ever-higher levels of complexity and integration —*not just in spite of stressful input from the outside but by way of that input.*

Amazingly enough, the grains of sand being steadily added to the gradually evolving sandpile —with the sandpile representing the relational narratives constructed by the patient to organize her experience of the self, others, and the world —are the occasion for both its disruption and its repair. Not only do these grains precipitate *minor avalanches* (relevant for Models 1–4) and *major avalanches* (relevant for Model 5) but also they become the means by which the sandpile will be able, again and again, to build itself back up— with each iteration representing advancement of the narratives from less evolved to more evolved

and from rigidly defensive to more flexibly adaptive (Stark 2008).

The mind will therefore have been able not only to *manage* the impact of the stressful input but also to *benefit from* that impact by becoming ever more evolved and therefore ever more adept at finessing the ongoing *stressors of life*.

Please note that all five models involve the generation of optimal stress (initially anxiety-provoking but ultimately growth-promoting), but I am here distinguishing between the minor avalanches that accompany the subtle, characterological shifts prompted by the optimally stressful interventions in Models 1–4 and the major avalanches that accompany the

more dramatic, targeted approach of the optimally stressful interventions in Model 5.

More specifically, what drives the therapeutic action will be the generation of *cognitive dissonance* when the focus is on the patient's structural conflicts (Model 1), *affective disillusionment* when the focus is on the patient's structural deficits (Model 2), *relational detoxification* when the focus is on the patient's relational conflicts (Model 3), *existential dependence* when the focus is on the patient's relational deficits (Model 4), and *quantum disentanglement* when the focus is on the patient's analysis paralysis. The optimal stress thereby generated (by juxtaposing what the patient has the defensive need to feel and what the patient has the adaptive capacity to know) is

what will drive the treatment—through healing cycles of disruption (in reaction to the therapist’s challenge) and repair (in response to the therapist’s support and by tapping into the patient’s inherent resilience and intrinsic capacity both to self-heal in the face of optimal challenge and to adapt in the face of new experience).

Against the backdrop of a collaborative alliance, secure attachment, empathic attunement, and authentic engagement, all five modes of therapeutic action in PSP utilize interventions specifically designed by the therapist to generate ultimately growth-promoting—albeit initially anxiety-provoking—tension within the patient between, on the one hand, rigid, disempowering, and defensive mental schemas and, on the other hand, flexible, empowering, and adaptive

narratives. The optimal stress created by this internal dissonance will provide, first, the necessary impetus for destabilization of the outdated defenses and, then, felicitous opportunity for their restabilization and updating.

Just as the grains of sand being steadily added to the gradually evolving sandpile prompt collapses followed by recoveries, ongoing use of optimally stressful PSP interventions will give rise to iterative cycles of disruption and repair with reconstitution at ever-higher levels of health, adaptive capacity, resilience, and empowerment as the patient advances from mindless (defensive) *reactivity* to intentioned (adaptive) *activity* in alignment with what she has come to appreciate truly matters to her.

Again, the grains of sand being steadily added represent the therapist's optimally stressful interventions; and the underlying, steadily evolving sandpile represents the network of mental schemas that become the relational filters through which the patient will then experience the self, others, and the world.

The Window of Tolerance

As will later be demonstrated, all five models, whatever their lexicon or particular focus, involve the judicious and ongoing use of optimal stress within the *window of tolerance* (Siegel 1999; Ogden et al. 2006) or *zone of optimal arousal*.

In other words, all five models involve the therapeutic use of just the right combination of

challenge (to precipitate disruption) and support (to allow for repair) within the context of secure attachment to a therapist whose finger is ever on the pulse of the patient's level of anxiety and capacity to tolerate further stress.

Ultimately, the goal is to facilitate advancement of the patient from rigid defense to more flexible adaptation; from mindless, knee-jerk reactivity to more thoughtful, intentioned response; and from outdated mental schemas and relational expectations that distort perceptions of reality to updated narratives that are more accurate and more relevant renderings of the self, others, and the world.

In sum, whether the approach is long-term and in-depth (Models 1–4) or short-term and

intensive (Model 5), the ultimate goal will be advancement of the patient from psychological rigidity to psychological flexibility. Although the underlying mechanisms are different, the generation of optimal stress within the window of tolerance is the organizing principle that will provide an overarching, unifying conceptual framework for understanding the therapeutic action in all five Psychodynamic Synergy Paradigm models.

MEMORY INTEGRATION (Models 1–4) versus MEMORY RECONSOLIDATION (Model 5)

My contention will be that whereas the therapeutic action in Models 1–4 (understanding life backward) involves incremental changes, minor collapses, and ever-evolving attunement to the infusion of the present with the toxicity of the past, the therapeutic action in Model 5 (living life forward) involves abrupt transitions, major collapses, and impassioned commitment to intentioned action going forward.

Minor Avalanches versus Major Avalanches

Incremental Change (Models 1–4)

In Models 1–4, optimal stress is created through the use of psychodynamic interventions that alternately challenge the patient’s maladaptive defenses (by highlighting what the patient knows in her head) and then support those defenses (by resonating empathically with what the patient feels in her heart). Over time, the optimal stress thereby generated will provoke a series of minor avalanches and subsequent restabilizations at ever-higher levels of integration and adaptive capacity, thereby promoting graduated, subtle, incremental, step-by-step transformation and growth as the patient

evolves from rigid defense to more flexible adaptation.

Relevant here is a quote attributed to Mark Twain, “Habit is habit, and not to be flung out of the window by any man, but coaxed downstairs one step at a time.”

The psychodynamic perspectives of Models 1–4 (*understanding life backward*) aim to facilitate deep, broad-ranging characterological change. Because the therapist is thought to have now as much power to heal as the parent once had power to hurt, this perspective emphasizes the importance of *working within the transference* to effect transformation, growth, and the step-by-step relinquishing of bad habits.

It embraces the concept of *working through* as an extended process that will enable the patient, albeit belatedly, to process and integrate experiences that had once been too overwhelming to handle and had therefore been defended against but that can now, within the context of a secure relationship with the therapist, be deeply understood, thoughtfully assimilated, and ultimately adapted to.

It avoids focusing on concrete solutions or giving advice. This psychodynamic perspective has few specific expectations of the patient, neither asking of her that she take embodied ownership of her need to change nor insisting that she commit to action in alignment with that desire.

The following characterological changes are examples of evolving from defensive reaction to more adaptive response:

- (1) from dissociating to becoming more present,
- (2) from externalizing blame to holding oneself more accountable,
- (3) from denial to confronting head-on,
- (4) from being self-indulgent / self-destructive to becoming more self-affirming / self-respecting,
- (5) from needing immediate gratification to being able to tolerate delay,
- (6) from needing to hold on to being able to let go,
- (7) from relentless hope to sober acceptance;
- (8) from the need for external regulation of the self to the capacity for internal self-regulation,

(9) from the need for perfection to the capacity to tolerate imperfection, and

(10) from cursing the darkness to lighting a candle.

Dramatic Change (Model 5)

In contradistinction to the minor avalanches and step-by-step, incremental progressions characterizing the therapeutic action in Models 1–4, Model 5 is characterized by major avalanches and abrupt, unexpected, dramatic transitions as unevolved, outdated, and negative relational perspectives about the self, others, and the world are updated and reframed in a more evolved, more reality-based, and more positive light, thereby enabling the patient to advance from self-sabotaging narratives (mindlessly constructed in a desperate attempt to survive) to

more self-affirming narratives (mindfully intentioned in the interest of thriving).

As we shall soon see, in Model 5, optimal stress is created through the use of interventions that rather boldly highlight the sharp contrast between what *could be* (by highlighting what the patient is *intentionally* envisioning in her head) and what *is* (by highlighting what the patient has *mindfully* accessed in her heart and in her body).

The optimal stress generated by repeatedly and persistently juxtaposing the vision of *new good* with the experience of *old bad* will provoke episodic major avalanches and will be accompanied, if all goes well, by sudden, dramatic, and observable behavioral change as the patient abruptly relinquishes the outdated

relational narratives about the self, others, and the world that have been fueling her refractory inertia; as she embraces new, enlivening possibilities; and as she, going forward, commits to taking action specifically designed to realize her potential and actualize her dreams.

The short-term, intensive perspective that typifies Model 5 (*living life forward*), although less broad-based and wide-ranging than the long-term, in-depth approaches of Models 1–4, specifically targets stubborn symptoms and aberrant behaviors.

It recognizes the importance of secure attachment to the therapist and a strong collaborative alliance between patient and

therapist (Beck 1978), but it does not specifically emphasize work within the transference.

Unlike Models 1–4, in which the patient is encouraged to take the lead and the therapist to follow, Model 5 encourages the therapist to take the lead and the patient is then to follow.

This latter approach tends to involve the provision of a treatment focus; it is therefore more directed, targeted, and specific as well as more action-based, solution-focused, and goal-oriented. Importantly, it insists that the patient take embodied ownership of her need to change and that she set the intention to act in accordance with that recognition going forward.

The following are examples of advancement from consolidated emotional learnings and

implicitly held (procedurally organized) relational expectations to updated embodied beliefs about the self, others, and the world: (1) from being unable to finish writing one's book for fear of its being rejected to developing enough confidence to move forward with completing it, (2) from having social anxiety to becoming less self-conscious and more comfortable in public, (3) from having problems managing one's anger to having more control over one's rageful impulses, (4) from having an eating disorder to developing a healthier relationship to food, (5) from fearing sexual intimacy to becoming more comfortable with being emotionally and physically vulnerable, (6) from being constantly late to developing better time management skills, (7) from having difficulty budgeting money to

becoming more comfortable taking charge of one's finances, and (8) from having chronic insomnia to becoming better able to surrender to sleep and remain asleep.

Elaboration (Models 1–4) versus Eradication (Model 5) of Mental Schemas

In keeping with this distinction between minor and major, I will be suggesting that long-term, in-depth approaches (Models 1–4) aim to promote *elaboration* of the patient's networks of mental schemas by generating healing cycles of disruption and repair—iterative cycles (characterized by minor avalanches) that incrementally render the complex web of mental schemas ever more refined, complex, and elaborate. As noted above, the therapeutic goal is

graduated, enduring, and profound characterological change.

In contradistinction to these nuanced, step-by-step, psychodynamic approaches that incrementally integrate updated information into outdated mental schemas, the short-term, intensive approach of Model 5 aims to provoke not elaboration but *eradication* of the patient's mental schemas by creating experiences that suddenly and strikingly violate expectation, such that major avalanches will be precipitated and outdated mental schemas thereby entirely obliterated. As noted above, the therapeutic goal here is permanent remission of intractable symptoms and complete elimination of errant behaviors, such as unremitting low-level dysphoria, chronic anxiety, anger management

issues, addictive behaviors, time management problems, panic disorder, social phobias, and trauma-related symptoms.

Evolutionary (Models 1–4) versus Revolutionary (Model 5) Advancement

This distinction between elaboration of mental schemas (as typifying the more subtle *evolutionary* approaches of Models 1–4) and eradication of mental schemas (as typifying the more extreme *revolutionary* approach of Model 5) is certainly a distinction that most clinicians can appreciate because it will resonate with their own experience of, on the one hand, the subtle therapeutic changes that are painstakingly engineered but ultimately broad-based and insight-driven and, on the other hand, the more

dramatic therapeutic changes that are much more sudden, specific, targeted, and demonstrably impactful.

Integration (Models 1–4) versus Reconsolidation (Model 5) of Memories

In keeping with this clinical distinction between therapeutic movement that is incremental, evolutionary, and characterized by ongoing minor avalanches and therapeutic movement that is more abrupt, revolutionary, and characterized by occasional major avalanches, several cognitive neuroscientists have begun to make a similar, aesthetically appealing, and very welcome distinction—one that I happened upon serendipitously while researching the literature on the dynamic nature of memory.

Although admittedly controversial—embraced as it is by some, while dismissed by others—the distinction, both theoretical and clinical, that is now being made is between *memory integration* (which involves the elaboration and refinement of already existing mental schemas) (Gisquet-Verrier & Riccio 2019) and *memory reconsolidation* (which involves the complete eradication of mental schemas and the locking in, or reconsolidation, of entirely new narratives) (Schiller et al. 2010; Ecker et al. 2012).

In 2019 David Feinstein, an experienced clinician and eloquent advocate for this compelling differentiation, writes, “Memory integration appears to be more applicable for new experiences that augment an earlier learning,

leading to incremental changes. Memory reconsolidation appears to be more applicable when a new experience decisively contradicts an old learning at its emotional roots” (p. 346). Feinstein continues, “Both theories are supported by evidence, and further research will determine how they interact and the conditions under which each has greater explanatory power” (p. 346).

Memory integration and memory reconsolidation are thought to be complementary but contrasting mechanisms whereby the mind is continuously updating itself when challenged with new information (or knowledge) and experience.

Incorporation of New Information into Pre-Existing Neural Networks (Models 1–4) versus Erasure of Pre-Existing Memory Traces (Model 5)

Gisquet-Verrier and Riccio (2018) highlight that memory exists in one of two different states, namely, the inactive state or the active state. Memory is said to be inactive when its content is “present but not directly accessible” (p. 5). It is said to be active, however, when it is either initially formed or later recalled; either way, its content will be “available and malleable” (p. 5). Gisquet-Verrier and Riccio (2018) continue, “... the malleability of active memory appears to be the very basis of the dynamic quality of memories, allowing the possibility to link, to complete, to modify and to update recent and remote memories” (p. 5).

Gisquet-Verrier and Riccio (2018) highlight the following distinction: Neuroscientists who embrace the consolidation / reconsolidation hypothesis argue that the malleability of active memory means fragility and speaks to the inability of the memory trace to remain intact in the face of novel information. Neuroscientists who embrace memory integration, however, argue that this malleability reflects flexibility and speaks to the capacity not only to remain intact but also to integrate new information into pre-existing networks, that is, to “embed new material into already existing representations” (p. 15).

In essence, memory integration is a construct used by neuroscientists to describe the process whereby new information that is related to, but

not the same as, old information prompts formation of neural synapses that overlap, and become interconnected with, neural synapses encoding the old information (Schlichting & Preston 2015). The new information is thought to be adaptively incorporated into the pre-existing distributed memory traces or engrams (McKenzie & Eichenbaum 2011).

More specifically, emerging evidence suggests involvement of the medial prefrontal cortex in this reactivation of related memories during the encoding of new ones, thus promoting hippocampal integration of related experiences (Schlichting & Preston 2015). The net result will be further elaboration and refinement of the network of interrelated memories in the

corticolimbic (neocortical, hippocampal, and amygdaloid) system.

In any event, although the underlying mechanism for memory integration remains controversial and the specific conditions it requires are still being explored, the concept of memory integration certainly offers a compelling explanation for the dynamic process whereby, over time, the toxic impact of the patient's past will become progressively, and serially, diluted as ever more updated information, based upon ongoing new experience both inside the treatment room and outside of it, becomes available and is incorporated into the brain's complex synaptic web.

To repeat, whereas Models 1–4 use the somewhat controversial but intuitively spot-on concept of memory integration to describe the incremental advancing of the patient from rigid defense to more flexible adaptation, Model 5 uses the equally controversial but also intuitively spot-on concept of memory reconsolidation to describe the sudden and dramatic advancing of the patient from outdated mental constructs that are fueling her recalcitrant symptoms, aberrant behaviors, and immobilizing inaction to more updated mental constructs that will enable the patient abruptly and decisively to disentangle from the toxicity of her past as she envisions new possibilities for her future, takes embodied ownership of her need to change, and commits to action in alignment with that vision and that

imperative going forward (Lee et al. 2006; Ecker & Toomey 2008; Lee et al. 2017; Armstrong 2019).

More specifically, whereas memory integration is the neural mechanism whereby the presentation of new information related to old information is thought to become gradually integrated into already existing networks of interconnected memories, memory reconsolidation is the neural mechanism whereby the unanticipated and dramatic presentation of new information that violates learned expectation (thereby introducing the element of surprise) will render the neural synapses encoding the old information suddenly—and transiently—labile, vulnerable, and malleable, which will then allow

for a more thoroughgoing overhaul of the brain's complex synaptic web of neural circuits.

No New Proteins (Models 1–4) versus De Novo Protein Synthesis (Model 5)

Of note is the fact that refinement of already existing neural networks (memory integration) does not require the synthesis of new proteins (Gisquet-Verrier et al. 2015), but erasure of outdated memories and their replacement by new, more updated memories (memory reconsolidation) does indeed appear to involve do novo protein synthesis (Nader et al. 2000; Alberini et al. 2006).

More specifically, just as the consolidation of labile, short-term memory into more stable, long-term memory, that is, long-term potentiation,

requires of the brain that it synthesizes new proteins on the postsynaptic membranes of the downstream neurons in order both to reinforce the fragile memory traces or engrams and to facilitate their transfer from short-term storage in the hippocampus to long-term storage in distributed networks in the neocortex (BNN 2012), so, too, memory reconsolidation involves de novo synthesis of receptor proteins on the postsynaptic membranes of the target cells in the corticolimbic system responsible for learning and memory (Alberini 2005; Gold 2008).

Not surprisingly, studies have confirmed that memory reconsolidation, like memory consolidation, is blocked by protein synthesis inhibitors, such as the antibiotic anisomycin (Nader et al. 2000). In other words, if protein

synthesis is inhibited within a few hours after the new learning has occurred, then what had been newly learned never actually gets locked in, that is, neither consolidated nor reconsolidated, and is essentially forgotten.

This discovery that protein synthesis is required for the formation of memories was the result of laboratory experiments conducted in the 1990s on rodents, who, when exposed to chemical agents that disrupted protein synthesis, were then unable to reintegrate a learned fear (Nader et al. 2000). “Because the learning could not be reintegrated, it was as if the fear had been permanently erased” (Feinstein 2019, p. 346).

Unfortunately, anisomycin is toxic in humans, which has obviously limited its usefulness in

studies on people, although the injection of anisomycin into the hippocampus (which plays such an important role in the consolidation of information from short-term memory to long-term memory) has been rather boldly proposed by several investigators (Wang et al. 2005) for selective removal of traumatic memories.

In any event, in contradistinction to this requirement for de novo protein synthesis when memories are being consolidated and reconsolidated, scientific research has demonstrated that protein synthesis inhibitors have no impact on memory integration because no new memories are actually being formed, only elaboration and further refinement of already existing networks of mental schemas (Gisquet-Verrier et al. 2015).

“Saved As” (Models 1–4) versus “Saved” (Model 5) Programs

In order to highlight the distinction here being made between memory integration and memory reconsolidation, I offer the following: Consider the two ways in which a computer document can be preserved when changes have been made to its contents—either the new document can be *saved as* (in which case it is *placed alongside* the original document without actually deleting that original document, which roughly corresponds to what happens with memory integration) or *saved* (in which case it *replaces* and entirely deletes the original document, which roughly corresponds to what happens with memory reconsolidation).

Extinction Training: Neither Elaboration Nor Eradication

Memory integration and memory reconsolidation involve the permanent updating of memories (whether through elaboration or eradication), yet extinction training—the more traditional and better-known paradigm for promoting symptomatic relief and behavioral modification—does not. Although it too attempts to correct for outdated and maladaptive mental schemas through repetitive exposure techniques aimed at bringing under control, say, a patient’s fear response to certain stimuli, researchers hypothesize that extinction training simply creates a separate, contradictory learning that competes against, but does not permanently replace, the target learning (Pedreira et al. 2004).

Furthermore, because the deconditioning gives rise to a physically separate, counteractive neural pathway, memory extinction requires ongoing effort and deliberateness in order to maintain its effectiveness (Monfils et al. 2009, p. 953).

As stated by Mao et al. (2006), “Much evidence indicates that extinction training does not erase memory traces but instead forms inhibitory learning that prevents the expression of the original memory” (p. 8892). More specifically, fear extinction is “new inhibitory learning rather than erasure or forgetting” (Archbold et al. 2010).

Indeed, researchers beginning with Pavlov (2003) have amassed extensive evidence that

even after complete suppression of an emotionally learned (conditioned) response by extinction, the original response is only temporarily suppressed, not fundamentally eliminated from memory, and can therefore always be spontaneously retriggered.

In contradistinction, memory integration and memory reconsolidation are much more likely to persist over time and are much less vulnerable to relapse (Martin et al. 2000; Duvarci & Nader 2004; Alberini 2008; Schiller et al. 2010; Ecker et al. 2012; Lee et al. 2017).

Looking Backward (Models 1–4) versus Living Forward (Model 5)

Only more recently have I, although a bit late to the game, come to appreciate that going

forward is just as important as looking backward. Amusingly relevant here is a TV commercial about Kia's line up of SUVs, "The problem with hanging on to the past is that when you're always looking back, you can't see what's coming."

With respect to the *looking backward* encouraged by Models 1–4: Patients are not simply defined by their past and ever struggling to become more aware of the price they have paid for having had that past (Model 1), more accepting of the limitations inherent in others and the heartbreak they have therefore experienced along the way (Model 2), more accountable for their misguided attempts to engage with others in relationship (Model 3), and more accessible despite their longstanding, deep-seated fears (Model 4). Rather, it is critically important that

they be encouraged to *look forward*—that they embrace their power to release themselves from the ties that bind them to their past, take embodied ownership of their need to change, and commit to taking action to create their future going forward.

Echoing this sentiment are these evocative words of Joe Dispenza (2012), “The best way to predict your future is to create it.”

In other words (and to repeat what I had written at the beginning of this book), Models 1–4 require that we take ownership of our past; but Model 5 requires that we take ownership of our future.

The dedicated group of cognitive neuroscientists who have devoted their

professional lives to studying the brain's plasticity and the similarly dedicated group of clinicians who make use of brain-based strategies to effect therapeutic change have come to believe that if new, empowering narratives are co-created by patient and therapist and offered as countermeasures to old, disempowering mental schemas and if these disconfirmatory experiences happen repeatedly enough and convincingly enough, then permanent change can be effected. The neural synapses encoding the old, reactivated memories will become temporarily deconsolidated, labile, and plastic, such that neural synapses encoding new, updated, present-focused, future-directed, more realistic, more adaptive, more compassionate, and more

empowering narratives can be locked in and reconsolidated.

Evidence-based clinical practice (Ecker et al. 2012, 2013; Feinstein 2019) provides compelling proof that brain-based psychotherapeutic work can indeed be powerfully effective—and efficient—in promoting immediate relief and sometimes deep psychological change. Instead of an incremental evolving of the patient through iterative cycles of destabilization and restabilization (Models 1–4), if the groundwork can be laid for juxtaposition experiences, whereby actual or envisioned experiences repeatedly and decisively disconfirm learned expectations, then therapeutic memory reconsolidation can often produce abrupt and dramatic results (Model 5).

Trail of Tears to Healing (Models 1–4) versus Trail of Dreams to Actualization (Model 5)

Paraphrasing only slightly the words of the psychologist and coach Carol Kauffman, “As a [psychodynamic] therapist, I follow the trail of tears to healing; as a coach, I follow the trail of dreams to actualization” (2006).

Similarly, Models 1–4 strive to facilitate, usually by way of grieving, in-depth healing of emotional injuries and relational scars deriving from the past, whereas Model 5 aims to facilitate focused action specifically designed to actualize potential and realize dreams.

As noted at the start, in the evocative words of Soren Kierkegaard (1996), “Life can only be

understood backwards; but it must be lived forwards.”

Again, just as Freud (1919) eventually acknowledged that “...the large-scale application of our therapy will compel us to alloy the pure gold of analysis freely with the copper of direct suggestion ... and hypnotic influence...” (p. 168), so too I have come to believe that the pure gold of strictly psychodynamic (as represented by Models 1–4) will indeed need to be alloyed with the copper of having more explicit expectations of the patient, being more directive and goal-oriented, focusing as much on symptoms and maladaptive behaviors as on teasing out underlying causes, and specifically targeting entrenched inaction (as happens with Model 5).

Parenthetically, although the concept of creating an alloy might imply the creation of something inferior or debased, alloys are also associated with “desirable qualities such as hardness, lightness, and strength” and the combination of elements to create something “bigger, stronger, and longer-lasting” (retrieved online from the Zinzin Group’s 2020 website).

In the words of Abraham Maslow (2011), “... it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail” (p. 15). My recent addition to my Psychodynamic Synergy Paradigm of the brief treatment perspective of Model 5 is therefore intended to broaden the scope of my psychotherapy paradigm to encompass not just long-term, in-depth work (Models 1–4) but, now, also short-term, intensive

work—such that I and my students need no longer be tempted to see everything as a nail...

Relative Efficacies of Long-Term versus Short-Term Approaches

In the hands of a skilled clinician, it would seem that there is ample evidence to support the claims that both psychodynamic psychotherapy (that is, long-term, in-depth treatment) and short-term, intensive treatments—despite their different lexicons, their different methodologies, and their different targets—can be powerfully effective in promoting well-being and advancing the patient from psychological rigidity to psychological flexibility. Whether the focus is on maladaptive defenses that are conditioned and habitual (Models 1–4) or outdated mental schemas that

are disempowering and self-sabotaging (Model 5), the ultimate goal is a decoupling of the patient from the ties that bind her to the toxicity of her past such that she will be freed up to embrace the present and, whatever her starting point, to envision a future replete with expansive possibilities.

As noted below and not surprisingly, proponents of psychodynamic psychotherapy advocate for long-term, in-depth treatments, claiming that these are the gold standard; by contrast, proponents of therapies that make use of neuroscientifically informed interventions claim that brain-based treatments are the gold standard.

A thoughtful, although not particularly earth-shattering, longitudinal study was conducted by

the Helsinki Psychotherapy Study Group (Knekt et al. 2011) on the relative efficacies of several different forms of psychotherapy. A total of 326 psychiatric outpatients with mood disorder or anxiety disorder were randomly assigned to either a solution-focused therapy, a short-term psychodynamic psychotherapy, a long-term psychodynamic psychotherapy, or psychoanalysis. Using several standard questionnaires (including the Beck Depression Inventory, the Hamilton Depression and Anxiety Rating Scales, and the Work Ability Index), their *work ability* and *functional capacity* were assessed nine times during the five-year follow-up.

After five years, a reduction in psychiatric symptoms and improvement in work ability and

functional capacity were observed in all four treatment groups. Interestingly, however, after one year, the solution-focused treatments and the short-term psychodynamic treatments were most effective; after three years, the long-term psychodynamic treatments were most effective; and, after five years, the psychoanalytic treatments were the most effective.

This study conducted by the Helsinki Psychotherapy Study Group suggests that short-term treatments give benefits more immediately than do long-term treatments but that, over the long haul, long-term treatments may be somewhat more effective.

In any event, I will now briefly cite a few additional empirical studies about the relative

efficacies, more generally, of long-term, in-depth treatments and short-term, intensive treatments.

Efficacy of Long-Term, In-Depth Treatments (Models 1–4)

In their 2008 article entitled “Effectiveness of Long-term Psychodynamic Psychotherapy,” Leichsenring and Rabung reported the results of their extensive meta-analysis of psychotherapy outcome studies for the 48-year period between 1960 and 2008. Their particular focus was the therapeutic effectiveness of long-term psychodynamic psychotherapy for the treatment of a variety of complex mental disorders, including personality disorders, chronic mental disorders, and complex depressive and anxiety disorders. The variables they considered were overall effectiveness, target problems, general

psychiatric symptoms, personality functioning, and social functioning. They concluded that “According to comparative analyses of controlled trials, long-term psychodynamic psychotherapy showed significantly higher outcomes in overall effectiveness, target problems, and personality functioning than shorter forms of psychotherapy” (2008, p. 1551).

Jonathan Shedler’s meticulously researched 2010 landmark article entitled “The Efficacy of Psychodynamic Psychotherapy” is the article usually cited by psychodynamic psychotherapists as proof that long-term, in-depth psychotherapy, despite lacking the empirically supported and evidence-based studies that some of the shorter-term, intensive treatments tout as proof of the superior efficacy of their methods, does indeed

enable patients to “maintain therapeutic gains and continue to improve [even] after treatment ends.” Shedler concludes, “...the benefits of psychodynamic treatment are lasting, and not just transitory, and appear to extend well beyond symptom remission. For many people, psychodynamic therapy may foster inner resources and capacities that allow richer, freer, and more fulfilling lives” (Shelder 2010, p. 107).

Efficacy of Short-Term, Intensive Treatments (Model 5)

With respect to short-term, intensive treatments, of note is the fact that most short-term, intensive approaches emphasize action as critically important for change, in marked contrast to long-term, in-depth treatments that are more focused on helping patients understand why

they have come to be as they are and less focused on the expectation that, going forward, patients should commit to doing things differently.

Patricia Coughlin (2016, 2018), a world-renowned mental health practitioner who is at the forefront of clinical research on the process of therapeutic change, has asserted that the methods of time-limited treatments are the “gold standard of therapy” and enable patients to achieve dramatic results, often within weeks. She notes that the cost effectiveness of brief treatments is a major advantage to these brain-based approaches.

In fact, Coughlin (2016), citing the 1986 meta-analytic research done by Howard et al., notes that 30% of the patients they studied were early responders and improved by the second

session and that 60-65% experienced significant symptomatic relief within seven sessions, 70-75% within six months, and 85% after a year. In their article entitled “The Dose-Effect Relationship in Psychotherapy,” Howard et al. (1986) had studied the relationship between length of treatment and patient benefit; data were based on more than 2,400 patients, covering more than 30 years of research.

Additionally, with respect to the Intensive Short-Term Dynamic Psychotherapy (1977) approach originally developed by the Boston-trained psychoanalyst Habib Davanloo (a vocal proponent of fostering a collaborative therapeutic alliance in order to *unlock the unconscious*), Coughlin (2016) asserts, “ISTDP is a scientifically validated method of psychotherapy

that dramatically accelerates the process of change, such that patients will see measurable results within weeks and months, rather than years.”

Our History as our Destiny (Models 1–4) versus Our Destiny as our Choice (Model 5)

All the above-referenced factors inspired me to include a fifth model in my Psychodynamic Synergy Paradigm—a brain-based model that capitalizes upon the neuroplastic synergy of *mindfulness* (to access deeply embedded, self-sabotaging forces harbored in body consciousness and stoking the flames of the patient’s refractory inertia) and *intentionality* (to override those self-defeating energies by tapping

into action-oriented, empowering resources residing in brain consciousness).

As already noted, Model 5, a quantum-neuroscientific approach to the therapeutic action, is designed to be especially relevant when the patient's forward movement in life is being stymied by unrelenting symptoms and maladaptive behaviors that are being fueled by self-sabotaging, outdated, and no-longer-relevant narratives that were *thoughtlessly* constructed early on by the developing child during her formative years.

As noted repeatedly throughout this book, Model 5 is inspired by, and fashioned after, the various short-term, intensive treatments that target specific issues identified by the patient as

problematic. Again, it was not the brevity of those treatments that sparked the inspiration for Model 5; rather it was their use of brain-based strategies to provoke transformational change that prompted me to update and broaden the scope of how I conceive of the therapeutic action.

In order to optimize therapeutic effectiveness, the PSP therapist can shift back and forth seamlessly from one model to the next based upon what she, in the moment, intuitively senses is the point of emotional urgency for the patient, that is, whether the limelight is on the patient's resistance to awareness (the classical psychoanalytic perspective of Model 1), her relentless pursuit of the unattainable (the self psychological perspective of Model 2), her re-enactment of unmastered early-on relational

traumas (the contemporary relational perspective of Model 3), her retreat from the world and her relentless despair (the existential-humanistic perspective of Model 4), or her refractory inertia, her refusal to change, and her relentless inaction (the quantum-neuroscientific perspective of Model 5).

To highlight the various distinctions between Models 1–4 (understanding life backward) and Model 5 (living life forward), I offer the following:

Whereas Models 1–4 focus on the past and the present, Model 5 focuses on the present and the future.

Whereas Models 1–4 focus on ferreting out the underlying causes of compromised quality of

life in the here-and-now, Model 5 focuses on the neuroplastic synergy of *mindfulness* (that is, paying attention to the present moment, always with compassion and never judgment, in order to discover the self-limiting and disempowering beliefs that are interfering with actualization of potential) and *intentionality* (that is, setting intention to commit to action in the present that will be in alignment with what truly matters)—so that, going forward, potential can become actual and merely envisioned can be transformed into reality.

Whereas Models 1–4 focus on our history as our destiny, Model 5 focuses on our destiny as our choice because we are the masters of our destiny and create it.

In keeping with George Santayana’s sobering warning that “Those who cannot remember the past are condemned to repeat it,” Models 1–4 focus on our lives as predetermined and predestined. By contrast, Model 5 focuses on envisioned possibilities, ownership of need to change, commitment to action, empowerment, personal agency, freedom, realization of dreams, and actualization of potential.

With respect to limitless possibilities, an amusing aside: in *The Marvelous Mrs. Maisel* (a comedy-drama TV mini-series), Abe Weissman (played by Tony Shalhoub)—angry that the housekeeper has gone into his office to clean it—complains, “*Just because there is a door, does not mean you use it! A door does not represent*

infinite possibilities. Leave that room the way it is!”

Whereas Models 1–4, in keeping with the psychoanalytic tradition in which they are rooted, tend to focus on the patient as passively receiving and permanently retaining the cognitive-emotional-visceral imprint of her unmastered early-on relational experiences, Model 5, in the tradition of constructivist psychologies, tends to focus on the patient as a more active participant in constructing her worldview and in shaping the meaning she makes of her life as a result of all the early-on privations, deprivations, and insults sustained along the way.

On the one hand, Models 1–4 emphasize insight into the early-on relational traumas

shaping the patient's misperceptions of the self, others, and the world. These defensive misconstructions of reality are then gradually tamed, modified, and integrated as the patient slowly evolves from resistance to awareness (Model 1), relentless pursuit of the unattainable to acceptance (Model 2), re-enactment of dysfunctional relational dynamics to accountability (Model 3), and relational absence to accessibility (Model 4). On the other hand, Model 5 conceives of the narratives that the patient has constructed in a desperate attempt to make sense of her world as potentially able to be rewritten, interpreted anew, and completely redone. These transcripts, which underlie the patient's psychic inertia and thwarted potential,

are thought not to seal her fate but to hold the potential for reconfiguring her future.

In other words, whereas Models 1–4 focus on the cumulative impact of early-on traumatic experiences (and the patient’s gaining of insight into their toxic impact on her life in the present), Model 5 focuses on the outdated and maladaptive narratives that the patient had constructed during her formative years (and the patient’s dramatic extrication of herself from those mental models by envisioning alternative, more liberating possibilities for the future, taking embodied ownership of her need to change, and, going forward, committing to action in alignment with what she knows she will need to do in order to realize her vision).

PSP therefore involves the complex interplay of all five models, each gaining momentum by virtue of advancement in the other four. In essence, all five models are interdependent and, in order to bring about enduring characterological change, symptomatic relief, behavioral modification, and actualization of potential, all will come into play at various points in the treatment—as the therapeutic process evolves through healing cycles of destabilization, characterized by either minor (Models 1–4) or major (Model 5) avalanches, and subsequent restabilization at ever-higher levels of adaptive capacity, resilience, and psychological flexibility.

In sum, in those moments when the therapeutic goal is to help the patient evolve to ever-more nuanced and refined levels of

awareness, acceptance, accountability, and accessibility, a psychodynamic approach will be more indicated. But when, in the moment, the focus is on the patient's refractory inertia and refusal to change, the therapeutic goal becomes a more focused disentangling of the patient from the toxicity of her past, such that, going forward, old negative memories can be deconsolidated, new positive memories can be reconsolidated, entrenched inertia can be overcome, and potential can become actualized.

The Brain's Neuroplasticity (Models 1—5)

In any event, the brain has a remarkable capacity to adapt to changing conditions (Martin et al. 2000)—whether by modification of its neural circuits as a result of introducing new

information (as happens with memory integration) or by obliterating some of its networks entirely and replacing them with new ones (as happens with memory reconsolidation). Both memory integration (the province of Models 1–4) and memory reconsolidation (the province of Model 5) are testaments to the adaptability and resilience of the brain.

To review, both memory integration and memory reconsolidation are complementary processes whereby the brain is continuously updating itself on the basis of contemporary information and experience—whether incrementally (Models 1–4) through cycles of disruption (in reaction to challenge) and repair (in response to support) or more abruptly and decisively (Model 5) as a result of repetitive and

persistent exposure to perceived mismatch between the envisioned (and hoped for) experience of something new and good and the anticipated (and reactivated) experience of something old and bad.

Whether memory integration (with its incremental integration of new meanings into already existing and interrelated but long-since-outdated narratives) or memory reconsolidation (with its precipitous and dramatic deleting of old programs that have long since outlived their usefulness and their replacement with new ones), the brain is continuously, and adaptively, updating itself—structurally and functionally—at the level of the neural synapse.

Again, the newly emerging and exciting field of neuroplasticity has it that, in response to the optimal stress of encountering new information and new experience, the brain is continuously reorganizing its complex web of synaptic connections and the mind is continuously updating its mental schemas and constructing new narratives.

Fortunately, this uplifting and cutting-edge concept is gradually overtaking the centuries-old—and deterministic— notion that the human brain is immutable.

Indeed, neuroplasticity speaks to the ability of the brain to rewire itself (and its synaptic connections) and of the mind to reprogram itself (and its constructed narratives)—aptly described

by Norman Doidge (2007) as “the brain that changes itself.”

As important as it is that the brain be able to change itself, it is obviously just as important that the brain have much that stays the same. In other words, optimal functioning of the brain requires that a homeostatic balance between the brain’s plasticity and its stability be continuously maintained, perhaps akin to the growth-incentivizing dialectical tension that exists in relationships between spontaneity and predictability!

SPOOKY ACTION AT A DISTANCE

At the end of the day, the therapeutic action in PSP (which now includes Models 1–5) involves both understanding the impact of the toxic past on the present (so that it will not be unconsciously repeated) and disentangling the present from that toxicity by consciously embracing alternative realities going forward (so that there will indeed be hope for the future). In the prescient words of Satya Narayan Goenka, “We can live only in the present. If we are unaware of our present actions, we are condemned to repeating the mistakes of the past

and can never succeed in attaining our dreams for the future” (as cited in Hart 2011, p. 70).

By way of review: Model 5—a quantum-neuroscientific approach to symptomatic relief and behavioral change—is a model specifically designed to capitalize upon the quantum concepts of entanglement, disentanglement, and superposition and the neuroscientific concepts of memory reconsolidation and synaptic plasticity. These constructs provide a coherent conceptual framework for understanding the therapeutic action in Model 5, namely, how the toxicity of the past, across time and space, is continuously infusing the present (quantum entanglement); how the present can be decoupled from that toxic past (quantum disentanglement); how every precious moment in time and space, once

energetically disentangled from the past, holds infinite potential and hope for the future (quantum superposition); how self-negating narratives constructed early on in life and suffusing the present can be replaced by self-affirming and empowering narratives going forward (memory reconsolidation); and how the networks of neural synapses encoding those disempowering narratives, and fueling the resultant dysfunction, can be remodeled and adaptively updated in the face of new experience (synaptic plasticity).

So how exactly do the concepts of quantum entanglement, quantum disentanglement, quantum superposition, memory reconsolidation, and neuroplasticity come into play in Model 5?

Quantum Entanglement

The *adhesiveness of the id* (fueled as it is by both libidinal and aggressive energies) is one of the constructs used by Freud to explain the tenacity with which patients, unwittingly, cling to their infantile attachments, their relentless pursuits, and their compulsive repetitions, that is, cling to the toxicity of their past (Erwin 2003; Stark 2017, 2019).

My decision to develop a model that draws upon quantum theory was informed, at least in part, by my desire to find a more contemporary way to explain why the present—even though decades later—might be still infiltrated by the toxicity of a bygone past. The concept of quantum entanglement fit the bill. Albert

Einstein, after struggling for years to understand the laws governing the mysterious nonlocal forces that characterize quantum interactions between entities that are separated in time and space, famously derided this strange phenomenon by dubbing it *spooky action at a distance*—shorthand for capturing the essence of these enigmatic interactions that defy the laws of Newtonian physics (Bell 2004; Isaacson 2008).

Indeed, Model 5 confronts head-on the quantum entanglement of the patient's present with the toxicity of her past, that is, the spooky coupling of her present dysfunction with the implicitly held, deeply embedded, disempowering, relational narratives about the self, others, and the world that the patient, as a

young child, had constructed in a desperate attempt to make sense of things.

Quantum Disentanglement

The goals in Model 5 are therefore quantum disentanglement from these outdated and dysfunctional misconceptions; the construction of more adaptive, more flexible, more reality-based, more present-focused, and more future-oriented mental models; and, going forward, passionate commitment to intentioned, coherent, and embodied action in conformity with these updated and more empowering narratives—such that ultimately more fulfilling realities can be realized and horizons expanded.

Cognitive Defusion

My recognition of the critical role played by quantum disentanglement in disengaging the patient from self-limiting cognitions constructed early on in life about the self, others, and the world was inspired, in part, by my exposure to the concept of *cognitive defusion* (Hayes et al. 2016). This concept, central to the therapeutic action of Acceptance and Commitment Therapy (ACT) and akin to quantum disentanglement, is a technique that involves not only the patient's distancing of herself from the maladaptive patterns of thinking that have become part of her identity but also her acceptance of the possibility that there are alternative perspectives and more adaptive ways of acting, reacting, and interacting. In essence, ACT embraces the idea that thoughts are just thoughts and need not define who we are

and how we behave; thoughts are no more powerful than what we allow them to become (Hayes et al. 2016).

Quantum Superposition

Model 5 also draws upon the uplifting idea that the quantum universe holds infinite potential, relevant for the patient if she can but extricate herself from the erroneous relational preconceptions that she has about the self, others, and the world—false beliefs that have been providing the propulsive fuel for her trauma-related symptoms and dysfunctional behaviors. This concept of quantum superposition, which is related to both the wave-particle duality and the Heisenberg uncertainty principle of quantum theory, speaks to the idea that an entity exists in

all possible states simultaneously until it is observed, measured, or—in my words and at the heart of the therapeutic action in Model 5—*intended*, at which point the wave will collapse into a particle, which will then be the only reality expressed.

An aphorism that highlights the power of positive thinking and cautions against negative thinking has often been attributed to the automotive titan Henry Ford, “Whether you think you can, or you think you can’t—you’re right.” This quote speaks directly to the profound impact of our intentionality on what is subsequently expressed and is a poignant reminder of our power to create our own destiny.

Along these same lines is the following excerpt from Joe Dispenza (2012), “Quantum experiments demonstrated that electrons exist simultaneously in an infinite array of possibilities or probabilities in an invisible field of energy. But only when an observer focuses attention on any location of any one electron does that electron appear. In other words, a particle cannot manifest in reality—that is, ordinary space-time as we know it—until we observe it” (p. 14).

Similarly, in his 2018 book *Aware: The Science and Practice of Presence*, Daniel Siegel, a highly respected interdisciplinary psychiatrist and author of many well-known books on interpersonal neurobiology, advances the idea that awareness shapes the flow of “energy and information,” thereby promoting “neural activity

and growth.” He writes, “Where attention goes, neural firing flows and neural connection grows” (Siegel 2018).

In order to operationalize the concept of pluripotent potential, imagine that you are holding a coin in the palm of your open hand. Either the head or the tail will be visible. Now toss the coin up into the air. As long as it is in motion (and has not yet landed in your hand), it will hold the possibility of both head and tail simultaneously. Either the head or the tail will manifest only once the coin lands, that is, only once the wave collapses. By the same token (so to speak), I will be suggesting that a wave of infinite possibilities will collapse into finite, observable behavioral change only once it interacts with a patient’s intentioned commitment

to change—akin to the *observer effect* of quantum theory.

The Observer Effect—Impact of the Eyes

With respect to this observer effect, for a moment let us shift our attention from the impact on the patient's reality of the patient's (intentioned) observing of it to the impact on the patient's reality of the therapist's (compassionate) observing of it.

In a later section when I introduce witness statements as interventions that can be used in conjunction with Model 5 quantum disentanglement statements, I will be more directly addressing the tremendously validating impact on a patient of the therapist's explicit

naming of what the therapist is observing about the patient's experience in the moment.

Whenever the therapist makes explicit that she is a witness to what the patient is feeling (*"I see how much pain you are in," "I see how frightened you become when we talk about what happened," "I see how desperately you want to get better,"* and *"I see how committed you are to doing things differently going forward"*), the therapist is not only legitimizing and validating the patient's experience but also helping the patient become more detached, gain more perspective, and get more distance from that experience by modeling for the patient what it would be like were the patient herself to be able to step back from her experience in order to

observe it through more objective—and compassionate—eyes.

Letting the patient know that she is being seen is perhaps even more powerfully impactful than simply letting the patient know that she is being heard.

Please note the subtle distinction between “*I see how lonely you are feeling*” and “*I **hear** how lonely you are feeling*” or “*I see how sad you become when you talk about your mother and how she never understood*” and “*I **hear** how sad you become when you talk about your mother and how she never understood.*”

It feels great to be able to know that how lonely and sad you are is being **heard** but it is perhaps even more validating and reassuring to

be able to know that how lonely and sad you are is being **seen**.

As it happens, the technique of bringing the eyes to bear on emotionally charged material is used in a number of brief treatments, including psychomotor psychotherapy (which actually posits a *virtual* witness figure who provides running commentary on what that figure is observing about the patient's experience) and eye movement desensitization and reprocessing therapy (which, by way of bilateral alternating stimulation, brings to bear the analytic eyes of the patient's left brain on desensitizing and reprocessing the emotionally charged material stored in her right brain).

In other words, the technique of bringing the eyes to bear witness can be used either to give the patient an opportunity to have her experience compassionately witnessed by an outside observer with more objective eyes (that is, by a therapist with a more evolved perspective) or to give the patient an opportunity to become a compassionate witness to her own experience as she taps into the more evolved perspective of her left brain and its more objective eyes.

So too the observer effect in quantum theory refers to the impact of bringing to bear a set of eyes, although here from a slightly different perspective. Again and as noted above, in the quantum field, a wave of energy is thought to hold an infinite array of invisible potentialities, all of which are simply waiting to be actualized.

Once attention is focused on the wave, however, it will collapse into an observable, finite particle. This observer effect is relevant in the quantum-neuroscientific Model 5 because it speaks to the transformational power of the patient's focusing of her attention and intention on the actualization, or the making real, of what she is daring to let herself dream.

In other words, just as the therapist's observing of the patient's experience and then articulating what she is witnessing will make it more real, so too the patient's envisioning of a future reality and then articulating that vision will serve to make it more real.

Indeed, as we shall soon see, Model 5 quantum disentanglement statements ask of the

patient that she envision future possibilities, take ownership of her need to change, and, going forward, commit to acting in alignment with what she is naming as important to her—such that potentiality will become actuality as vision becomes reality.

INTERDEPENDENCE OF ALL FIVE MODES OF THERAPEUTIC ACTION

Again, whereas Models 1–4 privilege the deterministic idea of the present as unconsciously entangled with the past, Model 5 privileges the liberating idea of the present as creating possibilities for the future if the patient can but consciously set the intention to overcome her entrenched inertia and disentangle herself from the past by taking embodied ownership of what she really wants and then committing to self-actualizing action going forward.

In other words, instead of an emphasis on the patient’s history as her destiny (which typifies

Models 1–4), Model 5 places an emphasis on the patient as constructing her own destiny.

By the same token, whereas Models 1–4 speak to the critically important issue of deeply appreciating all the ways in which the present is contaminated by the past, Model 5 speaks to the critically important issue of understanding that, once the present has become energetically uncoupled from the past, the patient will be freed up to envision, and actualize, alternative, preferred future realities that will be more in line with what truly matters to her. It will then be for her to commit to acting in alignment with those heartfelt desires going forward if she is to live her life to the fullest.

Borrowing Elements of Models 1–4 for Model 5

Importantly, the setting of intention is informed by both mindful awareness, which is achieved by way of the patient's attunement to the wisdom of her body (the therapeutic action in Model 5), and psychodynamic awareness, which is achieved by way of the patient's attunement to the wisdom of her brain (the therapeutic action in Models 1–4).

The combination of these two epistemological modes of knowing will inform, and inspire, the patient's intentioned vision of alternative, and more adaptive, ways of relating to the self, others, and the world going forward. In other words, the synergy of mindful awareness

and psychodynamic awareness can be capitalized upon to ignite the setting of self-actualizing intentions—antidotes to the negativity that is fueling the patient’s refractory inertia and inaction.

Indeed, mindfulness practice is one of the most effective ways to access deeply embedded negative beliefs. But the psychodynamic approaches of Models 1–4 do also provide awareness that facilitates the formulating of intention.

In any event, whether the net result is *mindful awareness* (Model 5) or *psychodynamic awareness* (Models 1–4), the negative, outdated, self-sabotaging, and disempowering narratives of which the patient is now aware—as implicit

knowledge has become explicit awareness—will be targeted and disconfirmed by the setting of positive intentions and the experiencing of jolting mismatch between conditioned and reactivated *old bad* on the one hand and envisioned and embodied *new good* on the other hand.

If the patient cannot envision the possibility of getting better, if she cannot take ownership of her need to change, and if she cannot commit to acting in alignment with her vision going forward, then Model 5 quantum disentanglement statements will be much less effective. Indeed, if the patient is not in a state of readiness to make an embodied commitment to getting on with her life, then further in-depth work will need to be done in order to ferret out the powerful, subversive forces lurking beneath the surface and

not yet uncovered—whether that further unearthing requires renewed mindful attentiveness (Model 5) and/or renewed psychodynamic exploration (Models 1–4).

Borrowing Elements of Model 5 for Models 1–4

Not only does Model 5 sometimes need help from the *understanding life backward* focus of Models 1–4 but also there are times when Models 1–4 need help from the *living life forward* focus of Model 5.

As we know, the psychodynamically informed Models 1–4 are indeed focused more on knowing than on acting. As such, their focus is on teasing out underlying causes and on deep, subtle, profound, broad-ranging,

characterological change accomplished by way of enhancement of knowledge (Model 1), provision of corrective experience (Model 2), engagement in authentic relationship (Model 3), and facilitation of surrender to moments of meeting (Model 4). Freud (1937) appropriately likened the psychoanalytic process to an archaeological dig.

The therapeutic action in Models 1–4 will indeed advance the resistant patient toward awareness (Model 1), the relentlessly hopeful patient toward acceptance (Model 2), the re-enacting patient toward accountability (Model 3), and the relationally absent patient toward accessibility (Model 4). All four models focus on helping the patient to know herself deeply and to understand why it is that she acts, reacts, and

interacts in the dysfunctional and maladaptive ways that she does.

But Models 1–4 do not specifically advance the patient toward action and actualization. Nor is their focus on the patient’s taking ownership of her need to change or on her commitment to acting, reacting, and interacting differently going forward.

Additionally, because Models 1–4 are not action-oriented, solution-focused, problem-solving, or goal-directed and because the patient is generally encouraged to take the lead and to talk about whatever comes to mind for her, psychodynamically informed treatments often run the risk of either getting bogged down or straying off course—and of then becoming “analysis

paralysis” or, ultimately, “analysis interminable” (Freud 1937).

It is when this happens that aspects of the more action-oriented and goal-directed Model 5 can be introduced into psychodynamic treatments in order to restore focus, direction, and purpose, without actually initiating a full-court press of jolting Model 5 quantum disentanglement statements.

In truth, part of what expedites the therapeutic action in Model 5 is that it requires of the patient that she stay focused on what truly matters to her, that she be able to conceive of—and embrace—an alternative, preferred reality, that she take ownership of her need to change, and that she make a commitment to act in accord with what

truly matters to her such that she will be able to love, work, and play to her fullest capacity going forward.

An anonymous quote claimed by many captures the essence of Model 5—“Eyes forward. Mind focused. Heart ready. Game on, World.” Unlike Models 1–4, Model 5 does indeed focus on vision, commitment, action, and results—that is, on living life forward.

The Triad of Adjunctive Statements

Any one, two, or three of the adjunctive statements below can be used, whenever deemed appropriate, either to reinforce Model 5 quantum disentanglement statements or to advance the

therapeutic endeavor in one of the psychodynamic models (Models 1–4).

The Witness Statement

In an earlier section, I observed (so to speak!) that it is tremendously validating whenever the therapist lets the patient know that she is being seen—perhaps even more powerful than letting the patient know that she is being heard.

I went on to note that the technique of bringing the eyes to bear on emotionally charged material is used in a number of brief treatments, including, for example, in psychomotor psychotherapy, which posits a (virtual) witness figure who provides ongoing nonjudgmental commentary on what that figure sees the patient experiencing.

In fact, in psychomotor psychotherapy the witness figure (whom the therapist indicates, with a casual gesture of her outstretched arm, is vaguely “out there” somewhere) offers statements such as the following:

“The witness would say—I see how much pain you are in.”

“The witness would say—I see how hard you are trying.”

“The witness would say—I see that you are deeply despairing.”

“The witness would say—I see how committed you are to getting better.”

“The witness would say—I see how much you want to change.”

“The witness would say—I see how determined you are to get the weight off this time.”

Yes, the witness figure is actually referencing herself when she offers her commentary (“*The witness would say...*”) and then goes on to name explicitly, and always with compassion, what she is actually witnessing (“*I see that...*” or “*I see how...*”).

Of course, the therapist need not preface what she is observing about the patient with the words “*the witness would say,*” but doing so reinforces the idea that the patient is truly being seen.

Using witness statements accomplishes two things.

First, when nonjudgmental eyes are being brought to bear, the patient is being given an opportunity to have her experience compassionately observed.

Second, when a nonjudgmental witness is repeatedly being named by the therapist as a separate entity present in the room and observing with compassion, the patient is being subtly encouraged to become a nonjudgmental witness to her own experience by observing herself through the lens of the witness's compassionate eyes.

These witness statements are actually very powerful, albeit simple, therapeutic tools.

Although what follows is a somewhat different concept, my patients know that I will periodically reference the “panel of 10,000 objective judges” (as I casually wave my outstretched arm in the air). For example, when I have mishandled a situation in the session, I

might say something like “*The panel of 10,000 objective judges would probably give me a ‘C’ or even a ‘C minus’ on how I handled that one!*” ... and then I might well go on to apologize.

The Not-Then-But-Now Statement

In an earlier section, I had noted that when doing EMDR therapy, the therapist will periodically make perspective-promoting statements like “*That was then, but this is now.*”

These not-then-but-now statements can be used periodically in conjunction with quantum disentanglement statements in order to reinforce energetic decoupling of the patient’s toxic past from her present experience.

As with witness statements, these statements encourage the patient to step back from the

immediacy of her experience in order to develop a little more distance and perspective.

As such, they are very powerful, albeit simple, therapeutic tools. Here too the net result will be reinforcement of the message being conveyed in the quantum disentanglement statements.

The Faith-In-You Statement

The third, and last, adjunctive statement that can be used in conjunction with Model 5 quantum disentanglement statements (or, when deemed appropriate, in Models 1–4) is the faith-in-you statement, which the therapist will periodically offer in order to highlight the therapist’s belief in the patient, in her resilience, in her adaptive capacity, in her commitment to

repositioning herself in her life, in her determination, and in her perseverance, to name a few.

The therapist will offer confidence-boosting statements like *“I have faith in you,” “I believe you can do this,” “I know how much you want this,” “I have confidence in your ability to do whatever you might need to do in order to get what you are wanting,”* and *“I have faith in your resilience and your capacity to work through whatever obstacles you might encounter along the way.”*

These faith-in-you statements are generous, thoughtful, and empowering things to say to patients who are working really hard to free themselves from their infantile attachments,

relentless pursuits, and compulsive repetitions but are feeling very alone, stuck, disempowered, and frightened.

In the unlikely event that the therapist does not have faith in a particular patient, then the therapist would not use these faith-in-you statements and would need, instead, to explore (either on her own or in collaboration with the patient) whatever countertransferential feelings the patient might be stirring up in her!

THE NEUROPLASTIC SYNERGY OF MINDFULNESS AND INTENTIONALITY

As noted repeatedly throughout this book, I have come to appreciate the transformational power of therapeutic memory reconsolidation and believe that one way to capitalize upon this brain-based concept of replacing *old bad* with *new good* is by prompting the patient to pay mindful attention to reactivated *old bad* and set coherent intention for envisioned *new good* going forward —such that juxtaposition of these two mismatched experiences will precipitate a rewiring of the brain (as a result of remodeled

neural circuits) and simultaneously a reprogramming of the mind (as a result of updated mental schemas).

Model 5 advances the hypothesis that decoupling the patient from the dysfunction of her past (and the erroneous relational preconceptions about the self, others, and the world to which that toxicity has given rise) and advancing the patient toward actualization of her preferred future will involve the neuroplastic synergy of mindfulness (that is, paying attention to *old bad* deriving from the past and manifesting in the present) and intentionality (that is, setting intention to manifest *new good* going forward)—the neuroplastic synergy of which will involve accessing the implicit and then bringing to bear the explicit.

Creating Destabilizing Internal Tension to Provoke Change

The cutting edge of the therapeutic action in Model 5 will entail the therapist's targeting the emotional knowledge harbored in the patient's body consciousness—that is, the embodied emotional learnings and procedurally organized relational expectations underlying the patient's maladaptive symptoms and self-defeating behaviors—and then bringing to bear the analytic wisdom of the patient's brain consciousness.

It will be the internal tension created through the judicious and ongoing use of optimally stressful Model 5 interventions highlighting the dramatic contrast between *what has been* (accessed by way of embodied mindfulness) and

what could be (introduced by way of coherent intentionality) that will provide both the impetus and the opportunity needed for reprogramming the patient's maladaptive mental constructs and rewiring the complex web of neural networks in the patient's corticolimbic system encoding them.

As will be seen, judiciously rendered, optimally stressful quantum disentanglement statements will promote dual awareness (engagement of both body consciousness and brain consciousness) and trigger quantum decoupling of the patient's dysfunctional past from the present, thereby making possible realization of more functional, more adaptive possibilities going forward.

Again, I hypothesize that the repeated and forcible juxtaposition of envisioned *new good* with anticipated *old bad* will constitute a major challenge to the patient's maladaptive belief systems, thereby precipitating their cataclysmic collapse. If all goes well, this mismatch between envisioned potential and reactivated memory will suddenly and drastically trigger release from outdated, disempowering, life-negating beliefs and create opportunity for the locking in, or reconsolidation, of updated, more empowering, more life-affirming beliefs that can then fuel expansive future possibilities.

Model 5 uses this synergy of mindfulness to access implicitly held (negative) beliefs and intentionality to install explicitly held (positive) beliefs. Simultaneously paying attention to

implicitly held *old bad* (in body consciousness) and setting intention for explicitly held *new good* (in brain consciousness) will allow for the creation of juxtaposition experiences whereby the intentionally introduced *new good* will disconfirm the mindfully retrieved *old bad*—relevant for the quantum disentanglement statements that form the backbone of Model 5. These statements are specifically designed both to incentivize energetic decoupling of the patient from the toxicity of her dysfunctional past and to empower the patient to take self-actualizing action going forward.

Lior Suchard—Master Mentalist Who Both Reads Minds and Influences Them

Lior Suchard, a master mentalist who does mental magic on the minds of others, has so fine-

tuned his craft that, under special circumstances, he can both *read* minds (by way of mindful attunement) and *influence* them (by way of intentioned impact). Although Suchard does indeed employ some trickery and many remain skeptical about his methods, much of what he is able to do, in the way of mind-reading and mind-influencing, is an exquisitely honed skill—one that he has so perfected over the course of tens of thousands of hours of practice that the mesmerizing power of his award-winning giftedness is truly mind-boggling. Suchard has won over the likes of Bill Gates, Bill Clinton, Larry King, Dr. Phil, Steven Spielberg, Barbra Streisand, and Piers Morgan, to name a few; and he is now banned from casinos everywhere in the world!

Even if Suchard's performances do involve elements of deception, nonetheless his extraordinary ability to be focused, present, and aware is an inspiration. This amazing skill that he has developed enables him both to access certain things people are thinking (by reading their minds and tracking their nonverbal cues) and to prompt people to think certain things (by influencing their minds and nonverbally cueing them).

I have found myself inspired by Suchard and other mentalists who have so refined their art that they are able to direct toward others their highly refined, laser-sharp ability both to be exquisitely attuned, thereby enabling them to access what is going on in the minds of others, and to be

powerfully impactful, thereby enabling them to influence what is going on in the minds of others.

I mention Lior Suchard because I am in awe of his mental prowess. Were our patients to make a similar effort and commit to honing their own mental powers, then perhaps they too would become adept both at reading their own minds (by way of mindful attunement to what lies hidden within) and at influencing their own minds (by way of intentioned commitment to envisioning new possibilities).

It is important not only that our patients develop this skill set but also that we, as therapists, become skilled at fine-tuning our own abilities both to read our patients and to influence them (obviously taking care not to abuse the

power transferentially invested in us by our patients).

Mindfulness (Paying Attention)

Mindfulness has been defined in many different ways and, in and of itself, is thought to promote physical and psychological health—most notably, decreased depression and anxiety and reduced stress reactivity (Church 2014; Siegel 2018). Tang et al. (2015) write, “Research over the past two decades broadly supports the claim that mindfulness meditation—practiced widely for the reduction of stress and promotion of health—exerts beneficial effects on physical and mental health...” (p. 213).

Neuroplastic Changes in the Corticolimbic Circuits

Recent neuroimaging studies suggest that mindfulness practice may foster neuroplastic changes in the corticolimbic circuits responsible for stress reduction and emotional regulation (Marchand 2014; van der Kolk 2015), namely, the Executive Control Network (which regulates attention, decision-making, working memory, cognitive flexibility, and self-control).

Specifically, the corticolimbic system includes (1) the dorsolateral prefrontal cortex (which is responsible for higher-order brain functions, such as awareness, concentration, and motivation); (2) the anterior cingulate cortex (which plays a central role in processing emotional experiences at the conscious level); (3) the amygdala (which is associated with fear and anxiety and involved in initiating the body's fight

or flight response to stress); and (4) the hippocampus (which is responsible for learning and memory).

It has also been found that mindfulness meditation not only increases the activity of the neural networks responsible for the brain's executive functioning (that is, the aforementioned Executive Control Network) but also decreases the activity of the Default Mode Network, a large scale brain network implicated in daydreaming, mind-wandering, and resting wakefulness. The Default Mode Network is implicated when the person is awake but not focused on any specific task.

Cognitive neuroscientist Adrienne Taren observes, "Mindfulness practice increases one's

ability to recruit higher-order prefrontal cortex regions in order to downregulate lower-order brain activity” (Taren et al. 2013 / as cited in Ireland 2014). In other words, the practice of mindfulness allows a person’s primal, mindless reactions to stress to be superseded by more intentioned, coherent responses.

Tom Ireland’s 2014 study used functional MRIs to demonstrate that after an 8-week course of mindfulness practice, the prefrontal cortex associated with higher-order brain functions (such as awareness, concentration, and abstract thinking) became thicker and the amygdala (the stress center of the brain) shrank. The extent of these changes correlated with the numbers of hours of meditation practice and appeared to be present even when the person was not meditating.

Although cultivating mindfulness will not accelerate the speed with which a person can consciously process all the environmental stimuli coming her way, it can shift the balance from the less-evolved and thoughtless reactivity of the subconscious mind to the more-evolved and more thoughtful responsivity of the conscious mind. The wise mind that results will enable the patient to derive benefit from both regions of the mind by tapping into what each has to offer—ultimately transforming enslavement by the subconscious mind into empowerment by the conscious mind.

As it happens, lots of activities can increase the size of various portions of the prefrontal cortex, for example, video games and mathematical puzzles. But it is disconnection of

the prefrontal cortex from its stress center—which video games and mathematical puzzles do not accomplish—that appears to have the most profoundly beneficial impact on physical and mental well-being. Furthermore, mindfulness practice not only weakens the functional connectivity between the prefrontal cortex and the stress center but also strengthens the connections between and among areas associated with attention, concentration, and emotional integration.

In addition to increasing both grey matter density and cortical thickness in key areas leading to, among other benefits, improved cognitive performance and greater longevity, meditation can thicken the corpus callosum (the large bundle of fibers stretching across the midline of the brain

and connecting its two hemispheres) and can therefore strengthen the connection between the two sides of the brain.

Reduced Levels of Stress Biomarkers

Meditation has also been found to reduce levels of stress biomarkers. In fact, a rigorously designed clinical trial funded by the National Institutes of Health (Hoge et al. 2018) demonstrated objective physiological evidence that mindfulness practice reduces anxiety. Compared to controls, in a mindfulness-based stress reduction (MBSR) class, patients with generalized anxiety disorder had larger reductions in blood levels of adrenocorticotrophic hormone (ACTH), cortisol (the stress hormone), and pro-inflammatory cytokines. This study provided the first combined hormonal (ACTH and cortisol)

and immunological (IL-6 and TNF-alpha) evidence that MBSR might enhance resilience to stress.

Compassionate Witnessing of the Present Moment

In the current context, the concept of mindfulness is being used to suggest cultivation of the practice of being a compassionate and nonjudgmental witness to the present moment of one's internal experience. In other words, mindfulness practice involves attention to, and awareness of, present moment experience—with compassion and never judgment. Mindfulness practice is embodied; it requires the dispassionate, moment-to-moment awareness of thoughts, emotions, and sensations arising from

body consciousness into brain consciousness—
and simply noticing them as they come and go.

More to the point with respect to Model 5, mindfulness (tuning in to conditioned *old bad*) will allow for the experiential emergence into explicit awareness of implicit knowledge. Mindful awareness, in conjunction with the hard-earned psychodynamic awareness achieved by way of the therapeutic action in Models 1–4, can then be used to inform intentionality (imagining future possibilities for *new good*) going forward.

Intentionality (Setting Intention)

Intentionality has also been defined in many different ways and, in and of itself, is thought to promote physical and psychological health

(Ireland 2014; Tang et al. 2015). Whatever specific form the setting of intention takes, it involves directing energy toward the actualization of something.

Scientific Studies Documenting the Power of Intention and Prayer

There are more than 1,200 scientific studies (Oxman et al. 1995; Powell et al. 2003; Grauds 2005; Church 2014) demonstrating the connection between, on the one hand, intention and prayer and, on the other hand, health and longevity.

One such study was conducted by Erlendur Haraldsson and Thorstein Thorsteinsson, who measured the impact of focused intentionality on the growth rate of yeast cultures in test tubes. The subjects in this well-designed, controlled,

randomized, and double-blind study were asked to direct their healing energies to increasing the growth of yeast in 120 test tubes. Astoundingly, the results indicated that “mental concentration or intention” indeed accelerated the rate of growth of the yeast (Dossey 2003).

A group of researchers from St. Luke’s Medical Center in Chicago (Powell et al. 2003) examined the correlation between church attendance and physical health. They discovered that those patients who attended church regularly and had a strong spiritual practice had a lower mortality rate and more robust overall health than those who did not embrace spiritual disciplines.

A similar study, led by Thomas Oxman at the University of Texas Medical School (Oxman et

al. 1995), examined the effects of spiritual practice and social support on patients undergoing heart surgery. They discovered that those patients who did not have a spiritual practice and lacked a social network were three times more likely to die after surgery than those who had such support.

Studies (Grauds 2005) demonstrate that ongoing altruistic acts improve and prolong our lives. Two thousand seven hundred men were studied over a period of ten years. The study found that the men who engaged in regular volunteer activities were 50% less likely to die than those who did not. Grauds concludes, “Altruistic side effects include reduced stress; improved immune system functioning; a sense of joy, peace, and well-being; and even relief from

physical and emotional pain. These effects tend to last long after the helping encounter, and ... increase with the frequency of altruistic behavior.”

The Placebo Effect—The Mutative Power of Positive Expectation

Interestingly, in research studies, a placebo is used in the hope that it will produce no therapeutic effect (and can therefore be used as a control). In clinical practice, however, a placebo is used in the hope that it will produce a therapeutic effect!

No discussion of intentionality would be complete without at least brief reference to the mutative power of positive expectation (on the parts of both patient and therapist) when an intention is being set and a preferred future being

envisioned (especially relevant for the second part of these quantum disentanglement statements).

Research studies (Kirsch 2004) have indeed demonstrated a compelling correlation between the placebo effect and desirable clinical outcomes (the reinforcing result of hopeful expectation and optimistic anticipation) and, by the same token, a correlation between the nocebo effect and unfavorable clinical outcomes (the undermining result of negative expectation and pessimistic anticipation).

Furthermore, studies (Oken 2008) suggest that there are personality traits (such as level of suggestibility, receptivity, and dispositional optimism) that will predispose a person to be

more or less responsive to any particular therapeutic intervention. In other words, there will always be placebo responders and placebo nonresponders, whatever the clinical intervention.

So, too, some of our patients will have deeply embedded character traits that predispose them to deriving greater or lesser benefit from surrendering to the therapeutic process and allowing themselves to believe—and to expect—that change will be possible if they can but envision, commit, and have faith.

Toning and Rapping to Promote Groundedness and Focus

Toning—the use of sustained vowel sounds—is an ancient method of healing and one that does not specifically depend on faith. Laurel Elizabeth Keyes (1973), an early proponent of sound

therapy, writes, “There are natural channels for the energy in our bodies, and if we recognize and learn to flow with them, they will keep us healthy.”

Toning is alleged to help patients become more centered in their bodies, stimulate energy flow, release emotions, relieve insomnia, lower blood pressure, deepen breathing, relax muscles, and ease physical pain.

Indeed, all forms of vocalization, including singing, chanting, yodeling, humming, repeating a mantra, and reciting prose or poetry, can be therapeutic. The music visionary Don Campbell (1997) reports that Mozart himself hummed while he composed.

Usually delivered over a backing beat or musical accompaniment, rapping (the elements of which include content, flow, and delivery) was developed as a vocal martial art to protect people in the streets from the dehumanization of their world. As such, it is a form of self-therapy that allows the conscious mind to connect with the subconscious mind, especially its deeper regions, which govern instinctual reactions and survival.

Interestingly, the brain processes speech that is expressed in rhythm and rhyme differently from the way in which it processes regular speech, which explains why patients with Alzheimer's, who can barely speak sentences because of their word-finding difficulties, may nonetheless have no problem remembering their favorite songs. In fact, musical aptitude and

musical appreciation are two of the last remaining abilities in dementia patients.

The Pluripotent Potential of Every Moment in Time

In the current context and borrowing from quantum theory, the concept of intentionality refers to recognizing, appreciating, and capitalizing upon the pluripotent potential of every moment in time and every entity in space. Indeed, like a pluripotent stem cell that contains infinite potential, every precious moment in time and every single entity in the quantum universe holds unbounded possibilities, any one of which can potentially be realized by the setting of intention.

When we set an intention, we are directing our focused attention toward the expression of a

positive outcome and thereby actualization of a preferred reality. More specifically, by way of our conscious intent we are influencing our subconscious mind to manifest a latent possibility, the potential for which was there all along, just waiting to be found.

As the physical chemist Lothar Schafer (2013) has written, “Our inner potential makes us who we are” (from the Introduction).

Understanding the transformational power of intentionality requires an appreciation, and even a reverence, for the impact of the energetic realm (which is physically imperceptible) on the material realm (which is physically perceptible). In other words, intentionality involves mind over matter—a mystical concept that, for some, is

difficult to grasp and, for others, completely obvious.

Put simply, living your life without intention has been likened to getting into your car and having no destination in mind. But if you live your life with intention and purpose, then you get into your car and drive to your desired destination (Mundra 2019).

Whether Real or Simply Imagined, It Makes Little Difference

Surprisingly, research studies have demonstrated that simply setting the intention to experience something positive that disconfirms the learned expectation of something negative can sometimes be almost as powerful as having the actual experience of something positive that disconfirms the learned expectation of something

negative (Ranganathan et al. 2004; Miller 2018). In other words, whether real or only imagined, whether actual or only envisioned, the therapeutic impact of the mismatch will be similar—if indeed the prediction error is demonstrated persistently enough and convincingly enough within the four-to six-hour reconsolidation window.

More specifically, a growing body of evidence supports the finding that simply visualizing something, even though it occurs entirely in the mind, is almost as effective as actually doing it. According to a study done at the Cleveland Clinic (Ranganathan et al. 2004), participants were able to strengthen muscles just by visualizing physical movement. This impact simply required concentrated *mental practice*, namely, “the cognitive rehearsal of a physical

activity [without movement]” (Saimpont et al. 2013, p. 1). In fact, a recent study demonstrated that subjects wanting to master a particular skill were able to decrease by 50% the number of actual practice hours required if they were able to visualize mastery of it (Miller 2018).

Indeed, there is mounting support for the idea that mental practice, in combination with physical practice, can improve performance remarkably (Arora et al. 2011). Just watch Olympians doing their visualization exercises (with their eyes closed) as they prepare to compete in such sports as figure skating, swimming, diving, dressage, downhill skiing, gymnastics, skateboarding, and pole vaulting, to name a few, and you will realize that top-ranked

athletes figured out long ago that focused mental practice could definitely improve performance.

From this it follows that, with respect to the second part of the quantum disentanglement statement, an old, outdated, disempowering narrative can be updated whenever, again and again and in rapid succession, a learned expectation is placed side by side with either an experience that is real in the present or an experience that is envisioned for the future. In other words, a jolting prediction error will occur whenever either something new is already being experienced (although perhaps has not yet explicitly been named as a challenge to the learned expectation) or something new is simply being envisioned (and is therefore being

explicitly named as something intended to challenge the learned expectation).

So whether the something being named is real (actual) or simply envisioned (imagined), the critical piece will be the creation for the patient of a destabilizing juxtaposition experience that disconfirms the learned expectation, prompts a dramatic reorganization and updating of mental constructs, and results in a recontextualizing, or reframing, of the emotionally distressing experience.

Finally, although the concept of intentionality is used by some to suggest setting the intention to impact something outside the self (McTaggart 2008), I am more comfortable limiting use of the concept to the somewhat less woo-woo idea of

setting the intention to impact one's own experience, one's own state of mind, one's own mental constructs, one's own narratives.

OVERVIEW OF QUANTUM DISENTANGLEMENT STATEMENTS

For each of the five models in my Psychodynamic Synergy Paradigm I have developed an optimally stressful prototypical therapeutic intervention—anxiety-provoking but ultimately growth-promoting—that is specifically designed to create an optimal level of destabilizing stress and incentivizing anxiety in the patient (Stark 1999, 2008, 20120). Each one promotes advancement of the patient from defense to adaptation, from reaction to response,

from need to capacity, from unevolved to more evolved, and from outdated to updated.

Conflict statements are used in Model 1 (the interpretive perspective of classical psychoanalysis) to illuminate the patient's internal conflict between her adaptive capacity to know and her defensive need to protest that knowledge, such that she can gradually advance from resistance (the defense) to awareness (the adaptation).

Disillusionment statements are used in Model 2 (the corrective-provision perspective of self psychology) to facilitate the patient's confronting and grieving the reality of the limitations, separateness, and immutability of her objects, such that she can gradually advance from

relentless hope (the defense) to acceptance (the adaptation).

Accountability statements are used in Model 3 (the intersubjective perspective of contemporary relational theory) to prompt the patient to take ownership of her contribution to the recurring dysfunctionality in her relationships, such that she can gradually advance from re-enactment (the defense) to accountability (the adaptation).

Facilitation statements are used in Model 4 (the existential-humanistic perspective) to highlight the patient's conflict between her desperate yearning to be found and her terror of being destroyed, such that she can gradually

advance from relentless despair (the defense) to accessibility (the adaptation).

As we shall see, quantum disentanglement statements are used in Model 5 (the quantum-neuroscientific perspective) to incentivize the patient to live her life forward by extricating herself from the toxicity of her past, such that she can dramatically advance from refractory inertia (the defense) to action and actualization of potential (the adaptation).

Dialectical Tension Between Challenge and Support

What all five interventions have in common is their addressing, whether directly or indirectly, the dialectical tension within the patient between her adaptive capacity to change and her defensive

need to maintain things as they are—despite the price that she knows, at least on some level, she pays for preserving the dysfunctional status quo.

There is a fine line that we ourselves must walk because, as we sit with our patients, there is always a dialectical tension within us as well—between, on the one hand, our vision of who we think the patient could be (were she but able/willing to make healthier choices for herself) and, on the other hand, our respect for the reality of who she is (and for the choices, no matter how unhealthy, that she does make). We are therefore always struggling to find an optimal balance within ourselves between wanting the patient to change and accepting the reality of who the patient is.

But we must never lose sight of the fact that the patient has come to be as she is and to defend herself in the ways that she does because, at the time of the original privations, deprivations, and insults, she was simply unable—for whatever complex mix of reasons—to process, integrate, and adapt to the adverse childhood experiences to which she was being exposed. Because she was unable, what with her child’s unevolved perspective, to recognize that what she was experiencing was a story more about the people around her than about herself, she was forced to cobble together, in order to survive, whatever narratives she could—mental schemas that would then become only more firmly entrenched over time, eventually crystallizing out as her

characteristic (albeit dysfunctional) stance in the world.

Preserving the Needed Relationship at Whatever Cost

This concept of the child's assumption that bad experiences relate not to others but to herself is reminiscent of what Fairbairn describes as the young child's inevitable reaction to disappointment at the hands of a seductive (that is, exciting/rejecting) parent. More specifically, Fairbairn, whose focus is always on the child's desire not for instinctual gratification but for relationship, postulates that the child will defend herself against the pain of her grief about the disappointing parent by taking the burden of the parent's badness upon herself in a desperate

attempt to preserve, as best she can, the relationship with the parent uncontaminated by her anger and disillusionment.

We see this clinically all the time when the patient recounts heartbreaking stories about outrageous abuse experienced at the hands of a parent and will then report that she feels not angry but guilty. After all, it is easier to experience the self as bad (and unlovable) than to experience the parent as bad (and unloving), just as it is easier to experience the self as having deserved the abuse than to confront the intolerably painful reality that the parent should never have behaved she did.

More generally, a child whose heart has been broken by a parent will defend herself against the

pain of her grief by taking on the burden of the parent's badness as her own, thereby enabling the child to preserve the illusion of her parent as good and as ultimately forthcoming if she (the child) could but get it right. In essence, by introjecting the bad parent, the child is able to maintain an attachment to her actual parent and, as a result, will be able to hold on to her hope that perhaps someday, somehow, some way, were she to be good enough, want it badly enough, or suffer deeply enough, then she might eventually be able to compel the parent to change.

Indeed, Fairbairn's concept of the young child as ever intent upon preserving, at whatever cost, the needed relationship with her parent provides a plausible explanation for why the object-seeking child takes the burden of the parent's badness

upon herself. She thereby preserves the relationship with her parent but unfortunately one that fuels a distorted sense of herself as bad.

Similarly, the constructivist concept of the young child as ever intent upon making sense of the confusing and dysfunctional world around her provides a plausible explanation for why an unevolved child with limited resources cobbles together a narrative that posits herself as responsible for the dysfunction in her family. She thereby manages to construct her own reality but unfortunately one that fuels a distorted sense of herself as bad.

Judicious and Ongoing Juxtaposition Experiences

Model 5 quantum disentanglement statements

address these maladaptive, outdated, restrictive, and disempowering narratives constructed early on by a developing child desperate to find meaning and to make sense of things. By the same token, these statements hold out the possibility of targeting those self-defeating, past-focused, and maladaptive narratives and updating them, such that they become more self-affirming, empowering, reality-based, action-oriented, and future-directed.

Model 5 quantum disentanglement statements form the backbone of Model 5 and are used to incentivize the energetic decoupling of the patient from the ties that bind her to the toxicity of her dysfunctional past so that she can take action to realize her dreams, actualize her potential,

construct her own destiny, and live her life forward.

This transformational process is facilitated by the repeated juxtaposition, on the one hand, of the thoughts, emotions, visceral sensations, and autonomic reactivity arising from the patient's body consciousness as she dares to look back in order to remember and, on the other hand, of envisioned possibilities deriving from the patient's brain consciousness as she dares to look forward in order to imagine alternative, preferred realities.

Judicious and ongoing use of Model 5 quantum disentanglement statements that repeatedly and forcibly juxtapose *old bad* and *new good* will ultimately generate enough

galvanizing cognitive, emotional, and somatic dissonance between *what is anticipated* and *what is being envisioned* that it will prompt an energetic decoupling of the patient from her emotionally distressing past. At the same time, the old synapses encoding the outdated and disempowering mental schemas fueling her inertia will be unlocked, or deconsolidated, and new synapses encoding updated, reality-based, solution-focused, action-oriented, and empowering narratives driving forward momentum will be locked in, or reconsolidated, as the patient embraces new possibilities for the future. A more harmonious and integrated memory will be constructed that restores psychic equilibrium and homeostatic balance.

Because these interventions, in order to leverage the therapeutic action, use optimal stress (created by destabilizing tension between reactivation of *old bad* and envisioning of *new good*), it is imperative that they be offered against a backdrop of empathic attunement and authentic engagement and in the context of safety, encouragement, and guidance by a therapist who is ever compassionate, never judgmental, ever respectful, and deeply committed to working collaboratively with the patient—all of which constitute the well-known non-specific factors relevant for all psychotherapeutic treatments.

In order to maximize their effectiveness, these quantum disentanglement statements should challenge the established (maladaptive) order of things but should challenge that order neither too

much nor too little—or their purpose will be defeated. Too much challenge will be traumatizing and will prompt further—self-protective—defensive measures, but too little challenge will do little to advance the therapeutic endeavor.

Again, like the three bowls of porridge sampled by Goldilocks—one too hot, one too cold, but one just right—so too the dose of stress provided by the therapist’s interventions will be either too much, too little, or just right (which will be the one that is optimal).

To repeat, decoupling from the toxicity of the past and advancing the patient toward actualization of potential in the future will involve the synergy of mindfulness (that is,

revisiting and reliving *old bad*) and intentionality (that is, envisioning and committing to *new good*). If *mindful awareness* and *intentioned action* are juxtaposed in a way that optimally challenges the patient's outdated mental schemas, then the repeated experience of mismatch between an envisioned *new good* that disconfirms the anticipated *old bad* will provide the impetus needed to rewire the brain (by remodeling its neural circuits) and reprogram the mind (by reorganizing its mental schemas).

First Part of the Statement—Retrieve and Reactivate

The first part of a Model 5 quantum disentanglement statement privileges the mutative power of mindful attention and is designed to address one, two, or three of the elements of the growth-disrupting triad of *target symptom*, *formative experience*, and *constructed (derivative) narrative* underlying the patient's refractory inertia.

The formative experiences are the emotionally distressing episodes from the patient's personal past that have been maintaining the target symptom; the derivative narratives are the generalized mental models that the patient constructed as a result of those traumatic

experiences—mental models that then became the filters (initially implicit and nonverbal) through which the patient experienced the self, others, and the world.

Let us imagine that the patient's target symptom is her social phobia and her extreme discomfort in social situations. Perhaps as a child, the patient had often experienced rejection and ridicule at the hands of her father—this would be the formative experience; now as an adult, the patient not surprisingly has come to expect rejection and ridicule at the hands of others—this would be the mental model that she constructed as a result of her childhood experience.

In any event, the patient is instructed to close her eyes and to recall, as best she can and as

vividly as possible, the memory of the formative experience in emotional detail. She is encouraged both to visualize elements of the toxic triad and to verbalize everything that gets triggered inside her as she begins to remember what her body has never forgotten.

The therapist guides the patient to pay especial attention to, and to make explicit, the somatic elements, physical sensations, visceral reactivity, and sensorimotor perceptions that are being evoked as she delves ever more deeply into remembering and reactivating old memories.

For a Model 5 quantum disentanglement statement to be effective, the first part certainly can—but need not—tease out the actual traumatic experiences underlying the patient’s target

symptoms and maladaptive behaviors. What it must highlight, however, are the derivative narratives that the patient had constructed in a desperate attempt to make sense of those experiences—transcripts that can now, through the power of intentionality and by repeatedly juxtaposing learned expectation with envisioned reality, be rewritten—by way of therapeutic memory reconsolidation.

Second Part of the Statement—Reprocess and Reconsolidate

The second part of a Model 5 quantum disentanglement statement privileges the mutative power of intentionality and is designed to address one, two, or three of the elements making up the growth-promoting triad of *envisioning of possibility*, *ownership of need to change*, and *commitment to doing whatever might need to be done in order to realize the vision*—all of which are needed to overcome the patient’s inertia, incentivize her forward movement, and actualize her latent potential.

This second part facilitates the patient’s envisioning of the possibility of a future self that would not be limited and disempowered in all the

ways that her present self is. The therapist guides the patient to set the conscious intention to take more control of her life and to look ahead to a time when, no longer shackled by her infantile attachments, relentless pursuits, and compulsive repetitions, she will have secured for herself the freedom to take ownership of her dreams and to do whatever she must in order to realize them.

It is generally not enough that the patient simply have an amorphous longing to feel better. Nor is it enough that she have a secret desire for others to change (*alloplastic* adaptation). Rather, if effective work is to be done in Model 5, the patient must be willing and able to recognize that it is she who will need to change (*autoplastic* adaptation) and she who, in taking ownership of

her need to change, will therefore need to take action in alignment with that going forward.

The second part of the quantum disentanglement statement focuses on the intentioned envisioning of a future self, a future possibility, a future reality, or a future state of mind—all of which involve the embracing of alternative, more empowering, more growth-promoting ways of relating to the self, others, and the world going forward.

Bottom-Up and Top-Down Processing of Information and Energy

Quantum disentanglement statements rely upon mindfulness to promote bottom-up (that is, from body consciousness to brain consciousness) retrieval of old programs and intentionality to

promote top-down (that is, from brain consciousness to body consciousness) installation of new programs.

It is the combination of accessing (by way of mindfulness) implicitly held beliefs harbored in body consciousness and of harnessing (by way of intentionality) explicitly held beliefs generated in brain consciousness that makes of Model 5 both a bottom-up (from body to brain) and a top-down (from brain to body) approach to healing.

Mindfulness facilitates *remembering* and *reactivating*; intentionality facilitates *reprocessing*, *revisioning*, and ultimately *reconsolidation*.

Whereas mindfulness involves paying attention to whatever needed to be done

(defensively) in order to survive, intentionality involves setting intention to do whatever might need to be done (adaptively) in order to thrive.

Limbic System Activation and Deactivation

The first part of the quantum disentanglement statement—informed as it is by mindful attention—activates the patient’s limbic system (the set of structures in the brain that regulates emotions and memory) as she retrieves, from body consciousness to brain consciousness, the implicitly held, procedurally organized, growth-disrupting emotional learnings and relational expectations that have been festering inside and maintaining her recalcitrant symptoms and maladaptive behaviors.

In essence, the first part of the statement involves activating the brain's limbic system by bringing into conscious awareness the internal record of unmastered early-on relational traumas stored, unprocessed, in the patient's right (emotional) brain and the self-limiting narratives that were constructed as a result.

The second part of the statement—informed as it is by coherent intention—deactivates the limbic system arousal and activates the prefrontal executive functioning of the brain as the patient looks ahead and, from brain consciousness to body consciousness, envisions an alternative, preferred reality, takes embodied ownership of her need to change, and, going forward, commits to action in alignment with that inspired vision.

In essence, the second part of the statement involves deactivating the limbic system by bringing to bear the perspective, vision, and analytic wisdom of the patient's left (rational) brain and therefore a more evolved perspective.

Co-Construction of “I” Statements

Unlike the optimally stressful statements in Models 1–4 (which are crafted by the therapist and use the pronoun “you” to reference the patient), Model 5 interventions are statements created collaboratively by both patient and therapist and use the pronoun “I” instead of you. Indeed, because quantum disentanglement statements require of the patient that she take embodied and emboldened ownership of her need to change and that she therefore set the intention

to commit to action in alignment with that going forward, it is better both that the patient contribute to the crafting of the statements and that the interventions be “I” statements.

With that said, it is still critical that the therapist have her finger ever on the pulse of the patient’s level of anxiety and capacity to tolerate the challenge of participating in the co-formulation of these optimally stressful statements. If co-creating the quantum disentanglement statements proves to be too anxiety-provoking for the patient, then it is sometimes better for the therapist simply to wait until a more opportune moment and, for the time being, to revert to the perhaps more familiar (and comfortable) psychodynamically informed Models 1–4.

Dual Awareness

Quantum disentanglement statements require of the patient that she be able to hold in mind, simultaneously, two realities (one past and one present). In other words, they require of the patient that she be able to maintain dual awareness—of both the emotional knowledge contained in her body consciousness and the analytic wisdom contained in her brain consciousness.

If these disentanglement statements are thoughtfully enough formulated and convincingly enough repeated, then they will foster the dual awareness (that is, both remembering the past and bringing to bear the perspective of the present) needed to generate incentivizing, cognitive-

emotional-somatic dissonance between the experience of *old bad* and the experience of *new good*—whether actual or simply envisioned.

On the one hand, the patient needs to be able to pay attention to the *old bad*; on the other hand, she needs to be able to set intention for *new good*.

On the one hand, she needs to be able to re-experience the thoughts, feelings, and sensations associated with the target symptom, the formative experience, and the derivative narratives; on the other hand, she needs to be able to bring to bear her vision for the future, her recognition of the need to change, and her commitment to act.

Whether the dual awareness is said to involve body consciousness and brain consciousness, somatic intelligence and cognitive intelligence;

implicit awareness and explicit awareness, or right (emotional) brain and left (analytic) brain, the goal in Model 5 is for embodied quantum disentanglement statements (with assistance from the three adjunctive statements) to generate enough incentivizing cognitive, emotional, and somatic dissonance—between learned expectation of *old bad* and envisioned (or actual) experience of *new good*—that the tension thereby created will provide the impetus needed for transformation and advancement of the patient toward a more adaptive resolution.

The following concepts are relevant for the first part of a disentanglement statement: right brain; emotional brain; feeling brain; emotional knowledge; emotional wisdom; wisdom of the body; somatic intelligence; implicit knowing;

experiencing (participating) ego; mindfulness; paying attention; somatic memories; sensations evoked in the body; sensorimotor consciousness; visceral reactions; autonomic reactivity; body consciousness; mindful awareness; limbic system arousal; less-evolved sensory awareness; remembering; retrieval; reactivation; revisiting; negative; past; old; target symptom; formative experience; derivative narrative; limiting belief; learned expectation; disempowering preconception; rigidity; fixed reality; outdated; entrenched; deeply embedded; implicitly held; procedurally organized; distressing symptom; maladaptive behavior; and refractory inertia, to name a few.

The following concepts are relevant for the second part of a disentanglement statement: left

brain; rational brain; thinking brain; analytic brain; analytic wisdom; observing (reflecting) ego; intentionality; setting intention; primacy of vision, perspective, distance; neocortex; more-evolved psychodynamic awareness; new knowledge; new scripts; deactivation of limbic system arousal; activation of prefrontal executive functioning; revisioning; reimagining; reprocessing; envisioned alternatives; positive; new; future; going forward; empowering belief; actual or envisioned experience that disconfirms learned expectation; affirming belief; openness; flexibility; alternative realities (states of mind); future possibilities; potential; updated; ownership of need to change; and commitment to action, to name a few.

Hemispheric Synchronization to Balance the Brain

It is generally accepted that engaging both sides of the brain will promote hemispheric synchronization and optimization of brain functioning, which has been shown to improve overall physical and mental well-being and to optimize physical and mental performance (Lombard 2009).

Interestingly, most people favor one hemisphere over the other, although electroencephalographic (EEG) studies have demonstrated that humanity's greatest philosophers, thinkers, inventors, and artists use both hemispheres together (Church 2014).

So how can both sides of the brain be activated at the same time in order to facilitate both mindful retrieval of *old bad* and intentioned commitment to *new good*, such that those experiences (one deriving from the past and the other deriving from the present) can be juxtaposed?

Because each hemisphere has sensory and motor control of the opposite side of the body, moving both sides of the body at the same time and in a rhythmic fashion will facilitate brain integration, as happens, for example, with walking, playing the piano, typing on a keyboard, or knitting. Even more facilitative will be cross-lateral movements that involve crossing the midline of the body with an arm and/or a leg in order to engage both sides of the brain in a

balanced fashion and to strengthen the corpus callosum (Schmidt 2008).

Brain gym exercises are also useful. And if you can learn to be more ambidextrous, it will promote hemispheric synchronization. On average, ambidextrous people are more adaptable and more emotionally resilient (Schmidt 2008).

Alternatively, one can practice any of the following exercises (using both hands simultaneously): stir two cups of coffee, pick up two objects, catch two balls, throw two wads of paper into a waste basket (tossing one overhand and the other underhand), draw two pictures, write with both hands, and learn to juggle (Schmidt 2008).

Interestingly, if shown the words for colors but with word and color mismatched, your right brain will try to say the color, whereas your left brain will insist on reading the word.

At any given moment, one of your nostrils is more open than the other, and this alternates in a rhythmic fashion over the course of the day (Schmidt 2008). When your right nostril is more open, brainwave activity is greater in the left brain; by the same token, when your left nostril is more open, brainwave activity is greater in the right brain. In other words, whenever the nostril dominance switches, so does the activity of the brain hemisphere. Hemispheric dominance therefore naturally shifts back and forth over the course of the day.

You can deliberately shift hemispheric dominance by closing one nostril and focusing your attention on breathing through the other nostril. As an exercise, do alternate nostril breathing to balance out your brain.

Parenthetically, comparing the temperature in one ear to the temperature in the other (using a sensitive aural thermometer) provides a clever and convenient way to assess hemispheric dominance. Fred Schiffer (1999) has made the fascinating discovery that when one side of the brain is being preferentially activated, then blood flow on that side will be shunted away from the ear to the more centrally located cerebral cortex, such that the temperature in the ear on that side will become somewhat lower than the temperature in the ear on the other side of the

brain, namely, on the side of the brain not being activated! When both sides of the brain are stimulated with bilateral alternating stimulation, an aural thermometer will indeed easily demonstrate equalization of the temperatures in the ears, signifying hemispheric synchronization and optimization of brain functioning (Schiffer 1999).

Along these same lines, Marcel Kinsbourne (1983), a prominent neuroscientist at Tufts University, performed a remarkable study in which he demonstrated that when subjects were asked to perform a verbal memory task, which is primarily a left-brain function, they performed better when gazing to the right. Kinsbourne ultimately concluded that looking to the right stimulates the left brain and looking to the left

stimulates the right brain, which means, at least in theory, that you can manipulate the side of your brain that you want to be more active by looking in the opposite (contralateral) direction.

So when you want to win an argument with somebody, stand to their left so that you can look to your right, which has the advantage of not only engaging your rational left brain but also forcing them to use their emotional right brain (Kinsbourne 1983).

Years earlier, Roger Drake (1985) and his associates at the University of Colorado had conducted a number of studies in which they too had found that subjects could do a verbal task faster if they gazed to the right (thereby engaging their left brain) whereas subjects could do a

spatial task more quickly if they gazed to the left (thereby engaging their right brain). They too had concluded that you could affect which side of your brain would become activated by simply looking to one side or the other.

Although these various studies are intriguing, obviously more scientific research will need to be conducted over time. But what this research does accomplish is to highlight what, intuitively, many of us probably already know, namely, that the two sides of the brain are responsible for different functions and that the brain will function optimally when there is seamless integration between those two sides.

Optimizing the Therapeutic Action of Model 5

How does all this relate to the brain-based Model 5?

Any technique that activates both sides of the brain will expedite the therapeutic action in Model 5, which relies upon being able to tap into both the emotional knowledge residing in the patient's right brain (along with its memory of the past) and the analytic wisdom of the patient's left brain (along with its vision for the future).

First of all, because quantum disentanglement statements are co-created (with contributions from both patient and therapist), both the patient's right brain and her left brain will be engaged in the therapeutic action.

Second, as the patient listens to the co-created statements (some of which she will recite along

with the therapist, some of which she will simply repeat after the therapist), she should be encouraged to close her eyes and rhythmically to shift them back and forth (at whatever pace feels intuitively right to her). Engaging both sides of the brain in this way will promote retrieval, reactivation, reprocessing, and reconsolidation of the traumatic memory as the patient repeatedly relives *old bad* and envisions *new good*.

Both the *rapid eye movements* that accompany dreams (which, according to Freud (1900), facilitate the processing and reprocessing of unresolved *day residue*) and the *eye movements* that characterize EMDR (which, according to Shapiro (2017), facilitate “desensitization and reprocessing” of traumatic memories) expedite the processing and

reprocessing of unresolved, emotionally distressing experiences. Whether through REM sleep (by night) or EMDR therapy (by day), bilateral alternating stimulation appears to optimize the functioning of the brain.

Intuitively, this makes sense. In general, when you close your eyes, there will be less interference from outside stimuli, which will heighten your sensitivity to all that is emerging from your body consciousness and intensify the mental clarity that you can bring to bear on it from your brain consciousness.

Although it is probably not feasible to suggest that the patient juggle during her sessions, when the therapist is offering brain-based Model 5 interventions, it might be useful for the therapist

to instruct the patient to relax, to close her eyes, perhaps to shift her eyes back and forth behind her closed lids, and to do something like crossing her legs or her ankles in order to create an optimal environment for tapping into the emotional knowledge of her body consciousness (which holds the negatively charged memory of *old bad*) and the analytic wisdom of her brain consciousness (which holds the positively charged vision of *new good*).

First Diagnose, Then Treat

In the words of the motivational author Louise Hay(1984), “If you are going to clean the house, you have to see the dirt.”

The first part of a quantum disentanglement statement involves mindful attention to outdated mental schemas, implicit memories, embodied beliefs, emotional learnings, and relational expectations, which will indeed enable the patient to see what needs to be cleaned up.

In the words of the hypnotherapist Stephen Richards, “To dream by night is to escape your life. To dream by day is to make it happen” (as cited in Woodall 2015).

The second part of a quantum disentanglement statement involves intentioned action in alignment with what is truly valued, which will indeed enable the patient to make her dreams reality.

Loosely speaking, Model 5 quantum disentanglement statements first *diagnose* in order to highlight the problem areas (that is, to determine where the dirt lies) and then *treat* in order to address those problem areas (that is, by envisioning a clean house).

Repeatedly and forcibly juxtaposing *old bad* (reactivated and verbalized in the first part of the statement) and *new good* (envisioned and committed to in the second part of the statement) will ultimately generate enough internal tension between reactivated outdated narratives and envisioned updated narratives that there will be sufficient impetus for quantum disentanglement (or decoupling) of the patient from the disempowering narratives—now unlocked—that had fueled her inertia and, in their place, the

locking in of empowering narratives that will fuel her action going forward.

Format of Model 5 Disentanglement Statements

Prototypical disentanglement statements can have any number of formats. What most matters, however, is that while the patient is recalling in vivid, emotional, and visceral detail the early-on traumatic memory and the negative meaning she had ascribed to it, she must also be envisioning something different and better, be acknowledging that she knows she needs to change, and be committing to positive action going forward, such that a sharp contrast will be created between learned expectation and envisioned alternative.

As examples, any of the following formats will work well:

- “Even though I [visualize and verbalize *old bad*], I [can envision the possibility of *new good*, take ownership of my need to change, and, going forward, hereby commit to acting in alignment with that].”
- “Even though I [am remembering and reliving *old bad*], I [can envision the possibility of freeing myself from all that and hereby commit to taking the steps necessary to get better].”
- “Even though [target symptom, formative experience, and derivative narrative], I [can envision the possibility of getting better, take ownership of the need to change how I position myself in my life, and hereby hereby commit to acting in alignment with what I know I need to do in order to make my dream a reality].”

- “Even as I [am remembering, reliving, and reactivating *old bad*], I [am setting intention for *new good* and committing to actualize it].”
- “Even though I [feel *old bad*], I [know *new good*].”

These statements juxtapose the relived experience of *old bad* with the envisioned possibility of *new good* going forward—*new good* that disconfirms the learned expectation of *old bad*.

Examples of Quantum Disentanglement Statements

The following Model 5 statements—some of which were co-created by me with my patients and many of which were co-created by my students with their patients—are, of course, out of context. Hopefully, however, they will offer

the reader a sense of how powerfully effective they can be in creating jolting and embodied mismatch experiences that will then prompt adaptive updating of old, disempowering, and growth-disrupting narratives by jumpstarting intentioned action designed to actualize potential.

These statements can and should be repeated again and again—both during the therapy session and between times—so that their message really sinks in.

“I always feel so worried that no one will listen to me. I feel that I do not have a right to speak my truth. I was never allowed to speak up in my family and was always silenced. I was made to feel so invisible—and so irrelevant. I remember how awful it felt to be so ignored all the time. My body trembles as I remember—and I feel sick to my stomach. I just hated being pushed to the side and

being told that I did not matter. It broke my heart. My chest is feeling so tight. I remember that I used to try to make myself really small so that I would not take up too much space. It was awful I felt so unloved!

“But I can envision the possibility of someday feeling good enough about who I am that I will be able to present myself to the world without apology and without self-consciousness. I will have a voice and will use it to express how I really feel. I know that I will need to start taking risks that, to this point, I have avoided taking because I was so afraid. But I know that I need to speak up and let my voice be heard. I want this so bad. I am so tired of holding myself back and being always in the shadows. I've got this! I can do it!”

“I shun social contact and hide myself away and carry a gun to try to feel safe in this community where so many men now in power were my 'johns' when I was a child.

They held me in their power and tormented me. But I can now almost envision expanding the safety I feel in my church to a larger world.”

“I feel the cold dread of my step-father’s driving me to have sex with strange men. I want to flee and hide away, but I can see there must be another way out toward safety. I just need to commit to making myself take care of myself and to believing that I am no longer that vulnerable child I once was.”

“I feel dirty and hate myself, but I know I deserve better. I know I deserve to love myself and to feel good about who I am. I am hereby committing to showering and washing my hair daily.”

“Even though I cannot imagine ever finding work that would enable me both to express myself and to make enough money to support myself because my parents were always undermining how I felt about myself and my ability to make good choices for

myself, I can imagine that I might someday be able to give myself permission to go where my heart leads me and to find creative ways to figure out the financial piece—so I hereby commit to exploring, with greater freedom, my range of options going forward.”

“Even though I feel damaged and broken inside because of how my brother sexually abused me for all those years, I can envision the possibility of someday feeling better about myself as I take more ownership of the fact that I was not really a victim of his abuse because I really liked the attention he was paying me and certainly could have stopped doing it with him at any point. I have come to realize that I got more from him than I was getting from my alcoholic parents. And, although I hate to admit this, it made me sad when it stopped. So I am not really a victim—I know I made a choice then and can make choices going forward.”

“Even though I am convinced that I will never get the weight off and will always feel terrible about my body because of how often I was shamed as a kid for being too fat, I can envision the possibility that, at some point, I might be able to feel better about my body—so I know I will need to change my relationship to food. I know that I need to get serious about doing some form of intermittent fasting and I hereby commit to researching my options so that I can eventually have the body I have always dreamed of having.”

“Even though I have always felt self-conscious and awkward in public because my father was always so critical of how I looked and what I was wearing, which I just hated, I can envision the possibility of someday feeling good about how I look and comfortable in my own skin and I am committed to making more of an effort to look good when I go out and to buy myself some of the clothes that I

know would help me feel better about myself.”

“Even though I have all sorts of preconceptions about how I will inevitably be hurt if I open myself up to getting involved with a man again, I can envision the possibility of someday letting go of my ridiculously distorted ideas based on the messages I always received from my mother about how men were all about taking advantage of their women.”

“Even though my right brain is terrified of driving because I can’t shake the memory of what had happened when my father was driving drunk and we had that terrible accident and I vomited because I was so incredibly upset, my left brain knows that if I drive carefully and pay close attention, then there is no need for me to be afraid because I am a good driver and am always very careful.”

“Even though I feel that my brain doesn’t work very well and that I am not as smart as other people (and certainly not as smart as my sister), I can envision the possibility of someday feeling more confident about the way my mind works and hereby commit to making every effort to create optimal challenges for myself instead of always holding back for fear of failing.”

“I feel that I am a shell and don’t have a self. I can’t afford to feel intense feelings. I generally don’t allow myself to feel deeply. I was hurt irrevocably when I was young. My father was so cruel and so violent. It was terrifying. And my mother did nothing to help. So it’s important that I play it safe and that I have no feelings of great intensity. I’m not going to go there. I do not want to be connected to people in that way. I can’t risk being vulnerable in that way. I might fall apart. I might come undone. I might break. I don’t want to be that vulnerable, even if I have to give up connection. I’m not going

there. If I open myself up that deeply, I will get deeply hurt again. I may get destroyed. It will reawaken the old feelings of unbearable heaviness, sadness, heartbreak, and untenable loss. Nope. Not going there.

“But I can envision the possibility of a different way of acting, reacting, and interacting in the world—of ‘being’ and ‘doing.’ Working within the context of a safe, nurturing, and loving therapeutic relationship, I can envision the possibility of growing a concrete sense of self and of being able to start taking the risk of experiencing intense feelings. I can envision wanting, even yearning, to be deeply connected to the people I love in the world. I can envision wanting to be vulnerable so that I can experience deeper meaning and joy in life that only come with open-hearted and deep connection. I really want to go there. Damn, I want to go there! YES, I will get hurt, but I will not be destroyed. YES, I will experience loss, but it will not be unbearable. The

burdens may feel heavy at times, but they will not crush me. I will certainly survive, but quite possibly, I will THRIVE!

“I take ownership of my need to reposition myself in my life, to be more open, to take more risks. I CAN DO THIS— I KNOW I CAN.

“And I hereby commit to being more bold and more ‘out there,’ going forward.

“I know that I will not be able to accomplish these lofty goals without the loving, sensitive, and kind support of my therapist, who will be my wise guide, life-sustaining nurturer, accountability officer, and exuberant cheerleader! We will do this together!!”

“Even though I generally assume that people will be critical of me because my parents were so unrelentingly judgmental, I can envision the possibility that someday I might be able to free myself of my self-

consciousness and take more ownership of my right to be on this earth.”

“Even though I am entangled with old narratives deriving from early-on unmastered relational traumas that limit my capacity to move forward, I can envision updating those narratives such that I will be better equipped to take charge of my life going forward.”

“Even though I worry all the time about my body and that some part of me is dying, I know that’s not true. My body is strong and resilient and is not going to get sick. I want to let the panic and dread go so that I can feel healthy and strong. And it really helps me that my therapist also believes that I will be OK.”

“I generally feel such dread, terror, aloneness, sadness, heartbreak, scared, like a failure, so defeated, so stuck in the panic, so frightened, so panicked, so hurt, so betrayed, and so alone. But sometimes I can envision the possibility that I might someday be able to

feel calmer, more hopeful, less alone, less anxious, less panicked—if I could but let myself feel confident in my body and could let myself disentangle from the old illness scenario from the old pneumonia days and early-on baby stage of being left so alone with my panic, my terror, my overwhelm, and my difficulty keeping myself going. But it’s different now, and I have capacity where before I had only need. I am strong, resilient, capable, and not alone. I am surrounded by people who love me and believe in me. I’ve got this. I can do it!”

“Even though I feel so alienated from everybody because I was never made to feel that I belonged when I was a kid, I can envision the possibility of someday being able to feel less alienated. I take ownership of my need to put myself out there more and I hereby commit to being more actively engaged in my life going forward.”

Summary

In review, quantum disentanglement statements, which form the backbone of the therapeutic action in Model 5, bring to bear the analytic wisdom of the patient's left brain (that is, her brain consciousness) on belated processing of reactivated traumatic memories stored in her right brain (that is, her body consciousness). Repetitive use of these quantum disentanglement statements, against the backdrop of secure attachment to a therapist who encourages, supports, and guides, will ultimately create the internal cognitive, emotional, and visceral dissonance needed to provoke dramatic destabilization of the patient's dysfunctional status quo and restabilization at a new and more evolved level of homeostasis.

UNDERSTANDING LIFE BACKWARD AND LIVING LIFE FORWARD

Interdependence of All Five Modes of Therapeutic Action—Clinical Vignette

To demonstrate the five different therapeutic modes in action, I present now a clinical vignette featuring Jessica, a married, 35-year-old lawyer with whom I have had the pleasure of working (twice a week) for the past four years.

During every session, I intuitively shift, moment by moment, between and among five positions:

**Model
1**

- the classical psychoanalytic perspective, which emphasizes *cognitive* and involves the *ego*
 - enhancement of knowledge
 - neutral observer in order to facilitate enhancement of knowledge *within*
-

**Model
2**

- the self psychological perspective, which emphasizes *affective* and involves the *self*
 - provision of experience
 - empathic selfobject in order to provide a corrective experience *for*
-

**Model
3**

- the contemporary relational perspective, emphasizes *relational* and involves the *self-in-relation*
 - engagement in relationship
 - relational object in order to engage in authentic relationship *with*
-

**Model
4**

- the existential-humanistic perspective, which emphasizes *existential* and involves the *private self*
- facilitation of surrender

- devoted presence and holding environment in order to facilitate surrender to moments of tender meeting *between*
-

**Model
5**

- the quantum-neuroscientific perspective, which emphasizes both *brain-based* and *action-oriented* and involves both the *possible self* and the *future self*
 - envisioning of possibilities
 - reality-based, action-oriented visionary in order to facilitate envisioning of possibilities *beyond*
-

Model 1 (from *resistance* to *awareness*): As Jessica has come to understand, over the course of her treatment, that her lifelong concerns about whether she is smart enough, her shame about her “slow processing speed,” her difficulty formulating her ideas clearly and concisely, and the painful awkwardness she experiences in social situations because of her “terror of being found out and found lacking” are primarily a story about her “desperate desire to get it right” for her father. Although he is now deceased, he was a high-powered academic whom she had adored and who, although not overtly critical, had always demanded perfection, whether of himself or of those around him. Over time, Jessica has become increasingly aware of how her own (now internalized) need for perfection so often

interferes with her capacity to think on her feet and to present herself favorably when she is out in the world.

Model 2 (from *relentless hope* to *acceptance*):
Jessica is beginning to confront—and grieve—the pain of her disappointment that her mother, although ostensibly “there” for her, was so preoccupied with her own anxieties and insecurities that Jessica was never really able to “find” her mother. Jessica is slowly letting herself remember how she, even as a young child, had felt terribly lonely and disconnected from everyone. Jessica has been gradually coming to terms with the heartbreak that she feels in relation to her mother, has been slowly working through the periodic disappointment and upset that she feels in relation to me when I do not always “get

it exactly right,” and has been progressively making her peace with the reality that her husband, despite his best efforts, is simply not always going to be as emotionally responsive as she would have wished he could be. No longer as intent upon extracting from the objects of her desire what they do not have to give, her relentless hope has been steadily giving way to sober, mature acceptance.

Model 3 (from *re-enactment* to *accountability*): Jessica has come to appreciate all the ways in which she compulsively and unwittingly sets up others (including me) to fail her in the very ways—albeit somewhat attenuated—that her parents had failed her, such that she ends up feeling ever criticized, shamed, judged, unsupported, alone, and “unmet.” But as a result

of negotiating at our *intimate edge* (Ehrenberg 1992) the disruptions that periodically erupt in the relationship that she has forged with me (where I represent all those who have failed her), Jessica is beginning to recognize, and take responsibility for, how often she proactively recreates on the stage of her life (and in the treatment with me) her past heartbreaks and failures—disappointments fueled by her desperate desire for a different, better outcome every next time.

Model 4 (from *relational absence* to *accessibility*): Although outwardly pleasant and compliant, Jessica is privately mistrustful, is fiercely self-reliant, and needs always to be the one in control—both in her life and, not surprisingly, during our sessions. For her to be

able to feel at all safe with me, it has been critically important that her every wish be my command. Over the course of our four years together, however, Jessica has slowly and steadily begun to let herself surrender to depending upon and even needing me, has allowed herself to experience occasional *moments of meeting* (Guntrip 1969; Stern 2004) between us, and has dared to let herself believe that I might truly care about her. Once “lost,” she is inching forward with respect to allowing herself to be “found” as she delivers more and more of her most vulnerable, most precious, and most tender self into the relationship with me—and, simultaneously, into the relationship with her husband and several (now) close friends.

Model 5 (from *refractory inertia* to *action* and *actualization of potential*): Despite all the hard work that we had done in Models 1–4, there remained an issue between us that Jessica and I had not been able to touch, namely, the extra 25 to 30 pounds that she had carried on her small frame since her early teens. The excess weight was a source of tremendous shame and self-loathing. Yes, we had come to understand that although the extra weight made her feel awful about herself and terribly self-conscious, it did also serve to protect her from feeling exposed, vulnerable, and “out there.”

Furthermore, her weight had long been an understated bone of contention between her and her father, who shunned self-indulgence, was himself extremely disciplined, and had always

prided himself on how trim he was. Jessica's refusal to deal with her weight also served, therefore, as a silent protest against her father and his "superficial" concerns about "appearance."

Psychodynamic understanding of the issues underlying her weight was clearly not impetus enough for her to take action. Jessica still carried the excess pounds. In the fourth year of our work together, however, we came to a mutual decision, namely, that it was time to target her weight, despite whatever discomfort, anxiety, or upset doing so might cause her. Together we challenged her to envision the possibility that she might someday be able to inhabit her body with pleasure and pride; we insisted that she take ownership of her desperate and secret desire to have a "sexy body"; and I implored her never to

lose sight of the fact that she no longer needed the extra pounds for self-protection. Most importantly, we agreed that, going forward, she simply had to get serious about actually shedding those extra pounds.

We therefore proceeded to co-construct numerous Model 5 quantum disentanglement “I” statements designed to juxtapose her current experience of shame, self-loathing, and helplessness with an empowered vision of herself as having a trimmed-down, firm, sexy body that she would feel comfortable in and proud of.

With her eyes shifting back and forth behind her closed lids and vividly remembering the humiliation and self-contempt she had so often

experienced when with her father, Jessica would periodically recite the following:

“I feel such shame about my body and I hate my insatiable appetite and the relationship that I have with food, but I am determined to confront my fears and to get serious about going on a diet.”

“Even though I hate my body and feel disgusted by all my fat and I really hate my stomach and everything sags and I hate myself for being unable to go on a diet that works, I know that it is ‘on me’ to get serious about dieting and to commit to changing my unhealthy eating habits so that I can feel comfortable in my body and can start to live again.”

“I am so scared of putting myself ‘out there’ because I am terrified of being rejected, but if I really want to get better, I know that I will need to do a lot of things differently going forward.”

“Even though I have such shame about my body and feel such despair about ever being able to feel comfortable being me, I desperately

want to lose the weight so that I don't have to keep hiding from the world. I am determined to do whatever I might need to do in order to get the damn weight off."

"Even though I am terrified that I won't be able to do it and I hate myself for feeling so powerless, I know that I have it in me to do this because this is hugely important to me and I need to remember that I have ultimately been able to do everything else that I have challenged myself with."

"I am so disgusted with myself for being fat and worry that I will be fat forever, but I know that I need to stop feeling sorry for myself and get serious about going on a proper diet."

"I hate how my father, when I was growing up, would always watch what I was eating and he would make little comments that made me feel so horrible inside and so self-conscious about my fat body, but I know that I need to let all that go now. I look ahead to a time when I can feel proud of my body and confident when I am around people."

“That was then, this is now.”

With eyelids closed and eyes shifting alternately left and then right, left and then right, Jessica would repeat these statements, and others just like it, over and over again—both in the session with me and when she was at home alone.

Within the context of her ever-evolving trust in me and bolstered by her experience of me as genuinely rooting for her, Jessica has finally been able to embark upon an extremely effective, and at times exhilarating, intermittent fasting regimen. For the first time in her adult life, Jessica has now been losing weight—and at a reasonable, sustainable rate. She is down 20 pounds already—and feels that she is currently “inhabiting” her body in a way that she had never before deemed possible. For the first time since I

have known her, Jessica has even begun to talk about feeling happy, grounded, and confident. Parenthetically, she also looks terrific.

It is clear to me that Jessica would never have been able to lose the weight had we not, together, decided that it was time to target the issue head-on and insist that she envision her dream body, own the need to reposition herself in relation to food, and commit to getting serious about a strict diet.

CONTROVERSY SURROUNDING THE CONCEPT OF MEMORY RECONSOLIDATION

Critics of the Concept of Therapeutic Memory Reconsolidation

The idea that therapeutic memory reconsolidation is potentially able entirely to delete long-established, deeply embedded, implicitly held emotional learnings and procedurally organized relational expectations is, understandably, a bit of a stretch for many scientists and clinicians to embrace because it

flies in the face of the generally accepted view about the robust tenacity of traumatic memories.

Indeed, the many naysayers of the concept insist that older, well-consolidated traumatic memories that were laid down early on in life in the presence of strong emotion—and stored in “specialized subcortical implicit memory circuits” (Roosendaal et al. 2009)—and then reinforced over time can never truly be simply erased. These naysayers insist that traumatic memories have an inherent durability that makes them indelible; they—like diamonds—are simply forever and last a lifetime.

In other words, once consolidated in long-term memory, the memory is thought to be permanently installed. Witness, for example, the

poignant reminder by Bessel van der Kolk (2015), an internationally renowned trauma expert, that the body retains for always (“the body keeps the score”) the imprint of severe trauma—its impact, both psychological and physiological, permanently “encoded in the viscera” (p. 88).

Critics of the concept of memory reconsolidation go on to protest that research studies involving primarily simple, contrived exposures of animals to threatening or fear-inducing conditions in a scientific laboratory are not generalizable and cannot therefore be realistically applied to complex, emotionally charged, human experiences resulting from cumulative trauma over time, such as happens with post-traumatic stress disorders.

These naysayers also assert that reconsolidation, even if it does exist, probably has temporal limits, effective at best for recent but not remote memories. There is also the open question as to how long the therapeutic changes brought about by therapeutic memory reconsolidation can actually last.

Proponents of the Concept of Therapeutic Memory Reconsolidation

Nonetheless, over the course of the past 15 to 20 years, as the concept of therapeutic memory reconsolidation has become more grounded in empirical research (both in the laboratory and in the clinical setting), it has begun to get some traction from numbers of prominent neuroscientific researchers and avant-garde

clinicians (Lane et al. 2014; Ecker et al. 2012, 2013)—a few of whom I will now quote.

In 2003, Karim Nader, a well-respected reconsolidation researcher at McGill University, published an article in the prestigious journal *Trends in Neurosciences* in which he stated, “The idea that new memories are initially 'labile' and sensitive to disruption before becoming permanently stored in the wiring of the brain has been dogma for >100 years. Recently, we have revisited the hypothesis that reactivation of a consolidated memory can return it to a labile, sensitive state—in which it can be modified, strengthened, changed, or even erased” (p. 65).

In a 2006 article, the prominent neuroscientist Yadin Dudai, whose research interests focus on

the neurobiology of learning and memory (for which he received, in 2013, the prestigious IPSEN Foundation Longevity Prize for his outstanding achievement in memory research) notes, “Ample evidence suggests that upon their retrieval, items in long-term memory enter a transient special state, in which they ... become prone to change. The process that generates this state is dubbed 'reconsolidation'” (p. 174).

Initially a skeptic, the clinical psychologist David Feinstein (2015) has more recently become another strong voice in the field of memory reconsolidation, claiming that “studies in labs and clinical settings using both animal and human subjects” all point to memory reconsolidation as “the way new experiences are incorporated into established models of how the world works and

one's place in it" (Feinstein 2015, p. 42). Feinstein goes on to write that this appears to be "nature's key for chemically unlocking the synapses that maintain deep learnings established in the past during highly charged emotional experiences, and for allowing them to be reconsolidated in a new way based on more recent experiences" (p. 42).

Finally, in a 2020 article, the esteemed Satoshi Kida, a professor in the University of Tokyo Department of Applied Biological Chemistry, writes, "There are an increasing number of findings suggesting that destabilization following retrieval facilitates the modification, weakening, or strengthening of the original memory, and the resultant updated memory is stabilized through reconsolidation." He goes on

to remark, “Reconsolidation could be targeted therapeutically to improve emotional disorders such as post-traumatic stress disorder and phobia” (Kida 2020, p. 95).

Narrowing the Translational Gap

Admittedly, memory reconsolidation remains a topic for much heated debate in the scientific literature. Before it will be more widely accepted that traumatic memories can be permanently erased, obviously research findings will need to be more internally consistent, more readily reproducible, and less open to alternative interpretations. These, of course, are future challenges that must be resolved before the concept will be more broadly accepted.

There is, however, hope. Although neuroscientific research on memory reconsolidation is in its early stages and findings remain controversial and difficult to replicate, as understanding of its underlying mechanism becomes ever more refined, there will indeed be the potential for its use with all manner of psychological syndromes, treatments for which, to this point, have remained elusive.

But the dedicated group of neuroscientists who study learning and memory and the neuroscientifically inclined mental health practitioners who are similarly impassioned all have faith in the transformational power of judiciously rendered brain-based therapeutic interventions that tap into the brain's resilience and capacity to adapt, structurally and

functionally, to new experiences that disconfirm learned expectations—if the interventions are offered by an experienced, compassionate clinician who is ever empathically attuned to the level of the patient’s anxiety and ability to tolerate further challenge.

Finally, with respect to any new theoretical model that heralds a paradigm shift, it is important to remember that “...Even a very oversimplified model may be quite useful in the early stages of a theoretical investigation...” (Rachevsky 1966, p. 167). Sadly, it is all too true that the “lapse between a new discovery and its implementation in clinical practice,” which has been described as a “translational gap,” can take close to 20 years for the fundamental shift in

perspective to become more generally accepted
(Church & Feinstein 2017, p. 199).

FROM DETERMINISM TO FREE WILL

In sum, by way of optimally stressful interventions, all five modes of therapeutic action in my Psychodynamic Synergy Paradigm (albeit with different foci and at different paces) enable the patient to revisit, reprocess, and reintegrate experiences that had once been overwhelming (and therefore defended against) but that can now —albeit belatedly— be processed, integrated, and adapted to. The net result of this reprocessing (whether graduated, step-by-step, characterized by minor avalanches, and involving memory integration or sudden, more decisive, characterized by major avalanches, and involving

memory reconsolidation) will be transformation of psychological rigidity into psychological flexibility.

More specifically, PSP aims to advance patients from rigid defense to more flexible adaptation; from defensive reaction informed by body consciousness to adaptive response informed by brain consciousness; from mindless reactivity to intentioned responsivity; from less evolved to more evolved; from disempowered as a result of being entangled with the toxicity of the past to empowered as a result of decoupling from the toxicity of the past and envisioning alternative realities going forward; and from being controlled by subconscious mental schemas, infantile attachments, relentless pursuits, and compulsive re-enactments to

liberation from the past and taking control of one's destiny going forward.

With respect to Model 5, at the heart of its therapeutic action is the neuroplastic synergy of mindfulness (that is, paying attention to the present moment, always with compassion and never judgment, in order to discover the self-limiting and disempowering beliefs that are fueling the patient's refractory inertia) and intentionality (that is, setting the intention to commit to action in the present that will enable the patient, going forward, to live in more harmony with the vision that she has for her future).

The repetitive and ongoing generation of embodied mismatch experiences—by

juxtaposing, within the reconsolidation window, learned expectations and envisioned possibilities —is the sine qua non for memory reconsolidation, the net result of which will be quantum disentanglement of the past from the present, elimination of the target symptom and its behavioral sequelae, and advancement of the patient from refractory inertia to self-actualizing action as a result of updating the mental programs that had been maintaining the patient’s paralysis and thwarted potential.

Indeed, whereas the psychoanalytically informed Models 1–4 involve understanding life backward and appreciating that the patient’s history is her destiny, the constructivist Model 5 involves living life forward and appreciating that the patient has within her the power to create her

destiny—such that she will be able to embrace love, work, and play to her greatest potential going forward.

Ann Landers's (1996) simple but profound advice is very much to the point here, "Nobody gets to live life backward. Look ahead, that is where your future lies."

References

- Alberini CM. 2005. Mechanisms of memory stabilization: Are consolidation and reconsolidation similar or distinct processes? *Trends Neurosci* Jan;28(1):51-56.
- Alberini CM. 2008. The role of protein synthesis during the labile phases of memory: Revisiting the skepticism. *Neurobiol Learn Mem* Mar;89(3):234-246.
- Alberini CM, Milekic MH, Tronel S. 2006. Mechanisms of memory stabilization and destabilization. *Cell Mol Life Sci* May;63(9):999-1008.
- Amen DG. 2020. *The End of Mental Illness: How Neuroscience Is Transforming Psychiatry and Helping Preventing or Reverse Mood and Anxiety Disorders, ADHD, Addictions, PTSD, Psychosis, Personality Disorders, and More.* Carol Stream, IL: Tyndale Momentum.

- Archbold G, Bouton M, Nader K. 2010. Evidence for the persistence of contextual fear memories following immediate extinction. *Eur J Neurosci* Apr;31(7):1303-1311. doi: 10.1111/j.1460-9568.2010.07161.x.
- Argyle N, Solyom C, Solyom L. 1991. The structure of phobias in panic disorder. *Brit J Psychiat* 159(3):378-382.
- Arora S, Aggarwal R, Sirimanna P, Moran A, Grantcharov T, Kneebone R, Sevdalis N, Darzi A. 2011. Mental practice enhances surgical technical skills: A randomized controlled study. *Obstet Gynecol Surv* 66(6):336-338. doi: 10.1097/OGX.0b013e31822c17e1.
- Associated Press (Los Angeles). 23 Feb 1988. *Man "Cures" Mental Illness by Shooting Self in Brain.*
<https://apnews.com/6a8f8156d2adf449b4b8e390682f27d7>.
- Bak P. 1996. *How Nature Works: The Science of Self-Organized Criticality.* New York, NY: Copernicus (Springer).

- Ball P. 2018. *Beyond Weird: Why Everything You Thought You Knew about Quantum Physics Is Different*. Chicago, IL: University of Chicago Press.
- Bandler R, Grinder J. 1990. *Frogs into Princes: The Introduction to Neuro-Linguistic Programming*. Open Library | Eden Grove Editions.
- Battenberg JR, Rigney M. 2010. *Eye Yoga: How You See Is How You Think*. Minneapolis, MN: Langdon Street Press (a division of Hillcrest Publishing Group, Inc.).
- Beck AT. 1979. *Cognitive Therapy and the Emotional Disorders*. New York, NY: Plume Books.
- Bell JS. 2004. *Speakable and Unsayable in Quantum Mechanics: Collected Papers on Quantum Philosophy* (2nd ed.). New York, NY: Cambridge University Press.
- Bergmann U. 2019. *Neurobiological Foundations for EMDR Practice* (2nd ed.). New York, NY: Springer Publishing Company.
- Bipolar Network News*. 2012. Opening the reconsolidation window to extinguish fear

memories: A new conceptual approach to psychotherapeutics. Retrieved from Potential Treatments. <http://www.bipolarnews.org/?p=1361>.

Bowles M. 2019. An integrated rapid memory reconsolidation approach: Rapid resolution therapy. *The Neuropsychotherapist* 7(1):43-54.

Braden G. 2006. *The Divine Matrix: Bridging Time, Space, Miracles, and Belief*. Carlsbad, CA: Hay House.

Braid J. 2013. *The Discovery of Hypnosis: The Complete Writing of James Braid, the Father of Hypnotherapy* (2nd rev. ed.). lulu.com.

Cahill L, Prins B, Weber M, McGaugh JL. 1994. Beta-adrenergic activation and memory for emotional events. *Nature* Oct 20;371(6499):702-704. doi: 10.1038/371702a0.

Campbell D. 1997. *The Mozart Effect: Tapping the Power of Music to Heal the Body, Strengthen the Mind, and Unlock the Creative Spirit*. New York, NY: Avon Book.

Cherry NJ. 2003. Human intelligence: The brain, an electromagnetic system synchronized by the Schumann Resonance signal. *Med Hypotheses* Jun;60(6):843-844. doi: 10.1016/s0306-9877(03)00027-6.

Church D. 2014. *The Genie in Your Genes: Epigenetic Medicine and the New Biology of Intention* (3rd ed.). Fulton, CA: Energy Psychology Press.

Church D, Feinstein D. 2017. The manual stimulation of acupuncture points in the treatment of post-traumatic stress disorder: A review of clinical emotional freedom techniques. *Med Acupunct* Aug 1;29(4):194-205. doi: 10.1089/acu.2017.1213.

Connelly J. 2019. *Life Changing Conversations with Rapid Resolution Therapy*. Boca Raton, FL: Institute for Rapid Resolution Therapy.

Coubard O. 2016. An integrative model for the neural mechanism of eye movement desensitization and reprocessing (EMDR). *Front Behav Neurosci* Apr 5;10:52. doi: 10.3389/fnbeh.2016.00052.

- Coughlin P. 2016. *Maximizing Effectiveness in Dynamic Psychotherapy*. New York, NY: Routledge / Taylor & Francis Group.
- Coughlin P. 2018. *Intensive Short-Term Dynamic Psychotherapy: Theory and Technique*. New York, NY: Routledge / Taylor & Francis Group.
- Cousins N. 2001. *Anatomy of an Illness as Perceived by the Patient: Reflections on Healing and Regeneration*. New York, NY: WW Norton & Company.
- Craig G. 2011. *The EFT Manual* (2nd ed.). Fulton, CA: Energy Psychology Press.
- Crossley M, Lorenzetti FD, Naskar S, O'Shea M, Kemenes G, Benjamin PR, Kemenes I. 2019. Proactive and retroactive interference with associative memory consolidation in the snail *Lymnaea* is time and circuit dependent. *Commun Biol* Jun;2:242. doi: 10.1038/s42003-019-0470-y.
- Davanloo H. 1977. *Short-Term Dynamic Psychotherapy*. Northvale, NJ: Jason Aronson.
- de Cabo R, Mattson M. 2019. Effects of intermittent fasting on health, aging, and disease. *New Engl J*

Med Dec 26;381:2541-2551. doi:
10.1056/NEJMra1905136.

de Shazer. 1994. *Words Were Originally Magic*. New York, NY: WW Norton & Company.

Dewar M, Cowan N, Della Sala S. 2007. Forgetting due to retroactive interference: A fusion of Muller and Pilzecker's (1900) early insights into everyday forgetting and recent research on anterograde amnesia. *Cortex* Jul;43(5):616-634. doi: 10.1016/s0010-9452(08)70492-1.

Diamond MC, Scheibel AB, Murphy GM, Harvey T. 2017. On the brain of a scientist: Albert Einstein. *Exp Neurol* Apr;88(1):198-204.

Dispenza J. 2012. *Breaking the Habit of Being Yourself: How to Lose Your Mind and Create a New One*. Carlsbad, CA: Hay House.

Doidge N. 2007. *The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science*. City of Westminster, London, England: Penguin Books.

Dossey L. 2003. *Healing Beyond the Body: Medicine and the Infinite Reach of the Mind*. Boulder, CO:

Shambhala Publications.

Drake RA, Bingham BR. 1985. Induced lateral orientation and persuasibility. *Brain Cognition* 4:156-164.

Dudai Y. 2006. Reconsolidation: The advantage of being refocused. *Curr Opin Neurobiol* Apr;16(2):174-178. doi: 10.1016/j.conb.2006.03.010.

Dudai Y, Karni A, Born, J. 2015. The consolidation and transformation of memory. *Neuron* Oct 7;88(1):20-32. doi: 10.1016/j.neuron.2015.09.004.

Duvarci S, Nader K. 2004. Characterization of fear memory reconsolidation. *J Neurosci* 24(42):9269-9275. doi: 10.1523/jneurosci.2971-04.2004.

Ecker B. 2015. Memory reconsolidation understood and misunderstood. *Int J of Neuropsychotherapy* Jan;3(1):2-46. doi: 10.12744/ijnpt.2015.0002-0046.

Ecker B, Bridges S. 2020. How the science of memory reconsolidation advances the

effectiveness and unification of psychotherapy.
Clin Soc Work J Apr 22.
<https://doi.org/10.1007/s10615-020-00754-z>.

Ecker B, Hulley L. 1995. *Depth Oriented Brief Therapy: How to Be Brief When You Were Trained to Be Deep and Vice Versa*. San Francisco, CA: Jossey-Bass Inc.

Ecker B, Ticic R, Hulley L. 2012. *Unlocking the Emotional Brain*. New York, NY: Routledge / Taylor & Francis Group.

Ecker B, Ticic R, Hulley L. 2013. A primer on memory reconsolidation and its psychotherapeutic use as a core process of profound change. *The Neuropsychotherapist* 1:82-99. doi: 10.12744/tnpt(1)082-099.

Ecker B, Toomey B. 2008. Depotentiation of symptom-producing implicit memory in coherence therapy. *J Constr Psychol* 21:87-150. doi: 10.1080/10720530701853685.

Eden D, Feinstein D. 2008. *Energy Medicine: Balancing Your Body's Energies for Optimal*

Health, Joy, and Vitality. New York, NY: Jeremy P Tarcher (Penguin Random House).

Ehrenberg D. 1992. *The Intimate Edge: Extending the Reach of Psychoanalytic Interaction*. New York, NY: WW Norton & Company.

Ellis A, Ellis DJ. 2011. *Rational Emotive Behavior Therapy*. Washington, DC: American Psychological Association.

Eroglu C, Barres B. 2010. Regulation of synaptic connectivity by glia. *Nature* Nov 11;468(7321):223-231. doi: 10.1038/nature09612.

Erwin E. (ed.). 2003. *The Freud Encyclopedia: Theory, Therapy, and Culture* (1st ed.). New York, NY: Routledge / Taylor & Francis Group.

Ethell I. 2018. *Brain's 'support cells' play active role in memory and learning*. <https://www.medicalnewstoday.com/articles/322203>.

Feinstein D. 2015. How energy psychology changes deep emotional learnings. *The Neuropsychotherapist* Jan;10: 38-49.

- Feinstein D. 2019. Energy psychology: Efficacy, speed, mechanisms. *Explore* 15(5):340-351.
- Fosha D. 2000. *The Transforming Power of Affect: A Model for Accelerated Change*. New York, NY: Basic Books.
- Frankl V. 2006. *Man's Search for Meaning*. Boston, MA: Beacon Press.
- Frederickson J. 2013. *Co-Creating Change: Effective Dynamic Therapy Techniques*. Kansas City, MO: Seven Leaves Press.
- Frederickson J. 2017. *The Lies We Tell Ourselves: How to Face the Truth, Accept Yourself, and Create a Better Life*. Kansas City, MO: Seven Leaves Press.
- Freud S. 1919. Lines of advance in psycho-analytic therapy. *Standard Edition of the Complete Psychological Works of Sigmund Freud* 17:157-168. London, UK: Hogarth Press.
- Freud S. 1937. Analysis terminable and interminable. *Standard Edition of the Complete Psychological Works of Sigmund Freud* 23:209-253. London, UK: Hogarth Press.

- Freud S. 1940. An outline of psycho-analysis. *Int J Psycho-Anal* 21:27-84.
- Gendlin ET. 1998. *Focusing-Oriented Psychotherapy: A Manual of the Experiential Method*. New York, NY: Guilford Press.
- Gisquet-Verrier P, Lynch JF 3rd, Cutolo P, Toledano D, Ulmen A, Jasnow AM, Riccio DC. 2015. Integration of new information with active memory accounts for retrograde amnesia: A challenge to the consolidation/reconsolidation hypothesis? *J Neurosci* Aug 19;35(33):11623-11633. doi: 10.1523/JNEUROSCI.1386-15.2015.
- Gisquet-Verrier P, Riccio DC. 2018. Memory integration: An alternative to the consolidation / reconsolidation hypothesis. *Prog Neurobiol* Dec;171:15-31.
- Gisquet-Verrier P, Riccio DC. 2019. Memory integration as a challenge to the consolidation/reconsolidation hypothesis: Similarities, differences and perspectives. *Front Syst Neurosci* Jan 11;12:1-11. doi: 10.3389/fnsys.2018.00071.

- Gold PE. 2008. Protein synthesis inhibition and memory: Formation vs amnesia. *Neurobiol Learn Mem* Mar;89(3):201-211.
- Gold CM, Tronick E. 2020. *The Power of Discord: Why the Ups and Downs of Relationships Are the Secret to Building Intimacy, Resilience, and Trust*. New York, NY: Little, Brown and Company.
- Grauds C. 2005. *The Energy Prescription: Give Yourself Abundant Vitality with the Wisdom of America's Leading Natural Pharmacist*. New York, NY: Bantam Books.
- Greenberg L. 2016. *Emotion-Focused Therapy*. Washington, DC: American Psychological Association.
- Guntrip H. 1969. *Schizoid Phenomena, Object Relations and the Self*. Madison, CT: International Universities Press.
- Hamman D, Gosselin K, Romano J, Bunuan R. 2010. Using possible-selves theory to understand the identity development of new teachers. *Teaching and Teacher Education* Oct;26(7): 1349-1361.

- Haraldsson E, Thorsteinsson T. 1972. Psychokinetic effects on yeast. An exploratory experiment. *Research in Parapsychology*, 1973, pp. 20-21. Metuchen, NJ: Scarecrow Press.
- Hart W. 2011. *The Art of Living: Vipassana Meditation as Taught by S. N. Goenka*. Seattle, WA: Pariyatti Publishing.
- Havens L. 1976. *Participant Observation*. Northvale, NJ: Jason Aronson.
- Hay L. 1984. *You Can Heal Your Life*. Carlsbad, CA: Hay House.
- Hayes SC, Strosahl K, Wilson KG. 2016. *Acceptance and Commitment Therapy: The Process and Practice of Mindful Change* (2nd ed.). New York, NY: Guilford Press.
- Hebb DO. 1949. *The Organization of Behavior: A Neuropsychological Theory* (1st ed.). Marblehead, MA: John Wiley & Sons Inc.
- Heider J. 1986. *The Tao of Leadership: Lao Tzu's Tao Te Ching Adapted for a New Age*. Lake Worth, FL: Humanics Publishing Group.

- Hoge EA, Bui E, Palitz SA, Schwarz NR, Owens ME, Johnston JM, Pollack MH, Simon NM. 2018. The effect of mindfulness meditation training on biological acute stress responses in generalized anxiety disorder. *Psychiat Res* Apr;262:328-332. doi: 10.1016/j.psychres.2017.01.006..
- Howard K, Kopta SM, Krause MS, Orlinsky DE. 1986. The dose-effect relationship in psychotherapy. *Am Psychol* 41(2):159-164. doi: 10.1037/0003-066X.41.2.159.
- Hupbach AI, Gomez R, Hardt O, Nadel L. 2007. Reconsolidation of episodic memories: A subtle reminder triggers integration of new information. *Learn Memory* 14:47-53.
- Ireland T. 2014. What does mindfulness meditation do to your brain? Guest Blog / *Sci Am*—Jun 12.
- Isaacson W. 2008. *Einstein: His Life and Universe*. New York, NY: Simon & Schuster.
- Kabat-Zinn J. 2003. Mindfulness-based interventions in context: Past, present, and future. *Clin Psychol-Sci Pr* 10:144-156. doi: 10.1093/clipsy.bpg016.

- Kandel E. 2012. *Principles of Neural Science* (5th ed.). New York, NY: McGraw-Hill Education.
- Kassin SM, Kiechel KL. 1996. The social psychology of false confessions: Compliance, internalization, and confabulation. *Psychol Sci* 7:125-128. doi: 10.1111/j.1467-9280.1996.tb00344.x.
- Kauffman C. 2006. Positive psychology: The science at the heart of coaching. In DR Stober & AM Grant (eds.), *Evidence Based Coaching Handbook: Putting Best Practices to Work for Your Clients* (pp. 219-253). Marblehead, MA: John Wiley & Sons Inc.
- Keyes LE. 1973. *Toning: The Creative Power of the Voice*. Carmarillo, CA: DeVorss & Co.
- Khalifa S, Touzet CF. 2017. EMDR therapy mechanisms explained by the theory of neural cognition. *J Trauma Stress Disor Treat* 6(4). doi: 10.4172/2324-8947.1000179.
- Khan M. 1972. Dread of surrender to resourceless dependence in the analytic situation. *Int N Psychoanal* 53(2):225-230.

- Kida S. 2020. Function and mechanisms of memory destabilization and reconsolidation after retrieval. *P Jpn Acad B-Phys* Mar 11;96(3):95-106. doi: 10.2183/pjab.96.008.
- Kierkegaard S, Hannay A. 1996. *Papers and Journals: A Selection*. City of Westminster, London, England: Penguin Classics.
- Kindt M. 2018. The surprising subtleties of changing fear memory: A challenge for translational science. *Phil Trans R Soc B: Biol Sci* Jan;373(1742). doi: 10.1098/rstb.2017.0033.
- Kinsbourne M. 1983. Lateral input may shift activation balance in the integrated brain. *Am Psychol* 38(2):228-229. doi: 10.1037/0003-066X.38.2.228.
- Kirsch I. 2004. Conditioning, expectancy, and the placebo effect: Comment on Stewart-Williams and Podd (2004). *Psychol Bull* Mar;130(2):341-343. doi: 10.1037/0033-2909.130.2.341.
- Knekt P, Lindfors O, Laaksonen MA, Renlund C, Haaramo P, Harkanen T, Virtala E, and the Helsinki Psychotherapy Study Group. 2011.

Quasi-experimental study on the effectiveness of psychoanalysis, long-term and short-term psychotherapy on psychiatric symptoms, work ability and functional capacity during a 5-year follow-up. *J Affect Disorders* 132(1-2):37-47. doi: 10.1016/j.jad.2011.01.014.

Krebs CT. 1998. *A Revolutionary Way of Thinking*. Melbourne, Australia: Michelle Anderson Publishing.

Krebs CT, O'Neill McGowan T. 2013. *Energetic Kinesiology: Principles and Practice*. Williston, VT: Handspring Publishing.

Lametti D. 2010. How to Erase Fear—in Humans. *Sci Am* Mar 23. <https://www.scientificamerican.com/article/how-to-erase-fear-in-humans/>

Landers A. 1996. *Wake Up and Smell the Coffee!: Advice, Wisdom, and Uncommon Good Sense*. New York, NY: Villard Books.

Landin-Romero R, Moreno-Alcazar A, Pagani M, Amann B. 2018. How does eye movement desensitization and reprocessing therapy work?

A systematic review on suggested mechanisms of action. *Front Psychol* Aug 13;9:1395. doi: 10.3389/fpsyg.2018.01395.

Lane RD, Ryan L, Nadel L, Greenberg L. 2015. Memory reconsolidation, emotional arousal, and the process of change in psychotherapy: New insights from brain science. *Behav Brain Sci* 38:e1. doi: 10.1017/S0140525X14000041.

Lee JL, Everitt BJ, Thomas KL. 2004. Independent cellular processes for hippocampal memory consolidation and reconsolidation. *Science* May 7;304(5672):839-843.

Lee JL, Nader K, Schiller D. 2017. An update on memory reconsolidation updating. *Trends Cogn Sci* Jul;21(7):531-545. doi: 10.1016/j.tics.2017.04.006.

Leibenluft E, Wehr T. 1992. Is sleep deprivation useful in the treatment of depression? *Am J Psychiat* Feb;149(2):159-168. doi: 10.1176/ajp.149.2.159.

Leichsenring F, Rabung S. 2008. Effectiveness of long-term psychodynamic psychotherapy: A

meta-analysis. *J Amer Med Assoc*
Oct;300(13):1551-1565.

Levine PA. 1997. *Waking the Tiger: Healing Trauma*
(1st ed.). Berkeley, CA: North Atlantic Books.

Linehan MM. 2014. *DBT Skills Training Handouts
and Worksheets* (2nd ed.). New York, NY:
Guilford Press.

Lipton B. 2015. *The Biology of Belief 10th
Anniversary Edition: Unleashing the Power of
Consciousness, Matter, and Miracles*. Carlsbad,
CA: Hay House.

Loftus E, Ketcham K. 1996. *The Myth of Repressed
Memory*. New York, NY: Macmillan Publishers.

Lombard J. 2009. *Balance Your Brain, Balance Your
Life*. Hoboken, NJ: Wiley.

Lonergan MH, Olivera-Figueroa LA, Pitman R,
Brunet A. 2013. Propranolol's effects on the
consolidation and reconsolidation of long-term
emotional memory in healthy participants: A
meta-analysis. *J Psychiatr Neurosci*
Jul;38(4):222-231. doi: 10.1503/jpn.120111.

- McGaugh JL. 1966. Time-dependent processes in memory storage. *Science* Sep 16;153(3742):1351-1358.
- McGaugh JL. 2000. Memory—a century of consolidation. *Science* Jan 14;287(5451):248-251.
- McKenzie S, Eichenbaum H. 2011. Consolidation and reconsolidation: Two lives of memories? *Neuron* 71:224-233.
- McTaggart L. 2008. *The Field: The Quest for the Secret Force of the Universe*. New York, NY: Harper Perennial.
- Manfield P. 2016. Memory reconsolidation and EMDR therapy. Presentation at the 21st EMDR International Association Conference, Minneapolis, MN.
- Mann J. 1973. *Time-Limited Psychotherapy*. Cambridge, MA: Harvard University Press.
- Mao SC, Hsiao YH, Gean PW. 2006. Extinction training in conjunction with a partial agonist of the glycine site on the NMDA receptor erases

memory trace. *J Neurosci* Aug 30;26(35):8892-8899.

Marchand WR. 2014. Neural mechanisms of mindfulness and meditation: Evidence from neuroimaging studies. *World J Radiol* Jul 28;6(7):471-479. doi: 10.4329/wjr.v6.i7.471.

Marchant NL, Howard RJ. 2015. Cognitive debt and Alzheimer's disease. *J Alzheimers Dis* 44(3):755-770. doi: 10.3233/JAD-141515.

Markus HR, Nurius P. 1986. Possible selves. *Am Psychol* 41:954-969.

Martin SJ, Grimwood PD, Morris RG. 2000. Synaptic plasticity and memory: An evaluation of the hypothesis. *Annu Rev Neurosci* 23:649-711.

Maslow A. 2011. *Toward a Psychology of Being* (1st ed.). Eastford, CT: Martino Fine Books.

Miller M. 2018. Envisioning your way to success: The power of mental practice. Blog. doi: 6seconds.org/2018/01/15/envisioning-way-success-incredible-power-mental-practice/.

- Miller WR, Rollnick S. 1992. *Motivational Interviewing: Preparing People to Change Addictive Behavior*. New York, NY: Guilford Press.
- Mitchell S. 1988. *Relational Concepts in Psychoanalysis: An Integration*. Cambridge, MA: Harvard University Press.
- Modell A. 1993. *The Private Self*. Cambridge, MA: Harvard University Press.
- Monfils MH, Cowansage KK, Klann E, LeDoux JE. 2009. Extinction-reconsolidation boundaries: Key to persistent attenuation of fear memories. *Science* 324(5929):951-955.
- Mundra R. 2019. *The 1% Club: 7 Hacks to an XtraOrdinary Life*. Chennai, India: Notion Press.
- Nader K. 2003. Memory traces unbound. *Trends Neurosci* Feb;26(2):65-72.
- Nader K, Schafe GE, LeDoux JE. 2000. Fear memories require protein synthesis in the amygdala for reconsolidation after retrieval. *Nature* 406(6797):722-726. doi: 10.1038/35021052.

- Nedergaard M. 2013. Garbage truck of the brain. *Science* Jun 28;340(6140):1529-1530. doi: 10.1126/science.1240514.
- Ogden P, Pain C, Minton K. 2006. *Trauma and the Body: A Sensorimotor Approach to Psychotherapy*. New York, NY: WW Norton & Company.
- Oken BS. 2008. Placebo effects: Clinical aspects and neurobiology. *Brain: A Journal of Neurology* Nov;131(11):2812-2823. doi: 10.1093/brain/awn116.
- Omilian S. 2010. *The Thriver Workbook: Journey from Victim to Survivor to Thriver!* Hartford, CT: The Butterfly Bliss Productions LLC.
- Oschman J. 2000. *Energy Medicine: The Scientific Basis*. New York, NY: Churchill Livingstone.
- Oxman TE et al. 1995. Lack of social participation or religious strength and comfort as risk factors for death after cardiac surgery in the elderly. *Psychosom Med* 57:5-15.
- Paracelsus T. 2004. *The Archidoxes of Magic*. Turn R, trans. Newburyport, MA: Ibis Press / Nicolas

Hays.

Pavlov IP. 2003. *Conditioned Reflexes*. Mineola, NY: Dover Publications.

Pedreira ME, Perez-Cuesta LM, Maldonado H. 2004. Mismatch between what is expected and what actually occurs triggers memory reconsolidation or extinction. *Learn Memory* 11:579-585. doi: 10.1101/lm.76904.

Pesso A. 1969. *Movement in Psychotherapy: Psychomotor Techniques and Training*. New York, NY: New York University Press.

Pischinger A. (1991). *Matrix and Matrix Regulation: Basis for a Holistic Theory in Medicine*. Brussels, Belgium: Haug International.

Powell LH, Shahabi L, Thoresen CE. 2003. Religion and spirituality: Linkages to physical health. *Am Psychol* Jan;58(1):36-52.

Przybylski J, Sara SJ. 1997. Reconsolidation of memory after its reactivation. *Behav Brain Res* Mar;84(1-2):241-246. doi: 10.1016/s0166-4328(96)00153-2.

- Rachevsky N. 1966. A neurobiological model of schizophrenias and their possible treatment. *B Math Biophys* 26:167-185.
- Ramos RG, Olden K. 2008. Gene-environment interactions in the development of complex disease phenotypes. *Int J Env Res Pu* Mar 30;5(1):4-11. doi: 10.3390/ijerph5010004.
- Ranganathan VK, Siemionow V, Liu JZ, Sahgal V, Yue GH. 2004. From mental power to muscle power—gaining strength by using the mind. *Neuropsychologia* 42(7):944-956. doi: 10.1016/j.neuropsychologia.2003.11.018.
- Rea WJ, Patel K. 2010. *Reversibility of Chronic Degenerative Disease and Hypersensitivity, Vol. 1: Regulating Mechanisms of Chemical Sensitivity*. Boca Raton, FL: CRC Press / Taylor & Francis Group.
- Roosendaal B, McEwen BS, Chattarji S. 2009. Stress, memory and the amygdala. *Nat Rev Neurosci* Jun;10(6):423-433. doi: 10.1038/nrn2651.
- Rossouw, PJ. 2014. Neuropsychotherapy: *Theoretical Underpinnings and Clinical Applications* (1st

ed.). Charleston, SC: CreateSpace Independent Publishing Platform.

Rubin RD, Fried F, Franks CM (1969). New application of ECT. In RD Rubin & C Franks (eds.), *Advances in behavioral therapy*, 1968 (pp. 37-44). New York, NY: Academic Press.

Saimpont A, Lafleur MF, Malouin F, Richards CL, Doyon J, Jackson PL. 2013. The comparison between motor imagery and verbal rehearsal on the learning of sequential movements. *Front Hum Neurosci* 7:773. doi: 10.3389/fnhum.2013.00773.

Schafer L. 2013. *Infinite Potential: What Quantum Physics Reveals About How We Should Live*. New York, NY: Penguin Random House.

Schafer R. 1994. *Retelling a Life: Narration and Dialogue in Psychoanalysis*. New York, NY: Basic Books.

Schiffer F, Anderson CM, Teicher MH. 1999. Electroencephalogram, bilateral ear temperature, and affect changes induced by lateral visual field stimulation. *Compr Psychiatry* May-

Jun;40(3):221-225. doi: 10.1016/s0010-440x(99)90007-x.

Schiller D, Monfils MH, Raio CM, Johnson DC, LeDoux JE, Phelps EA. 2010. Preventing the return of fear in humans using reconsolidation update mechanisms. *Nature* Jan 7;463(7277):49-53.

Schleich C. 1894. *Schmerzlose Operationen*. Berlin, Germany: Verlag von Julius Springer.

Schlichting ML, Preston AR. 2015. Memory integration: Neural mechanisms and implications for behavior. *Curr Opin Behav Sci* Feb;1:1-8.

Schmidt M. 2008. Using both sides of your brain: The case for rapid interhemispheric switching. *PLoS Biol* Oct 28;6(10):e269. doi: 10.1371/journal.pbio.0060269.

Schwartz RC. 1997. *Internal Family Systems Therapy* (1st ed.). New York, NY: Guilford Press.

Seligman M. 2006. *Learned Optimism: How to Change Your Mind and Your Life*. New York, NY: Vintage.

- Selye H. 1978. *The Stress of Life* (2nd ed.). New York, NY: McGraw-Hill Education.
- Shapiro F. 2017. *Eye Movement Desensitization and Reprocessing (EMDR) Therapy: Basic Principles, Protocols, and Procedures* (3rd ed.). New York, NY: Guilford Press.
- Shaw J. 2017. *The Memory Illusion: Remembering, Forgetting, and the Science of False Memory*. New York, NY: Random House.
- Shedler J. 2010. The efficacy of psychodynamic psychotherapy. *Am Psychol* Feb-Mar;65(2):98-109. doi: 10.1037/a0018378.
- Schiffer F. 1998. *Of Two Minds: The Revolutionary Science of Dual Brain Psychology*. New York, NY: Free Press.
- Shapiro F. 1989. Efficacy of the eye movement desensitization procedure in the treatment of traumatic memories. *J Trauma Stress* 2(2):199-223.
- Shapiro F. 2017. *Eye Movement Desensitization and Reprocessing (EMDR) Therapy: Basic*

Principles, Protocols, and Procedures. New York, NY: Guilford Press.

Siegel DJ. 1999. *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are.* New York, NY: Guilford Press.

Siegel DJ. 2018. *Aware: The Science and Practice of Presence—The Groundbreaking Meditation Practice.* New York, NY: TarcherPerigee.

Sifneos P. 1992. *Short-Term Anxiety-Provoking Psychotherapy: A Treatment Manual* (1st ed.). New York, NY: Basic Books.

Small D. 2015. *The Origins of Unhappiness: A New Understanding of Personal Distress.* New York, NY: Routledge / Taylor & Francis Group.

Solomon R, Shapiro F. 2008. EMDR and the adaptive information processing model: Potential mechanisms of change. *Journal of EMDR Practice and Research* 2(4):315-325. doi: 10.1891/1933-3196.2.4.315.

Stark M. 1994. *Working with Resistance.* Northvale, NJ: Jason Aronson.

Stark M. 1999. *Modes of Therapeutic Action: Enhancement of Knowledge, Provision of Experience, and Engagement in Relationship*. Northvale, NJ: Jason Aronson.

Stark M. 2008. Hormesis, adaptation, and the sandpile model. *Crit Rev Toxicol* 38(7):641-644.

Stark M. 2012. The sandpile model: Optimal stress and hormesis. *Dose Response* 10(1):66-74.

Stark M. 2015. *The Transformative Power of Optimal Stress: From Cursing the Darkness to Lighting a Candle* (International Psychotherapy Institute eBook). www.FreePsychotherapyBooks.org.

Stark M. 2016. *How Does Psychotherapy Work?* (International Psychotherapy Institute eBook). www.FreePsychotherapyBooks.org.

Stark M. 2017. *Relentless Hope: The Refusal to Grieve* (International Psychotherapy Institute eBook). www.FreePsychotherapyBooks.org.

Stark M. 2019. *Relentless Despair, The Private Self, and A Life Unlived* (International Psychotherapy Institute eBook). www.FreePsychotherapyBooks.org.

- Starr D. 2019. This psychologist explains why people confess to crimes they didn't commit. *Science* Jun 13.
- Sterba RF. 1968. *Introduction to the Psychoanalytic Theory of the Libido* (3rd ed.). Levittown, PA: Brunner/Mazel Publishers.
- Stern DN. 2004. *The Present Moment in Psychotherapy and Everyday Life*. New York, NY: WW Norton & Company.
- Tang YY, Holzel BK, Posner MI. 2015. The neuroscience of mindfulness meditation. *Nat Rev Neurosci* Apr;16(4):213-225.
- Taren AA, Creswell JD, Gianaros PJ. 2013. Dispositional mindfulness co-varies with smaller amygdala and caudate volumes in community adults. *PLoS One* May 22;8(5):e64574. doi: 10.1371/journal.pone.0064574.
- Tomatis AA. 1992. *The Conscious Ear*. Barrytown, NY: Station Hill Press.
- Tronick E, Beeghly M. 2011. Infants' meaning-making and the development of mental health

problems. *Am Psychol* Feb-Mar;66(2):107-119. doi: 10.1037/a0021631.

van der Kolk B. 2015. *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma*. City of Westminster, London, England: Penguin Books.

Vaupel JW, Carey JR, Christensen K, Johnson TE, Yashin AI, Holm NV, Iachine A, Kannisto V, Khazaeli AA, Liedo P, Longo VD, Zeng Y, Manton KG, Curtsinger JW. 1998. Biodemographic trajectories of longevity. *Science* May 8;280(5365):855-860. doi: 10.1126/science.280.5365.855.

Verkhatsky A, Butt A. 2007. *Glial Neurobiology: A Textbook*. West Sussex, London, England: John Wiley & Sons, Ltd.

Verkhatsky A, Nedergaard M. 2018. Physiology of astroglia. *Physiol Rev* 98(1):239-389. doi: 10.1152/physrev.00042.2016.

Vredeveltdt A, Hitch GJ, Baddeley AD. 2011. Eye closure helps memory by reducing cognitive load

and enhancing visualization. *Mem Cognition* 39:1253-1263. doi: 10.3758/s13421-011-0098-8.

Walker MP, Brakefield T, Hobson JA, Stickgold R. 2003. Dissociable stages of human memory consolidation and reconsolidation. *Nature* Oct 9;425(6958):616-620. doi: 10.1038/nature01930.

Wang SH. 2018. Novelty enhances memory persistence and remediates propranolol-induced deficit via reconsolidation. *Neuropharmacology* Oct;141:42-54. doi: 10.1016/j.neuropharm.2018.08.015.

Wang SH, Ostlund SB, Nader K, Balleine BW. 2005. Consolidation and reconsolidation of incentive learning in the amygdala. *J Neurosci* Jan 26;25(4):830-835. doi: 10.1523/JNEUROSCI.4716-04.2005.

Watts A. 2011. *The Wisdom of Insecurity: A Message for an Age of Anxiety*. New York, NY: Vintage Books.

Wever RA. 1979. *The Circadian System of Man: Results of Experiments Under Temporal*

Isolation. New York, NY: Springer-Verlag. doi:
10.1002/food.19810250733.

Wilde O. 2005. *The Importance of Being Earnest*.
Smyrna, DE: Prestwick House Inc.

Winnicott DW. 1960. The theory of the parent-infant
relationship. *Int J Psychoanal* 41:585-595.

Winnicott DW. 1990. *The Maturation Processes and
the Facilitating Environment*. London, UK:
Karnac Books.

Wolpe J. 1958. *Psychotherapy by Reciprocal
Inhibition*. Redwood City: CA: Stanford
University Press.

Woodall T. 2015. Goal Getting Podcast: Helping You
Get the Goals You Set.
<http://goalgettingpodcast.com/qod19/>.

Zinzin Group Inc. 2020. Alloy—Personal Training
Fitness Brand.
[https://www.zinzin.com/work/cs/alloy-personal-
training-fitness-brand/](https://www.zinzin.com/work/cs/alloy-personal-training-fitness-brand/).