

Advance Praise

"*Somatic-Oriented Therapies* is a wonderful collection exploring the vital territory between mind, brain, body, and relationships. It is especially gratifying—years after I was both fascinated and moved by the writings of Wilhelm Reich and Ida Rolf—to see so many integrative ideas becoming part of the mainstream of psychotherapeutic thinking. This is a book that I will continue to read and reread in years to come. It will help all of us to deepen our understanding and appreciation of the indivisible unity of mind, brain, body, and relationships."

—Louis Cozolino, PhD, professor of psychology, Pepperdine University

"During the past few decades, the Polyvagal Theory has contributed to a framework for several somatically-based therapies. The readers of this volume will be enriched in their understanding by this inclusive theory. In this comprehensive volume, many of the contributors pay homage to Stephen Porges's breathtaking theory—a rare gift to a generation of practitioners and their clients."

—Peter A. Levine, PhD, author of *An Unspoken Voice, How the Body Releases Trauma and Restores Goodness*, and *An Autobiography of Trauma*

"Imagine an in-depth, compassionate, and science-packed compendium of practical, clinically focused chapters that provide both an introduction and deep dive into the application of body-based awareness in psychotherapy. This magnificent volume has been created with a clinician in mind, offering clear descriptions of physiological processes, accessible scientific discussions of research, and fascinating descriptions of real-life therapeutic examples applying these somatic principles in everyday practice. What an exciting offering for the waiting field of mental health!"

—Daniel J. Siegel, MD, founding editor of the Norton Series on Interpersonal Neurobiology, and *New York Times*–bestselling author of *Mind, IntraConnected*, and *Personality and Wholeness in Therapy*

"Since it is now widely understood that 'the body keeps the score' in traumatic stress, a deeper understanding of the underlying mental and neurobiological processes, and their therapeutic implications, is essential. *Somatic-Oriented Therapies* delivers precisely that: a brilliant, state-of-the-art compilation of therapeutic interventions for traumatic stress, as well as the underlying science. Read this book!"

—Bessel van der Kolk, MD, president of the Trauma Research Foundation, and author of *The Body Keeps the Score*

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Somatic-Oriented Therapies

The Norton Series on Interpersonal Neurobiology

Louis Cozolino, PhD, Series Editor

Allan N. Schore, PhD, Series Editor, 2007–2014

Daniel J. Siegel, MD, Founding Editor

The field of mental health is in a tremendously exciting period of growth and conceptual reorganization. Independent findings from a variety of scientific endeavors are converging in an interdisciplinary view of the mind and mental well-being. An interpersonal neurobiology of human development enables us to understand that the structure and function of the mind and brain are shaped by experiences, especially those involving emotional relationships.

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Somatic-Oriented Therapies

Embodiment, Trauma,
and Polyvagal Perspectives

Edited by Herbert Grassmann,
Maurizio Stupiggia,
and Stephen W. Porges



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Introduction

Herbert Grassmann and Maurizio Stupiglia

This book is intended for a professional audience interested in the field of clinical somatic-oriented therapies (SOT) as an applied science of embodiment research and treatment. It is timely and consistent with contemporary neuroscience research (e.g., Porges, 2021) that has informed trauma treatment by illuminating the importance of bodily experience for self-regulation and interaction with others in a social context. Human behavior, especially in traumatic situations, is understood as a complex and fully embodied biobehavioral process expressed in thoughts, feelings, and behaviors that are controlled by neurophysiological sensors that detect features both in our body and in the external environment. This integrated sensorimotor system dynamically adjusts aspects of physiology, perception, behavior, and motivation to enhance our ability to cope with a full range of dynamic challenges, ranging from cues of safety to those of threat.

In addition to exploring embodied practices embedded in existing psychotherapeutic practices, there is a need to examine the scientific rationale for addressing embodiment in both quantitative and qualitative research paradigms in order to provide a platform for future research programs. Indeed, somatic psychotherapy has faced tremendous challenges—in particular, we have been challenged to develop our evidence base, which has resulted in our research being published in leading peer-reviewed journals.

This volume focuses on reframing psychotherapy to go beyond dialogue, memory retrieval, and behavior to include an objective assessment of both the client's and therapist's bodily states through reliable metrics that would include monitoring autonomic function (e.g., heart rate variability) and structured questionnaires assessing bodily feelings (e.g., the Body Perception Questionnaire [Porges, 1993]; the Neuroception of Psychological Safety Scale [Morton et al., 2022]).

During the past decade, there has been a dramatic shift in psychotherapy as the impact of the body and nervous system on mental health has been acknowledged. Many forms of psychotherapy, explicitly or implicitly, now integrate an understanding of the nervous system and bodily state in their treatment models. The body of research on psychotherapy, through both clinical trials and case reports, is increasingly documenting impressive

evidence of the central role that the body, and in particular the client's nervous system, plays in the treatment of all psychological disorders, regardless of severity (Lanius et al., 2010, 2014; Cozolino, 2017; Payne et al., 2019). Complementing the empirical literature are several clinically relevant theoretical models (Nijenhuis et al., 1996; Martens et al., 2023; Rosendahl et al., 2021) linking mental processes to bodily states, including strong links that are frequently witnessed as comorbidities between mental and physical diagnoses.

Current theoretical concepts of mind-body and brain-body have led the psychotherapy community to rethink mental disorders and treatments. An increasing number of psychotherapists are recognizing the connection between mental processes and bodily function, and no longer treat them as separate entities. In fact, Allan Schore (2009) proposed that the inclusion of embodied experience in clinical practice, a process shared across several therapeutic approaches, represented a new paradigm.

The processes involved in regulating or disrupting the physiological states that underlie thoughts and behaviors are dynamically adjusting and adapting at every moment of life. Whether we focus our therapies on thoughts or behaviors, our physiological substrate is constantly adapting to optimize our survival. This is true not only from the perspective of the individual but also with respect to relationships. Thus, the coregulation that occurs between individuals reflects an embodied relationship, a crucial dimension for several psychological theories and for most forms of psychotherapy. We see this particularly in cases of trauma. From a neuroscientific perspective, trauma functionally permeates the survivor's nervous system, retuning it from a dynamic state that supports sociality and homeostatic functions (i.e., health, growth, and restoration) to a chronic state that supports defense (e.g., fight, flight, shutdown). Thus we see how trauma becomes physiologically embedded, altering the optimal trajectory of a flexible and resilient nervous system and profoundly disrupting the development of experience of self and others.

An innovative aspect of this book is the emphasis on the relational perspective of treatment. Prior to this publication, most strategies for either studying or treating trauma have focused on the client's range of functioning and identifiable features of dysfunction. Starting from the realm of body interaction and mutual coregulation, this volume emphasizes the importance of relational complexity in transforming the client's physiological and emotional regulation. In the treatment of trauma, and particularly complex trauma, the environmental and relational context is crucial and influences both the biobehavioral state of the client and therapist and the dynamic relational atmosphere created in the therapeutic setting.

For this reason, relational technical modalities that influence and normalize bodily functions are proliferating, including the following:

- Treating disorders of embodied self-awareness
- Using sensory processing as a layer of experience in human development
- Improving the capacity for embodied emotional attunement
- Integrating autonomic regulation into therapy
- Strengthening self-regulation through dyadic coregulation

The success of these technical modalities depends upon the theoretical basis on which SOTs are founded. The body-mind unity, which depends on bidirectional neural communication between brain and body, is the basic assumption upon which various forms of SOT have evolved. Thus, the current status of contemporary neuroscience provides a theoretical basis for treatments and investigations of SOT strategies within an integrated mind-body-brain theoretical model. Embodied methods could be useful in understanding difficult-to-treat conditions such as autism, chronic pain, and medically unexplained symptoms—or in the diagnosis and therapy of neurodiversity.

Reframing trauma from an event to a biological behavioral response transforms our understanding of the consequences of traumatic events. From this perspective, the traumatic event is viewed as being capable of overwhelming the survivor's neuroregulatory capacity to support underlying physiological homeostasis and observable resilient and flexible behavior and thinking. The result is a general breakdown in the client's physiological and emotional regulatory capacity, both within themselves and in relation to the world around them. Treatment becomes a gradual work of repairing these ruptures, involving both in a construction of a new form of functioning within a therapeutic framework that privileges and elevates a sense of safety as an essential condition for transformation and healing.

Complex trauma therapy can be challenging because attachment patterns, based on trust, develop within a neurobiological substrate occurring outside conscious awareness and expressed nonverbally via bodily reactions (van der Kolk et al., 2001). Mindfulness, somatic exercises, and touch-based interventions are powerful tools for revealing and studying unconscious patterns and facilitating healing. They provide an embodied experience of change within the context of a safe relationship without triggering an explanatory narrative, which would often recruit defensive memories and associations.

The Birth of the Book

This book was born out of an observation of a coincidence that two of us, Herbert and Maurizio, noticed in our own professional backgrounds. We both come from years of direct work on the body, from Rolfing and Postural Integration. Having collaborated for some time on issues related to trauma and intervention approaches to posttraumatic syndromes, we became aware of a compatible sensitivity watching the patient: an ability to pick up states and changes in the person's posture, muscle tone, and neurophysiological activation. In short, our basic approach was similar; although as body psychotherapists we came from different master teachers and different theoretical perspectives and lines of training, we found that we shared a common trust in the body.

This trust was not simply a blind reliance on the body's ability to soothe the person's pain and heal the pathological forms that the therapist might encounter; it was the understanding that we could question the body, thus finding unthought-of avenues of transformation. Often, while working together, we noticed a skill and ease in touching people. This attitude to question the body was also expressed in our use of touch, almost as if it were a kind of "knocking on the patient's front door."

At that moment, each of us revealed to the other the origin of this experience, with a certain modesty, as if it were less important compared to the unquestionable value of psychotherapy as such. The book was actually born in that moment, in our look of mutual complicity and the relief of being able to share totally our way of observing and acting with clients, as an obvious and preeminent way of approaching them. We realized that for us the body was not just a means to speed up the therapeutic process or to unhinge chronic defenses but that it was the working ground, the constant issue to work on.

That's why we were so dissatisfied with the traditional way of diagnosis and assessment, and we were looking for new tools for a different point of view. In short, we were looking for another form of approach and treatment. The origin and source had thus emerged. We had to figure out the direction of the journey we wanted to take together and assess whether the route and destination were really the same. This became evident as we observed one another in our respective ways of working with individual patients and with groups. Our formative history as body psychotherapists was different, but there was a remarkable similarity in our clinical gaze, in our choice of interventions, in our respect for the patient's time and experiences, and above all in the deeply phenomenological attitude that required us not to force the therapeutic process but to let it emerge from itself. To live this attitude fully, it was necessary to give up all ideology and prior knowledge, to have the possibility of reaching the subjectivity of the other. In each session, we tried to get to know the other person as if we were meeting him or her for the first time, rather than relearning him or her with preestablished concepts and categories. In a sense, every session was a constant beginner's workshop for us.

This way of working overshadowed the use of protocols, the exaltation of techniques, the rigidity of precoded procedures. Instead, it showed the importance of the body-to-body relationship between therapist and patient, the importance of building trust in the clinical setting as an essential condition for building a process of deep transformation.

Therefore, the meeting with Stephen Porges was inevitable: his theory, created over many years of research, was the ideal basis for our way of working and at the same time provided the explanation of what was happening in the delicate work of restoring the neurophysiological balance of traumatized people. The Polyvagal Theory is the necessary theoretical landing place for body practices that have worked for years in an intuitive and dispersed way, and that now have a home that contains them and gives them dignity and a clear scientific value.

The strong emphasis that Polyvagal Theory places on safety in therapy has thus begun to change the world of the clinic, prompting therapists to change their view, their attitude, and their way of intervening.

Overview of Concepts

Collectively, the volume supports a transformative view that somatic and psychological problems cannot be treated as separate domains. Rather, the premise of treating somatic and psychological problems with different therapeutic strategies is challenged by a perspective that integrates biological, behavioral, and neurobiological sciences and clinical

observations. Thus, a central message of the book is that no therapy will be effective unless the individual's physiology welcomes and supports it. By accepting such a perspective, the therapist's knowledge, awareness of the physiological state of both self and client, and their capacity to self- and coregulate become essential tools for therapy. As therapists, we are engaged in a deep process whose effectiveness is related to our ability to engage with issues through a combination of participant experience and case presentation. Each section of the book is organized to open new directions in treatment. Identifying competencies is an essential part of defining the somatic psychotherapy profession, and increases its credibility among other psychotherapy modalities. By establishing clear parameters for therapists, the book also contributes to the development of a more robust framework for future research in the field. We aim to highlight a few qualitative and quantitative measures of interoceptive awareness and build on the conversation about when reactions can be adaptive and lead to further embodiment—especially in the realm of self-agency or autonomy, which are arguably most important in the clinical healing process. The book introduces a variety of different clinical approaches within somatic therapy, including chapters on touch work, the relationship between fascia and emotions, deep brain realignment, posttraumatic growth, the treatment of trauma and addiction, the effect of yoga in treating sexual trauma, the benefits of creating a sense of safety during birth, and much more. We will first look at the field of current science on embodiment before using the framework of scientific thinking for the concept of embodiment, and then finally look for examples of practice in clinical application.

Part I: Research

Jacek Kolacz, research assistant professor at the Ohio State University College of Medicine, presents tools that allow autonomic tracking in the course of therapy to monitor response to treatment or to be used as biofeedback tools by bringing measurements of autonomic function into the client's explicit awareness.

Aaron Freedman, University of California, who specializes in developing methods for measuring embodiment, highlights the current tools that we have to measure interoception as a necessary component of embodiment, to separate the adaptive or maladaptive outcomes of increased embodiment, and to briefly note the clinical implications and cultural considerations.

Alessandra Pollazon, Alessio Matiz, and Cristiano Crescentini from the University of Udine focus their research on the effects of a program called Mindfulness-Oriented Meditation. They developed the MOM protocol, which appears to be a promising and significant intervention for children and adolescents with ADHD.

Vittorio Gallese, Francesca Ferroni, and Martina Ardizzi from the Department of Medicine and Surgery, Unit of Neuroscience, University of Parma, present an integrated approach to studying the nervous system in health and disease at multiple levels. The central thesis of their chapter is that early traumatic experiences influence the typical developmental course of multisensory integration processes, which can lead to damage to basic self-awareness, self-esteem, and intersubjective abilities.

Sue Carter, from the Kinsey Institute and the University of Virginia, Charlottesville, shares her lifetime achievement and expertise with love as embodied medicine. Throughout life, oxytocin influences sociality and helps to allow social experiences to influence behavior and physiology. Knowledge of the neurobiology of love helps explain the exceptional reproductive success of humans, and also our resilience in the face of fear and aggression.

Part II: The Science of Embodying

Jennifer Frank Tantia titles her chapter "Somatic Intelligence: Toward a New Competency for the Therapist." She describes how cultivating somatic awareness has the potential to become part of a new competency for psychotherapists who are interested in treating mental illness from a whole-person perspective. By using an embodied, present-moment, lived experience through somatic interventions in treatment, a therapist can offer a more complete healing process for clients.

Steven Hoskinson and Bach Ho, internationally recognized teachers and writers, propose guidelines for a safer framework of biologically informed therapeutics called Post-Trauma Growth (PTG). To promote PTG reliably and reduce harm to clients, treatments must increasingly align with the client's biology and self-organizing complexity.

Jan Winhall contributes a chapter called "The Felt Sense Polyvagal Model: Embodied Assessment and Treatment Tool." She points out that, with advances in neuroscience, somatic therapies are increasingly being recognized by potential clients as viable treatment options. However, as this field grows, assessment tools are needed that include embodied approaches that capture and honor the client's experiential process and somatic history, in addition to symptom-oriented diagnostic systems (e.g., *DSM*).

Antonia Pfeiffer takes us, in "Memory Reconsolidation in Body-Oriented Trauma Therapies," into a more profound understanding of emotional memories. Along with the history of memory research and what it can teach us, we understand better the process of memory reconsolidation.

For Raja Selvam in "The Practice of Embodying Emotions," the collective implication of this growing evidence base is that the role of the body in these primary psychological processes is so great that any psychotherapy modality that does not include the body in its treatment approach in some way is bound to have longer treatment times and less than optimal cognitive, emotional, and behavioral outcomes.

Arielle Schwartz introduces us, in "Neuroception Within Trauma Recovery: Sensing the Embodied, Social Self," to the concept of vagal regulation of the autonomic nervous system. She acknowledges that nervous system dysregulation is both an intrapersonal and interpersonal experience. Therefore, interventions focused on trauma recovery are best supported within a safe and respectful coregulating environment.

Ruby Jo Walker and Emily Newcomer, authors of "Applying the Neurobiology of Resilience," point out the limitations of a top-down approach. They emphasize that top-down interventions teach how to deal with psychological states, while bottom-up interventions aim to change physiological states. Embodiment offers an approach to resilient states

without focusing excessively on cognition. Embodiment of resilient states and deactivation practices can train the nervous system to access the ventral vagal complex, leading to the utilization of neuroplasticity for profound change.

Aline LaPierre, president of the United States Association of Body Psychotherapy, in her chapter "The Therapeutic Use of Touch: A Bridge Between Body, Brain, and Mind," shares with us perspectives on the therapeutic use of touch. She explains why the benefits of therapeutic touch are often obscured by cultural overlays. This therapy awakens our sensory and emotional blueprint and embodies our cognition to directly access the hunger for connection that underlies neurological deficits, dissociation, dysregulation, and states of trauma and fragmentation.

Robert Schleip is a German biologist, university lecturer, and psychologist. He is considered one of the leading international fascia researchers. In his chapter, "Fascia as Sensory Organ and the Role of Interoceptive Techniques," he explains why the fascia is the richest sensory organ of the human body.

Herbert Grassmann is chairman of the scientific research committee of the EABP and provides a therapeutic change of perspective with his analysis and research theses. The focus of his trauma therapy work is on sensory analysis and techniques for the necessary sensorimotor integration of the senses. For him, a traumatic event is always an attack on our senses. The focus of his chapter is therefore on the interoceptive and proprioceptive processing possibilities of our senses, as can be seen in the example of the sensory processing of visual reaction patterns.

David Berceci has contributed "Body Tremors: The Natural Restorative Mechanism of the Human Body." He describes the tremor mechanism in the human body as the experience of energy and matter dialoguing with each other in this interplay of the human organism. It is this interplay that seems to help facilitate the intra/interpersonal dialogue. Body tremors help the individual to experience their own sense of self while engaging in relationship with another.

Ken Benau, in "The Eyes (I's) Have It': Deep Brain Reorienting, Structural Dissociation, and Integration," describes a relatively new model called DBR as particularly well suited to processing somatic correlates of the deepest brain structures, including the Where Self and core self, and developmentally early nonverbal and preverbal sequelae of relational and physical trauma.

Silvia Zanotta examines, in her experiential chapter with case excerpts, the advantages of using Somatic Ego State Therapy with traumatized children.

François Le Doze contributes "The Relational Intelligence Model of Psychotherapy: A Neurobiological and Relational Approach to Treating Trauma." This model is a treatment approach for traumatic dissociation (TD) that has its origins in the internal family systems (IFS) model, Polyvagal Theory, and attachment theory.

Part III: Embodied Practice

Hanneke Kalisvaart and Pat Ogden, both pioneers in the field of trauma therapy, share their in-depth understanding of a scientifically based method of psychotherapy that

addresses the body's experiences to stabilize, process, and integrate them in the here and now in "Sensorimotor Psychotherapy: Processing Trauma and Attachment Through the Body." Their therapy turns out to be a good way of addressing experienced realities through the body.

Maurizio Stupiggia contributes a chapter titled "Being Together to Face the Trauma: Intercorporeality as the Core of Treatment." He describes the attitude of the therapist: "The therapist receives the client's gaze rather than forcing it. He does not challenge. He does not push; he stands by." Such gradual and constant attunement can produce a sense of safety. This allows access to new memories enclosed in states of arousal that never emerged before. The therapeutic dyad can thus deal with compelling and dangerous neuro-emotional states, expanding the window of engagement of the therapist-client pair.

Betsy Polatin, with her chapter "Humanal Polyvagal Smile: Our Inherent Design and Connection to Wholeness," invites us to explore awareness, discovery, and movement. You begin with curiosity, by noting where you are with yourself, your thoughts, feelings, sensations, breathing, and movement.

Jane Shaw presents SIMPLE Listening, a unique approach derived from biodynamic craniosacral therapy and other fields, which promotes physiological safety and regulation.

Marlysa Sullivan in "Supporting Safety With Movement: Polyvagal Theory as a Framework for Mindful Movement Practitioners" describes four processes of mindful movement and how they can be understood through the framework of Polyvagal Theory. These synergistic processes provide a powerful method for insight and reinforcement of safety from a body-based, experiential perspective.

Chantal Traub, in "Creating a Sense of Safety in Birth: Fostering Connection and Coregulation to Minimize Trauma for Parents and Baby," shares specific exercises and how to choreograph the birthing process, while the mom relaxes and can recruit her ventral vagal complex to bring a sense of calm and safety.

Chiara Marazzi and Maurizio Stupiggia, both teachers at Milano University, write on perinatal mortality and grief: "There is a unique type of mourning that deals with more than one death: a biological one and a psychological one. The first is the actual loss of a child; the latter is the denial of the existence of a traumatic experience. This is equivalent to a retraumatization; the baby is no longer there, and the birth hasn't even happened: death therefore becomes a sort of disappearance."

Jeltje Gordon-Lennox and David Knottnerus, psychotherapist and Emeritus Regents Professor of Sociology respectively, contribute "Ritual Practice, Addiction, Obsessive-Compulsive Behavior, and Routine: Ritual Dynamics and Human Coping Strategies." Our profound human need for a sense of safety, connection, and well-being responds to a spectrum of ritualized behaviors, from typical ritual practice to addiction to obsessive-compulsive disorder (OCD) to routine. The tool set contributes to the examination of the processes of how and why some ritualized behaviors function as adaptive buffers against the feelings of emptiness, distress, and powerlessness associated with change, hardship, and trauma, as well as to determining criteria for reducing human distress and enhancing human flourishing.

Molly Boeder Harris and Zahabiyah Yamasaki are sought-after trauma-informed yoga teachers. In their chapter, "Transcending Sexual Trauma Through Yoga: Evidence-Based

and Practical Applications for Integrating Trauma-Informed Yoga Into Your Scope of Work," they present a very gentle way of dealing with sexual trauma, because it is one of the most pervasive boundary violations that a human can endure. Survivors may experience that violation physically, psychologically, energetically, and/or spiritually.

Michael Allison, in "Turning Competition Into Coregulation: Competition Is Grounded in a State of Threat," explains how competition becomes an opportunity to elevate, a chance to challenge ourselves in ways we couldn't do on our own. It becomes an opportunity to play and coregulate. More than a mindset, our capacity to turn competition into coregulation, into play, resides in our physiology. Technically, to play we must have enough ventral vagal control of our bodily state, access to our social engagement system, and an efficient vagal brake. These are the neural mechanisms that enable a competitive environment to shift from a battlefield to a playground and make it possible to turn competition into coregulation.

Rabih Lahoud and Herbert Grassmann, in "The Free Voice: Awakening the Prosody," describe the voice as a complex instrument that allows us to connect with others, communicate, and express ourselves. Our voice is an expression of our personality and our feelings. But it is also a mirror of our nervous system. When the prosody (rhythm, intonation, etc.) of our voice conveys safety, others are drawn to connect with us and listen to us.

Donnalea Van Vleet Goelz presents her profound knowledge of somatic communication and the healing of trauma. Her chapter outlines the essential elements of Continuum Movement (CM)—breath, sound, movement, sensation, and innovation. Through these elements, we facilitate somatic communication within our bodies. This method intersects with contemporary research on trauma and the body in neuroscience, somatic psychotherapy, and other disciplines. CM's unique movement methodology helps practitioners cultivate interoception, self-regulate, and disrupt limiting bodily patterns through movement practice, thus offering a novel practice for working with trauma.

Susan Harper contributes a chapter titled "The Eros of Relational Aliveness and Continuum Inquiry." According to her, the way we perceive is a powerful force that shapes our lives and our version of reality. By actively engaging with new ways of perceiving, who we are changes through the way we behave. This affects our physical structure, our coordination, our psychological profile, the way we form relationships, and our capacity for intimacy. In the interrupted reciprocity of trauma, there is an inhibited exchange with the world and little trust in somatic intelligence and its inherent ability to heal. In the healing process, we encourage an exploratory engagement that promotes the basic goodness of the body and the goodness of the living world.