



Opinion Article

Trauma and embodied awareness: Gestalt phenomenology and psychoneuro- endocrinoimmunology – toward an integrated approach to trauma psychotherapy

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ABSTRACT

Psychological trauma is one of the most complex clinical challenges in contemporary psychotherapy because it involves the whole embodied person rather than a purely mental event. This theoretical integrative article proposes a model for understanding trauma as a multilevel interruption of organism-environment contact by integrating Gestalt phenomenology and psychoneuroendocrinoimmunology.

Drawing on recent literature, the paper discusses how traumatic experience manifests simultaneously at neurobiological, neuroendocrine, immune, and phenomenological levels. It further introduces the concept of crystallization of the organismic field as a bridge between lived experience and biological processes, including epigenetic changes and chronic postural and fascial organization. On this basis, the article outlines clinical implications for embodied trauma psychotherapy, emphasizing grounding, work within the window of tolerance, co-regulation in the therapeutic relationship, and the development of interoceptive awareness. The proposed framework is intended as a conceptual map for clinical practice and future empirical research rather than as a report of original empirical findings.

Keywords

Psychological trauma, Gestalt psychotherapy, Psychoneuroendocrinoimmunology, Neurobiology, Phenomenology, Embodied awareness, Epigenetics.

ABSTRACT IN ITALIANO

Il trauma psicologico rappresenta una delle sfide cliniche più complesse della psicoterapia contemporanea, poiché coinvolge l'intera persona incarnata e non un evento esclusivamente mentale. Questo articolo teorico-integrativo propone un modello per comprendere il trauma come interruzione multi-livello del contatto organismo-ambiente attraverso l'integrazione tra fenomenologia gestaltica e psi-

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coneuoendocrinoimmunologia. Sulla base della letteratura recente, il contributo discute come l'esperienza traumatica si manifesti simultaneamente a livello neurobiologico, neuroendocrino, immunitario e fenomenologico. Viene inoltre introdotto il concetto di cristallizzazione del campo organismico come ponte tra esperienza vissuta e processi biologici, incluse le modificazioni epigenetiche e le organizzazioni posturali e fasciali croniche. Su tale base, l'articolo delinea le implicazioni cliniche per una psicoterapia del trauma orientata all'embodiment, con particolare attenzione al grounding, al lavoro entro la finestra di tolleranza, alla co-regolazione nella relazione terapeutica e allo sviluppo della consapevolezza enterocettiva. Il quadro proposto intende offrire una mappa concettuale per la pratica clinica e per future ricerche empiriche, e non la presentazione di risultati empirici originali.

Parole chiave

Trauma psicologico, Psicoterapia della Gestalt, Psiconeuroendocrinoimmunologia, Neurobiologia, Fenomenologia, Consapevolezza incarnata, Epigenetica.

INTRODUCTION

In the foundational text of Gestalt therapy, Perls, Hefferline, and Goodman stated that “the organism does not adapt passively to the environment but actively creates its own field” [1]. This pioneering vision, which placed embodied experience and dynamic interaction at the center of the therapeutic process, today finds a meaningful dialogue with modern neuroscience and, in particular, with psychoneuroendocrinoimmunology. Contemporary psychotherapy, therefore, faces a crucial epistemological challenge: how can the growing body of neurobiological evidence on trauma be integrated without falling into a mechanistic reductionism that betrays the depth and uniqueness of the phenomenological approach?

The understanding of trauma has undergone a radical transformation in recent decades. It is no longer viewed simply as a historical event stored in the psyche, but as a persistent condition that alters the very physiology of the organism [2]. Trauma can thus be understood as a fundamental interruption of contact, not only at a psychological level but also at a profoundly biological one, reverberating through the nervous, hormonal, and immune systems and preventing the natural fluidity of creative adjustment [3].

The central thesis of this work is that there is no contradiction, but rather a profound complementarity, between Gestalt phenomenology and psychoneuroendocrinoimmunology. Far from reducing subjective experience to chemical processes, this perspective offers a scientific language for describing the embodied texture of phenomenological experience, validating the intuition that every movement of the psyche is also a movement of the body and of the field. This opinion article is theoretical and integrative in nature: it is based on a conceptual discussion of the

literature and does not report original empirical findings. In the following pages, trauma will be explored as a multilevel interruption of contact, the crystallization of the organismic field will be examined through the lenses of epigenetics and somatic organization, and the clinical implications of a truly integrated therapeutic approach will be outlined.

THEORETICAL FOUNDATIONS

Trauma in the Gestalt Phenomenological Perspective

In Gestalt theory, health is defined by the organism's capacity to form and dissolve gestalts fluidly, creatively adapting to the environment in a continuous process of organismic regulation [1]. The contact cycle describes this movement from pre-contact to full contact to post-contact. Drawing on Kurt Lewin's field theory, Parlett emphasized that human behavior can only be understood by considering the total situation and by avoiding reductionistic analyses based on isolated variables [4]. The meaning of every event, behavior, or experience emerges from the overall configuration of the field at a given moment.

Trauma, in this perspective, is a catastrophic interruption of the contact cycle. It is unfinished business that remains frozen in present time, preventing the completion of the defensive response and crystallizing the organism in fixed survival modalities. Contact interruptions such as retroflexion, deflection, or projection are not merely mental defense mechanisms, but total configurations of being-in-the-world. Gestalt awareness is therefore not a cognitive act, but an immediate embodied experience of the here-and-now, often made difficult or inaccessible by traumatic experience.

PNEI as the Scientific Framework of Embodied Experience

Psychoneuroendocrinology studies the bidirectional interactions among psyche, nervous system, endocrine system, and immune system, demonstrating that there is no functional separation among these domains. In this sense, it provides a scientific framework for the mind-body-environment unity postulated by Gestalt theory. According to Porges, the autonomic nervous system continuously scans the environment for signals of safety or danger, a process defined as neuroception, and organizes physiological responses that often precede cognitive awareness [5]. In trauma, this integrated communication network becomes altered: the organism loses homeostatic flexibility and remains trapped in defensive states that phenomenology describes as field rigidity.

TRAUMA AS A MULTILEVEL INTERRUPTION OF CONTACT

Neurobiological Level

At the cerebral level, trauma profoundly alters the structures responsible for threat processing and memory. Functional neuroimaging studies consistently show hyperactivation of the amygdala, accompanied by reduced function of the ventromedial prefrontal cortex, which is necessary for fear inhibition and emotional regulation [6,7]. Simultaneously, reductions in hippocampal volume and functional impairment are often observed [8]. Since the hippocampus is crucial for the temporal contextualization of memories, its malfunction causes the traumatic event not to be filed as past, but to be experienced as an intrusive and ever-present condition. In phenomenological terms, the patient may live in a here-and-then that obscures the actual here-and-now. Furthermore, in dissociative subtypes of post-traumatic stress disorder, a functional disconnection between emotional and cognitive areas has been documented [9], offering a measurable correlate of the avoidance of direct contact with the intensity of experience.

Neuroendocrine Level

The hypothalamic-pituitary-adrenal axis is the main effector of the stress response. In chronic trauma and post-traumatic stress disorder, this system shows a complex dysregulation. While acute stress typically elevates

cortisol, chronic trauma may be associated with paradoxical decreases in basal cortisol levels or flattening of its circadian curve, reflecting exhaustion or dysfunctional receptor adaptation [10,11]. From a Gestalt perspective, this dysregulation can be read as a crystallization in the mobilization phase of the contact cycle. The organism remains chemically prepared for action, or collapses in the impossibility of acting, without ever fully accessing discharge, relaxation, and withdrawal.

Immune Level

Research in psychoneuroendocrinology has robustly documented the link between early trauma and systemic inflammation in adulthood. Individuals with histories of childhood adversity exhibit elevated levels of inflammatory markers, including C-reactive protein, interleukin-6, and tumor necrosis factor-alpha [12,13]. This chronic pro-inflammatory state can be interpreted as a body that continues to defend itself against an invisible threat even decades after the traumatic event. It offers an extraordinary biological parallel to the Gestalt concept of retroflexion: defensive energy that cannot be directed toward the environment is turned inward and may manifest as inflammatory or autoimmune processes.

Phenomenological Level

All these alterations converge in the patient's lived experience. Contact cycle interruptions are not abstractions, but somatic realities. Retroflexion may manifest as chronic muscular tension and sympathetic hyperactivation. Projection, often interpreted solely psychologically, may be rooted in a hyperreactive amygdala that lowers the threshold for perceiving danger and colors the environment with threat. Traumatic confluence, in which self-other boundaries become blurred, may be accompanied by deficits in proprioception and interoception, making it difficult to distinguish one's own sensations from those attributed to the aggressor or to the environment.

THE CRYSTALLIZATION OF THE ORGANISMIC FIELD

The Gestalt concept of crystallization today finds an important point of dialogue with epigenetics. Recent studies suggest that childho-

od trauma can alter deoxyribonucleic acid methylation, particularly in genes involved in stress regulation, such as the glucocorticoid receptor gene NR3C1 [14-16]. These chemical modifications may make the organism more or less sensitive to stress hormones, biologically stabilizing particular response patterns to the environment. Trauma is therefore not only remembered; it may also become functionally inscribed within stress-response systems, contributing to vulnerability according to the three-hit model, in which later outcomes derive from the interaction among genetic predisposition, early adversity, and subsequent stressful events [17].

As Van der Kolk famously observed, the body keeps the score [2]. Unexpressed emotions and interrupted defensive movements may become structured in chronic muscular tension and in changes in connective tissue organization. These characterological armors are not inert: they send continuous afferent signals to the brain, confirming a state of alert. Sympathetic hyperactivation keeps muscles prepared for action, and over time, the structure of the body may adapt to its defensive function, limiting breathing and mobility and literally restricting the possibilities of contact with the world.

FROM THEORY TO PRACTICE: CLINICAL IMPLICATIONS

The Here-and-Now as a Neuroregulatory Intervention

If trauma is a temporal collapse, the therapeutic act of bringing attention back to the here-and-now can be understood as a neuroregulatory intervention. Focusing attention on present-moment sensory experience helps reactivate prefrontal functions and modulate amygdala activity, thereby interrupting the loop of traumatic re-experiencing [18]. Functional neuroimaging studies also suggest that present-moment awareness is associated with increased activation of medial prefrontal areas and reduced amygdalar activity [19], supporting the clinical intuition that attention to present experience may facilitate top-down emotional regulation.

The Window of Tolerance and Stabilization

Gestalt-oriented intervention must operate within the window of tolerance, that is, the range of activation in which information

can be processed without the patient slipping into hyperarousal or hypoarousal [20]. Stabilization strategies such as autonomic tracking, careful titration of activation, and support for sensory orientation are essential prerequisites for undertaking more expressive or cathartic work safely.

Grounding and Orientation as Neuroregulatory Interventions

Grounding is not merely a metaphor for stability. Inviting the patient to feel the support of the chair or the contact of their feet with the floor activates proprioceptive and tactile pathways that may signal safety to the nervous system. Similarly, active visual orientation in the surrounding environment can support exploratory functions that counterbalance defensive immobilization. Within an embodied Gestalt framework, these practices help restore the possibility of contact by re-establishing sensory anchoring in the present field.

Field Support and Polyvagal Theory

According to polyvagal theory, safety is a physiological condition necessary for therapeutic work [5]. The therapist can therefore function as an external biological regulator: through vocal prosody, facial expression, pacing, and calm presence, the clinician may support activation of the patient's social engagement system. This process of co-regulation is one of the most concrete expressions of field support, because it offers a relational and physiological basis from which new modalities of contact can be explored.

Interoceptive Awareness and Heart Rate Variability

Heart rate variability is a reliable index of autonomic flexibility and emotional regulation capacity and is often compromised in post-traumatic stress disorder [21, 22]. Interventions aimed at developing interoceptive awareness stimulate neural networks involved in the integration of the bodily self, especially the insula and anterior cingulate cortex [23, 24]. Approaches such as Sensorimotor Psychotherapy and embodied mindfulness-informed Gestalt work can therefore help restore the interrupted connection between bodily perception, affect regulation, and relational presence [25].

Responsibility as Neurobiological Response-Ability

Finally, the Gestalt concept of responsibility, understood as response-ability, can be reinterpreted as the organism's biological capacity to respond flexibly and contextually, rather than to react automatically to crystallized traumatic patterns [1]. In trauma, the nervous system loses this flexibility and may oscillate between hypervigilance and dissociative collapse. Thanks to neuroplasticity, however, corrective experiences in therapy can reshape functional pathways and gradually restore the capacity to discriminate between past and present, between actual danger and traumatic memory, and to choose relational responses appropriate to the current context [26].

DISCUSSION

The proposed integration between Gestalt phenomenology and psychoneuroendocrinology highlights a profound convergence: the "how" of phenomenological inquiry finds its "what" in neurobiological mechanisms. The aim is not to reduce lived experience to biology, but to use scientific knowledge to refine clinical sensitivity and to support a more nuanced reading of the embodied field. In this sense, the body is not an object among objects, but the very subject of experience [27]. A phenomenologically embodied psychotherapy recognizes that working on the relational field also entails regulating interacting nervous systems [28].

Limitations

Several limitations of the present work should be acknowledged. First, the proposed model is theoretical and has not yet been directly tested through original empirical studies. Second, the article offers an integrative and non-systematic discussion of the literature; therefore, it should not be interpreted as an exhaustive review. Third, the correspondence proposed here between Gestalt phenomenological constructs and biological markers is clinically promising but still partly inferential and requires clearer operationalization before strong causal conclusions can be drawn.

Future Research Directions

Future research should examine this framework through multimethod designs capable of integrating clinical, physiological, and immunological indicators. Potential measurable outcomes include heart rate variability [21,22], basal cortisol levels and diurnal cortisol slope [10,11], inflammatory markers such as C-reactive protein, interleukin-6, and tumor necrosis factor alpha [12, 13], and validated measures of post-traumatic symptoms, dissociation, and interoceptive awareness [24]. Process-oriented studies could also investigate changes in therapeutic alliance, co-regulation, grounding capacity, and embodied awareness across treatment. In this way, the efficacy of Gestalt-informed embodied trauma psychotherapy could be evaluated not only in terms of symptom reduction, but also through markers of resilience, flexibility, and integration.

CONCLUSIONS

Trauma is neither solely a psychological event nor solely a neurobiological dysfunction; it is an interruption of the organism-environment field that spans all levels of embodied experience. Gestalt phenomenology offers an irreplaceable experiential framework for encountering the other, while psychoneuroendocrinology offers a language for understanding the underlying mechanisms that shape such encounter. The integration of these two perspectives may support interventions that are more clinically sensitive, scientifically grounded, and responsive to the unity of the human person. The framework proposed here should now be considered a conceptual basis for further empirical validation and for the refinement of embodied trauma psychotherapy.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest in relation to the present article.

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DATA AND MATERIALS

The data generated during the present study are available, upon reasonable request, from the corresponding author.

ARTIFICIAL INTELLIGENCE

The authors declare that they have used artificial intelligence software to improve the grammar and syntax of the article.

AUTHORS' CONTRIBUTIONS

[Author 1]: conceptualization, methodology, writing of the original manuscript.

[Authors 2, 3, and 4]: data management, formal analysis, manuscript review and editing.

REFERENCES

- Perls, F. S., Hefferline, R. F., & Goodman, P. (1951). *Gestalt therapy: Excitement and growth in the human personality*. Julian Press.
- Spagnuolo Lobb, M. (2011). *Il now-for-next in psicoterapia: La psicoterapia della Gestalt raccontata nella società post-moderna*. FrancoAngeli.
- Danon, M. (2020). *Ecopsicologia: Come sviluppare una nuova consapevolezza ecologica*. Aboca Edizioni.
- Roszak, T. (1992). *The voice of the Earth: An exploration of ecopsychology*. Simon & Schuster.
- Roszak, T., Gomes, M. E., & Kanner, A. D. (Eds.). (1995). *Ecopsychology: Restoring the Earth, healing the mind*. Sierra Club Books.
- Buzzell, L., & Chalquist, C. (Eds.). (2009). *Ecotherapy: Healing with nature in mind*. Counterpoint.
- Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science*, 224(4647), 420–421.
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, 15(3), 169–182.
- Kellert, S. R., & Wilson, E. O. (Eds.). (1993). *The biophilia hypothesis*. Island Press.
- Porges, S. W. (2011). *The polyvagal theory: Neurophysiological foundations of emotions, attachment, communication, and self-regulation*. W. W. Norton & Company.
- Cunsolo, A., & Ellis, N. R. (2018). Ecological grief as a mental health response to climate change-related loss. *Nature Climate Change*, 8(4), 275–281.
- Albrecht, G., Sartore, G.-M., Connor, L., Higinbotham, N., Freeman, S., Kelly, B., Stain, H., Tonna, A., & Pollard, G. (2007). Solastalgia: The distress caused by environmental change. *Australasian Psychiatry*, 15(Suppl. 1), S95–S98.
- Clayton, S., & Karazsia, B. T. (2020). Development and validation of a measure of climate change anxiety. *Journal of Environmental Psychology*, 69, 101434.
- Van der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. Viking Press.
- Ogden, P., Minton, K., & Pain, C. (2006). *Trauma and the body: A sensorimotor approach to psychotherapy*. W. W. Norton & Company.
- Levine, P. A. (2010). *In an unspoken voice: How the body releases trauma and restores goodness*. North Atlantic Books.
- Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*.
- Bratman, G. N., Anderson, C. B., Berman, M. G., Cochran, B., & Daily, G. C. (2019). Nature and mental health: An ecosystem service perspective. *Sci. Adv.* 5, eaax0903.
- Kepner, J. (1987). *Body process: A Gestalt approach to working with the body in psychotherapy*. Gestalt Institute of Cleveland Press.
- Totton, N. (2010). *Wild therapy: Undomesticating inner and outer worlds*. PCCS Books.
- Bateson, G. (1972). *Steps to an ecology of mind*. Chandler Publishing.
- Lingiardi, V. (2022). *Mindscapes. La psiche come paesaggio*. Cortina.
- Abram, D. (1996). *The spell of the sensuous: Perception and language in a more-than-human world*.
- Ingold, T. (2000). *The perception of the environment: Essays on livelihood, dwelling and skill*. Routledge.
- Shepard, P. (1996). *The others: How animals made us human*. Island Press.
- Morton, T. (2010). *The ecological thought*. Harvard University Press.
- Haraway, D. J. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Duke University Press.
- Danon, M., Orlando, S., Amato, T., Barillari, M. R., Bucciarelli, F., & Perrone, M. (2023). Tra natura e psiche: introduzione all'Ecopsicologia e all'Ecopsicoterapia. *Phenomena Journal*, 5, 67–76.