Reflections on the physical and biological dimension of the person in psychotherapy and in PNEI-oriented clinical practice

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Received 9 November, revised 13 November, accepted 18 November
Online first: 14 January 2026

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Please cite: Amore M., Bianchi A., De Colle D., Bastianelli L., Bottaccioli F., Cardone R., Cutrona I. R., Stoppele E., Vaccaro L. (2025). Reflections on the physical and biological dimension of the person in psychotherapy and in PNEI-oriented clinical practice. *PNEI Review*. DOI: 10.3280/pnei2025oa21553

***Abstract**: This paper proposes a reflection on integrating the physical and biological dimensions in PNEI-oriented psychotherapy. Starting from the paradox of a growing theoretical attention to the body in comparison with its marginality in clinical practice, the authors invite us to*

consider the human being as a unitary organism, in which mind and body constitute an interdependent system. Along the path from Freud through Ferenczi and Reich to contemporary neurosciences, a circular and relational paradigm is outlined, capable of connecting psychic and biological processes. The PNEI perspective is proposed as a framework to overcome the fragmentation of psychotherapeutic models and to promote an integrated vision of health and care. Significant and necessary modifications to both the basic theoretical assumptions and the techniques of intervention and care are derived from this and are discussed.

***Keywords**: Psychoneuroendocrinoimmunology, Mind-body integrated Psychotherapy, Organism, Relationality, Interoception, Metamodel.*

Introduction

The primary objective of this paper is to offer ideas for reflection on how to consider and use the physical and biological dimensions in a PNEI-oriented psychotherapy, independent of the theoretical-clinical reference models. This reflection has become necessary due to the evolution of scientific research over recent decades, which has important theoretical and technical implications for psychology and psychotherapeutic practice. The theoretical-conceptual basis of this paper is outlined in the document *A new paradigm for psychology and psychiatry* (PNEI Review 1/2021), to which we refer.

Our reflections stem from a paradox: the physical and biological dimensions, which, in the current lexicon, define the concept of corporeality, are increasingly present in the theorizations of modern psychotherapies but remain mostly marginal in concrete therapeutic practice. This discrepancy lacks a scientific basis and is inconsistent with the heart of the ongoing paradigmatic evolution; we believe it must be resolved. We add that this discrepancy is part of another, broader one: in the clinical setting, mind and body are still interfaced as separate domains, rather than as the interconnected and unitary systems they actually are.

The very concept of corporeality aims to direct attention to the more discrete bodily manifestations, those directly interceptable and explorable in the psychotherapeutic setting, but which are not always sufficiently observed in relation to psychic content. This paper aims to outline possible directions for resolving these discrepancies. In this regard, we will refer to the concept of the *organism* to indicate the entirety of the psychic, corporeal, and biological dimensions that constitute the human being.

A consequent objective is to offer stimuli to bring the languages of psychotherapies closer together, underscoring the need to build a bridge between different, and often opposing, traditions. The purpose is certainly not to standardize intervention models, nor obviously to define further differentiations between them, but

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rather to stimulate clinicians, as a matter of necessity and utility, to cultivate a gaze that contemplates the human subject as an organic whole, whose complex mind-body relationships cannot be reified singularly, neither in the construction and conceptualization of suffering, nor in the healing process.

In particular, the psychoanalytic tradition can be usefully brought into dialogue with the body-psychotherapy tradition, which arose from within it in the 1920s with Wilhelm Reich but was never recognized. Although the latter tradition was born within psychoanalysis, the two traditions subsequently moved far apart. By virtue of the centrality that research recognizes in physiological and sensorimotor manifestations for the development and regulation of affects, and in their conscious and unconscious psychic representations, we believe that reflection on the role of corporeality in development and change is a crucial theoretical and technical vector for a rapprochement between psychotherapies, whose fragmentation determines their main scientific weakness.

The fragmented constellation of psychotherapeutic models indeed constitutes both a theoretical and a technical limitation. Theoretical, because it moves away from the scientific objective of a unitary vision of the development and functioning of the Self. Technical, as the focus on specific aspects of therapeutic work makes treatments non-homogeneous and difficult to compare, and stimulates conflict between psychotherapies, leaving the flank exposed to market logic rather than scientific motivations.

An important limitation is the lack of support for the mind-body integration process, which, across the various models, is often unbalanced in one direction or another, to the detriment of integrating parts into a cohesive sense of self. The absence of a metamodel capable of considering processes in a systemic sense as a means of integrating the access points and focuses of each therapeutic model can lead to the parcelling out of the therapeutic experience itself and to a restructuring that relies solely on bottom-up or top-down processes.

The concept of *circularity* thus seems to us more useful and necessary than ever in approaching complex networks and should be considered as a primary element of observation and intervention. On the level of comparison between psychotherapeutic approaches that refer to very different orientations, greater dialogue could be promoted by the ability, to paraphrase Bromberg (1998), to stand in the spaces that mark the separation between the different psychotherapies by virtue of their differences, and to operate there for their interconnection.

From whatever angle one wishes to observe suffering and whatever techniques one chooses to apply, we believe that the clinical objective can be better achieved if a joint understanding of the psychic and biological processes involved in achieving and maintaining the equilibrium of the subject's body-mind system is guaranteed,

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through the clinical interventions necessary to restore the best state of psychic and biological well-being achievable by them. We think that solid bridges, capable of filling the spaces between psychotherapies, can be constituted by sensitive attention to the psychic and somatic processes, simultaneously and circularly active, to promote their integration and support the cohesion of the self, which strictly depends on this integration[1].

The role of the body in the history of psychotherapy

At its origins in psychoanalysis and within the first psychoanalytic community – for Freud himself and his close collaborators, including Groddeck, Reich, and Ferenczi – the body was present in a way that was anything but metaphorical and/or metaphysical, as would instead become characteristic of later theoretical developments. The very notion of *drive* constitutes «*a concept on the borderline between the psychic and the somatic, as the psychic representative of the stimuli that originate within the body and reach the psyche, as a measure of the operations demanded of the psychic sphere by virtue of its connection with the bodily one*» (Freud, 1915, p. 17).

It was Georg Groddeck, as early as 1923, who first introduced the idea of an original force that shapes human life in all its forms, expressing itself equally in thoughts and in physical symptoms. He called it the *Id* (Es), thereby formulating a concept that Freud later adopted. For the German physician, this idea of a primordial force renders any distinction between mind and body superfluous, as he understood them to be interwoven manifestations of a single vital process, two sides of the same coin. According to Groddeck, '**(...)** *for the Id, there is no difference between the organic and the psychic, and (...) therefore, if the Id can be influenced in some way through analysis, organic illnesses can and, in certain circumstances, must be treated psychoanalytically'* (1966, pg. 169). However, Groddeck – nicknamed 'the wild analyst' for his radically integrated approach to cure – always remained on the fringes of the psychoanalytic movement, which in the meantime was consolidating around the charismatic and brilliant figure of Freud.

It was especially Wilhelm Reich, in the 1920s, when he still held a prominent position within the psychoanalytic movement, who advanced a reflection on the problem of the somatic expression of *resistances*, observed and systematized by Freud in his model of the mind as unconscious psychic forces that prevent painful or anxiety-inducing thoughts, emotions, or memories from reaching consciousness. Reich (1949)

[1] The possibility of working simultaneously on the level of the generator, the epiphenomenal level, and the intrapsychic and relational level is proposed in the theorization of the Milan Model, the first constructivist-oriented attempt to apply circularity also among different, yet complementary, intervention foci (Mosconi, 2016).

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observed and highlighted how resistances could be directly seen in the patient's bodily attitudes (posture, movements, voice, etc.), and formulated the concepts of *character* and *functional identity* as notions straddling the psychic and the somatic, developing both a theoretical model and a clinical intervention technique directly oriented toward somatic manifestations. At that time, these positions were considered fully coherent with psychoanalytic theory and not yet in conflict with it. The later break between Reich and the psychoanalytic movement – which led to his expulsion in 1934 – was determined by other issues: his interpretation of masochism, namely his critique of the death instinct, and Freud's abandonment of the original theory of trauma, which Reich viewed as a concealment of the social matrix of human suffering. After Reich, psychoanalytic theory turned its attention away from the relations between psychic and somatic manifestations (or more simply between psyche and body), embracing instead a metaphysical, symbolic view of the body, in tune with the conception of the mind – of intrapsychic and monadic matrix – that Freud had meanwhile consolidated with his second topography.

Within this framework, Ferenczi (1931, 1932) maintained his own focus on corporeality by directing attention to the relationship between the analyst's and the patient's corporeality throughout the clinical process. He did so along two main lines: on the one hand, he questioned the concept of technical *neutrality*, emphasizing the analyst's subjectivity and life experience as therapeutic instruments grounded in authenticity and co-participation; on the other, he brought renewed attention to relational trauma, as an alternative to the sole focus on drive conflict, recognizing it as one of the causes of neurotic psychic suffering that often manifests itself through bodily affective states. Ferenczi further stated that cognitive understanding of psychic conflicts is insufficient for healing, particularly in the case of traumatic experiences; in such circumstances, an essential reparative principle in the healing process is the integration of original, normally unconscious emotions into the conscious memory of the traumatic event. This process of integration could, for Ferenczi, be facilitated by the analyst's bodily sensitivity to the patient's affective experiences. His innovative ideas, as had been the case for Reich (and other of Freud's disciples), led to his progressive marginalization within the psychoanalytic movement.

Nevertheless, Reich's contribution gave rise, from the 1960s onward, to the development of the field known as *Body Psychotherapy*, which produced interesting, though heterogeneous, developments – such as in Italy with *Functional Psychology* (Rispoli, L., 1988, 2016) – but which never decisively freed itself from the marginality and exclusion from academic contexts to which the rupture between Freud and Reich had relegated it. This factor also accounts for the limited production of recognized scientific contributions. Despite this weakness, it is now possible to recon-

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sider the work of Reich and post-Reichian authors such as Lowen (his student) for its intrinsic richness, which aligns it with the evolution of the PNEI paradigm. Some of its principles can be summarized as follows:

- the indissoluble link between psychotherapy and biology, already present in the early Freud, and the conception of the human being as an integrated organism that unfolds functionally across multiple dimensions, as expressed in the aforementioned concept of *functional identity* and in the theorization of sexuality as a regulatory mechanism of health (for its effects, we might say today, on the *window of tolerance* for stress);
- the rooting of the organismic system within the social and cultural context.
- the attention to etiopathogenesis, recoverable through corporeal signals and expressed in the design within the therapeutic process.
- the location of resistances within the whole organism, placing the focus on the body as an explicit expression of the self, always active in the present within the therapeutic relationship, and as a direct observational datum of organic functioning.

In the second half of the twentieth century, a constellation of contributions from fields relevant to both research and clinical practice – such as infant research, neuroscience, neuropsychoanalysis, cognitivism, systemic and relational therapies (to name only the most well-known models) – as well as from certain currents of thought within psychoanalysis itself, rekindled interest in trauma studies and brought about a decisive revaluation of corporeality in the psychotherapeutic process (Solms, 2021).

The mind as an emerging relational phenomenon

Within this timeframe, which witnessed a paradigm shift in understanding the relationship among mind, body, and consciousness, Bateson's (1972) biological-anthropological systemic vision emerged. Bateson conceptualized the mind as a system of relations not confined to a single organism or "entity" – such as the brain, personality, or soul of an individual – but extending beyond, intertwining with the context, and thus transcending the individual subject to acquire the condition of immanence. With the concept of *ecology of mind*, Bateson emphasized the intrinsic relationship between the individual and the environment, which represents a foundation for psycho-organic development. Likewise, Bateson spoke of an *ecology of ideas*, referring to how ideas themselves – products of reflection upon experience – depend on the system in which humans live. The ecology of mind, or of ideas, is thus that form of knowledge capable of grasping the multiple relations and interactions that constitute the mind itself, an immanent and emergent product of the subject's relational networks.

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The concept of cybernetics thus defines Bateson's epistemology: every organized system is a set of elements in relation and interaction, whose components coordinate through circular information exchange mechanisms. These continuous exchanges represent communicative processes that bring about state changes in the system's elements, modifying their individual actions. When elements are organized within a system, the interactions among its components endow the whole with properties that do not belong to the elements taken individually. Hence, "*the whole is greater than and not equivalent to the sum of its parts*", since any modification made to one element of the system influences the entire whole, according to the principle of non-summativity.

The principle of non-summativity applies well to this discussion. This schema reflects the functioning of human systems and related psychological and social phenomena, as well as the physical and biological dimensions and cognitive and emotional functions. Therefore, we should not expect to understand the functioning of the human mind by observing only emotional variables. On the contrary, it is necessary to analyse the relationships among various perturbators, physical, emotional, social, and cognitive. Among these, we may consider predictive mind theory, which draws attention to how «*our brain network is always active. Neurons are never simply waiting for some stimulus from the external world to arrive. Rather, all neurons are constantly communicating with one another...*» (Barrett, 2021, p. 41), and how the brain, as a predictive organ, detects signals from various parts of the body (interoception) and from the environment, interpreting them through the lens of culture and experience to efficiently manage the organism's functioning through allostatic processes.

Maintaining homeostasis is a crucial biological process. When illness disrupts homeostasis by triggering an inflammatory response, the organism tends to recalibrate to regain its original equilibrium through allostatic adaptation. The concept of circularity was one of the foundations of the Palo Alto Group's theory. Over time, it evolved primarily on a communicative level, progressively excluding the body as a meaningful element in clinical intervention.

The concept of mind as an emergent phenomenon can be found in the research of those same years: the mind emerges from neural interconnections. According to Damasio, the mind emerges when the activity of small circuits of neurons organizes into networks, giving rise to *transient forms*, configurations of structures that represent and signify external or internal objects and events, or elaborations of other configurations. Thus, a *map* can be defined as the totality of all such representations of objects and events and of their interconnection processes. Damasio identifies precise rules governing the relations among neural processes, both in the construction of the mind and in the formation of self-consciousness, thereby opening a

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perspective in which the body is the foundation of a conscious mind, inextricably connected to both mind and consciousness. It should be noted, however, that Damasio's early observations did not conclude the debate on consciousness and the neurobiological processes from which it would emerge. On the contrary, in the past year, the discussion has flared into open conflict between two paradigms: on one side, the integrative vision (Integrated Information Theory - IIT) advanced by a group of scientists led by Giulio Tononi; on the other, a large number of academics rooted in the classical functionalist-computational view, who accused the opposing paradigm of pseudoscience[2].

Damasio's contribution to more recent research nonetheless represented a cornerstone in recognizing the deep interconnection between cortical and subcortical systems – and their integration with other systems – promoting reflection on a paradigm shift in the conception of health, illness, and their interrelations. Moving away from the Cartesian dichotomy between mind and body, Damasio identifies emotions and bodily processes as fundamental to cognition and reasoning, and introduces the concept of the somatic marker to explain how bodily signals influence decision-making and cognitive processes. In his work, Damasio argues that the Self and consciousness are the product of continuous interaction between the brain and the body, and that the separation between mind and body can lead to cognitive and emotional dysfunctions, contributing to various forms of psychic and physical illness. Although he initially emphasized bottom-up movements from the biological to the psychic, in 2018 the author opened to the possibility of feedback from psyche to biology, thus approaching a PNEI perspective in which mind and body constitute components of a system based on feedback processes, an integrated network: «*The circularity of these operations is remarkable. On the face of it, mind and brain influence the body proper just as much as the body proper can influence the brain and the mind. They are merely two aspects of the very same being*» (Damasio, 2018a). To these considerations, we wish to add that such feedback signals between mind and body underlie the particular aggregation of thought into symbolic forms, a process characteristic also of dream thought and imagination (Zadra & Stickgold, 2021).

In many psychological models, the organism serves as a transversal element at the base of psychic development. It could not be otherwise, since human beings experience the world through their bodies—in health and in illness, from birth to the end of life. At the same time, the body represents one of the main conceptual nodes across theories, as not all align on its role and function in the development of consciousness and in the therapeutic process. The principle of a bidirectional rela-

[2] For a review of the debate, see the various contributions in *Nature Neuroscience*, volume 28, issue 4, April 2025.

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tionship between mind and body, central to Damasio's work, is certainly consistent with the most recent evolution of certain psychotherapeutic orientations—such as constructivism and conversational constructivism—for which corporeality in clinical practice represents not only a symbolic or spatial datum, nor merely an intrapsychic container, but rather a direct key to accessing collicular and limbic dimensions, crucial in the re-elaboration of trauma.

The body in psychotherapy within the theoretical nodes of the paradigm shift

With the evolution of thought in psychotherapy, the representation of the totality of the psychic world (commonly defined as the Self) has undergone a significant transformation. Sometimes explicitly, at other times more implicitly, this evolution revolves around the central issue of the mind-body (or psychic-biological) relationship, which has been carried beyond philosophically oriented debates by neuroscientific research over the past decades. The "psyche" is now irreducibly inscribable within an integrated biological systemic functioning, from which it emerges as part of the system and with which it remains in constant dialogue. We can therefore observe, as a general phenomenon, that—consistent with an integrated perspective coherent with the PNEI framework—the physical and biological dimensions are increasingly receiving attention within the context of psychotherapies. The new paradigm is outlined by several general principles, which we will attempt to summarize here.

Circularity

The organism, in the totality of its functions, fully participates in the processing of the emotional meanings attributed to experience: today, we are witnessing the gradual abandonment of hierarchical visions in favour of psychobiological circularity. The very concept of *mentalization*[3], a conceptual and evolutionary apex in cognitivist and psychodynamic theories – often overlapped with the concept of consciousness itself – is no longer understood as the ultimate goal of development or the final aim of therapy, but rather as a function of the mind. Conversely, a distributive concept of consciousness is now supported, articulated between psychic and bodily functions, such that there is no longer reason to speak of "body" and "mind" as independent yet interacting entities, but more correctly of the *organism* – a term that underscores unity and interconnection, and can encompass, while transcending, other frequently used terms such as *body-mind*, *mind-body*, or the more recent *bodymind*.

[3] For the concept of "mentalization", see the work of Peter Fonagy.

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Consistently, the paradigm shift in research necessarily entails a revision of the concept of psychotherapy itself, which is reconsidered through the deconstruction of the idea that the process of exploration should be exclusively oriented toward what is present in the conscious mind, in the form of thoughts expressible through verbal communication. This limited approach often results in an endless journey in which some fundamental places of the experience of the self-with-the-other remain unexplored, thus perpetuating dysfunctional or only partially functional configurations.

Relational perspective and interaction between organisms

The progressive affirmation, since the last century, of a relational dimension in psychotherapy has been supported by scientific evidence showing that the actors operating within the clinical setting are organisms in constant interaction. Within developmental research, the Boston Process of Change Study Group has provided extensive evidence of infants' active role in shaping their relationships with caregivers from the very first moments of life. In particular, Daniel N. Stern (1985), one of the most influential figures of the Boston group, made a fundamental contribution to the study of infant development from a psychodynamic and neuroscientific perspective. Stern reformulated the concept of self-development in infants, challenging traditional theories grounded in the Freudian intrapsychic system and proposing a model grounded in early intersubjective experience.

The central point of his thesis concerns how subjective experience emerges, from the very first moments of life, out of the infant's sensorimotor interactions with the external world, and how, starting from these, the child progressively and intersubjectively constructs an internal representation of the self, continuously readjusted based on subsequent relational experiences throughout development. The attunements between infant and caregiver, essential for the proper functioning of the infant's system, occur through sensorimotor micro-regulations mediated by tone of voice, rhythm of touch, intensity of gaze, and so on.

Drawing on infant research, Stern shows that the infant is not passive in this interaction but intentionally organizes their experiences through the modulation of nonverbal expressions in response to perceptual experiences conveyed by movement, touch, sight, sound, and rhythm in exchanges with others. These exchanges are characterized by dynamic motor coordination patterns defined by perceptual categories such as duration, intensity, and rhythm. To these patterns—which represent the kinetic and emotional quality of the interaction—Stern gives the name *vitality affects*. It is through the repetition and generalization of these exchanges, and the vitality affects they convey, that the child builds the first emotional and relational representations in the form of coherent sensorimotor memory patterns that

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have a predictive function for future experiences. Stern calls these generalized psychic models, which serve to organize past experiences and anticipate future ones, *Generalized Event Representations (RIGs)*.

Within the attachment paradigm (Bowlby, 1969-1980; Ainsworth, 2006), this same tendency to organize representations of relational experiences in the 12-month-old child is referred to as the *Internal Working Model*. Cassidy (2013) – one of the leading figures in attachment studies – argues that the effects of attachment experiences are embedded in the body and the brain in ways not easily reducible to cognition and should therefore be studied at the physiological level.

Subsequent research has provided further evidence of the presence of active interactional capacities already from the foetal period (Ammaniti & Gallese, 2014). In the first hours of life, infants can imitate facial expressions and mouth movements (Meltzoff & Moore, 1977). This phenomenon suggested the existence of innate neural mechanisms of correspondence between perception and action, which would constitute a sort of prelude to the development of empathic communication among humans. Early imitation of facial and vocal movements by the newborn is a clear example of interpersonal sensorimotor learning. Repeated insufficient or faulty attunements by caregivers (Beebe & Lachman, 2003) lead to disorganized sensorimotor patterns that affect emotional regulation (Tronick, 1989, 2008; Schore, 1994[4]). Consequently, early preverbal traumas remain inscribed in these *being-with schemas*, which guide relational experience and the attribution of meaning in interactions with others, even in adulthood.

Later, Daniel Stern and the Boston Change Study Group (2010) would clearly develop the idea that human consciousness and the sense of self are always embodied, since emotion, cognition, and verbal narration of subjective experience cannot be separated from the perceptual experience of one's body in interaction with the relational context.

In the same years, within the systemic approach, "second-order cybernetics" introduced a paradigm shift: the therapist is an element that perturbs and is perturbed by the family system being treated, thereby influencing and being influenced by the "family games" (Heinz von Foerster, 1981). Likewise, the developments of attachment theory (Bowlby, 1969-1980; Liotti, 1994) – among the most widely applied across different theoretical-clinical models – also converge on the fundamentally bodily and relational grounding of the psyche. The weight of implicit procedural communication among human beings, more than explicit verbal communication, thus takes on the greatest importance in mutual understanding

[4] From Schore's work, we do not consider the theory of the right brain to be scientifically validated, as it appears to simplify the complex reality of interhemispheric interaction.

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and affective attunement. In this sense, psychotherapeutic change itself largely occurs through implicit dialogue, in which what matters most is *how* the two interlocutors relate to one another rather than *what* they say[5,6].

The influence of this intersubjective and fully embodied perspective on the development of human consciousness has also reached the more orthodox psychoanalytic context, where—even if technique remains fairly faithful to the original model—the myth of the therapist's opacity and disembodied stance is no longer relevant. Bucci (2021, p. 343) writes:

> «*(...) researchers have discovered that some of the nerve cells that activate in a person's brain when they are touched also activate when they see another person being touched (Keyzers & Gazzola, 2009), when they observe another person showing expressions of disgust or appreciation and when they themselves experience disgusting or pleasant odors (Wicker* et al.*, 2003), when they observe another person's pain and when they experience it themselves (Singer & Frith, 2005). (...) The implication of these findings is enormously significant for our understanding of the organization of emotional schemas in development and their unfolding in psychotherapy. Just as we are not accustomed to recognizing subsymbolic sensory, bodily, and motor processes as systematic thinking, we are likewise unaccustomed to recognizing that each of us is partially occupied by the perceptions and actions of those with whom we are in contact—and some parts of us are constantly occupied by the people with whom we were in close and continuous contact in our early years. I note here that the concept of projective identification, which has been viewed as somewhat magical and, in some cases, malevolent, acquires a systematic and neutral basis with these new findings*».

Neuroscientific research, for its part, irrefutably demonstrates the systemic development of biological networks within a relational dimension in constant communication with the external environment. Rizzolatti, in a recent conference (Rizzolatti, 2023), further expanded the perspective opened by the discovery of mirror neurons toward a systemic vision of their functioning, affirming the existence of broader mirror systems—complex mechanisms of communication and mutual influence between the neural systems of different people, predominantly unconscious.

Studying the structure of the mind within the new paradigm means entering a functional circuit in which the subjective mind does not coincide with an individu-

[5] Note the resonance with W. Reich's (1949) concepts of "character" and "functional identity".

[6] Daniel Stern (2004) develops a clinical exploration technique based on microanalysis of procedural sequences. In his model, the change process is supported by moments of particular transformative potential between therapist and patient, defined as moments of now, generally arising from a disruption of expectations in the normal course of interaction. Depending on the mutual reactions of the participants to the emergence of an unexpected event in the interaction, moments of now can evolve into so-called moments of meeting: states of intense affective attunement in which the two participants mutually recognize the co-constructed meaning of their experience, implicitly attributing a shared sense to it.

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al epiphenomenon but is part of a broader mind. This helps us reflect on the intersubjective "matrix" of which we are made (Bateson, 1984, p. 17). Daniel J. Siegel's (2001) concept of relational mind builds on the representation of brain structure as a living system, open to environmental influences and dynamic, constantly changing in response to environmental conditions. Interpersonal relationships have a fundamental influence on our brains and minds throughout our lives. The neural circuits mediating social experiences are closely related to those that integrate processes governing meaning-making, the regulation of physiological and organic functions, emotion modulation, memory organization, and communication abilities. Neural circuits develop in ways that are directly linked to their activation. Thus, the development of the mind results from interactions between neurophysiological processes and interpersonal relationships. Our experiences can directly and significantly influence neural connections and brain organization, which is why early-life experiences play a fundamental role. The brain is therefore experience-dependent, as experiences help shape it, while interpersonal relationships facilitate or inhibit the integration of these experiences into coherent representations. In this sense, experiences can consolidate preexisting connections and induce the formation of new synapses, or, conversely, lead to cell death (Demozzi, 2011).

Psychotherapeutic literature has focused extensively on the relational and bodily foundations of the psyche, using a variety of conceptual containers that we will not detail here: body-self, implicit self, body memory, affective-emotional memory, implicit memory, unrepressed unconscious, emotion schemas, pre-verbal psychobiological matrix, alpha function and *rêverie* (...); concepts that in turn connect to broader themes and various research domains: memory mechanisms, unconscious, allostasis, role of sensory and interoceptive systems. Beyond these specific foci and their nomenclature, psychotherapy today generally presents itself as clinical action through a relationship between people, a full organism-to-organism relationship, implying reciprocal transformative processes that aim to restore to the patient transformed experiences (or at least the possibility thereof).

From the perspective of the clinical process, in psychotherapeutic communication – as in all relationships between subjects – alongside verbal and reflective dialogue, a deeper and subtler form of exchange is active, non-intentional, and not fully conscious. This form of communication manifests as a perceptual reverberation among participants through sensory, bodily, and emotional channels. Although it has a strong somatic foundation, this information exchange is not reduced to a mere somatic dynamic; rather, it represents a complex psycho-neuro-biological process that marks affective resonance between bodies and brains in relation (Stern, 2004) and relies on a form of procedural, nonverbal consciousness, which we have already mentioned, termed "implicit" active from a very early stage of life

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and operational throughout the lifespan to ensure sensorimotor precision of actions, affective regulation, mentalization, and the construction of meaning from lived experience (Fonagy *et al.*, 2002). Implicit consciousness thus does not coincide with language but precedes it and constantly accompanies it: it represents a constitutive register of experience that evolves through continuity and progressive transformations rather than through discontinuous leaps.

From a PNEI perspective, the link between early relational memories described by Daniel Stern (1985) as RIGs (Representations of Generalized Interactions), the relational schemas described in attachment studies (IWM), and Wilma Bucci's emotion schemas (1997, 2021) is particularly significant. All represent mostly unconscious self-regulation mechanisms based on sensations, perceptions, and affective states largely formed within caregiving relationships. If RIGs or IWMs function as procedural models of interactions, specifically characterized by sensations, perceptions, and "relational moves" learned in the caregiver relationship, Bucci's emotion schemas encode affective patterns associated with such interactions. In other words, emotion schemas include the affective meaning attributed to the original experience and function predictively for all future relationships that share key features with the initial one. For instance, if the caregiver is also a threatening and punitive figure for the child, the expectation of being cared for by others in future relationships will likely also involve physiological activations consistent with feelings of fear and distrust and trigger defensive reactions (fight, flight, freezing), of which the subject is normally unaware, but which may manifest through somatizations. These prototypical relational dynamics tend to be activated in the clinical relationship because memory schemas, marked by affect-action connections, constitute the operative foundation of the self and serve an allostatic adaptive function, aimed at maintaining stability within ongoing change (e.g., they influence the attribution of familiar meanings to new circumstances).

From a neurobiological perspective, RIGs, IWMs, and emotion schemas are unconscious representations of lived experience related to neuroendocrine network calibrations learned in childhood and, through interoceptive monitoring, operate as internal predictive maps and models. They continuously guide and adapt affective and bodily responses to reduce the discrepancy between implicit expectations and environmental stimuli (Barrett & Simmons, 2015; Seth, 2013). These maps support (or fail to support, if experiences have been deficient) the actions and strategies necessary to allostatically manage the various tasks of life. The maps – true psychobiological networks – determine future interactive modes and the potential for deriving satisfaction from them. In the Italian tradition of functional psychotherapy, where the body has a central clinical function, these primary maps and their corresponding biological configurations are referenced in the construct of

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Basic Experiences of the Self (BES), which psychotherapy aims to reconstruct (Rispoli, 2016).

Because they are predominantly procedural and unconscious, these schemas are sometimes referred to as "body memories". However, this expression, if left unspecified, can imply static memories stored in the body, obscuring the brain's role as an always-active, unitary system for encoding, integrating, preserving, and recalling experience. By "body memory" we mean rather an unconscious processing supported by affect-motor schemas activated by the subjective here-and-now experience and modulated by complex neural networks. These networks involve both subcortical structures (amygdala, insula, thalamus) for emotional and sensory processing, and cortical associative areas (prefrontal, cingulate, and temporo-parietal cortex) for cognitive integration of experience and physiological regulation necessary to sustain that experience. In this perspective, the body actively participates in memory retrieval, always operating in unity with the psyche and brain. The experiential reactivation of a memory, if accompanied by an experience that disconfirms what the memory predicted, can ensure its transformation (Ecker, 2018).

Cristina Alberini's research (2005, 2011) on the cellular and molecular mechanisms of long-term memory in adults and children also demonstrates that memories are not static traces but dynamic contents susceptible to transformation. This concept of memory plasticity has profound clinical implications, for example, in the treatment of post-traumatic stress disorders (PTSD), where memories are generally reactivated by unconscious sensory traces, which in the clinical context serve as the trigger to begin modifying their emotional charge. Similarly, F. Shapiro (2001) argues that implicit memory representations arise from bodily experiences that subsequently become, through limbic and cognitive interpretation, emotions and cognitions.

In the therapeutic relationship, it is not uncommon – in fact, it is constant if attentively observed – to encounter bodily manifestations of such unconscious processes managed by biological networks. For instance, a consistently lowered gaze conveys the predictive expectation of negative judgment automatically embedded in nonverbal communication patterns, reflecting dysfunctional neurobiological processes learned (if the expected judgment comes from the individual's early relational experiences) or constructed through an internal defensive dynamic (if the person consciously or unconsciously fears the presumed hostile attitude of the interlocutor). These traces can also be found in posture, breathing, motor behaviours, or various forms of chronic somatic dysregulation. Psychotherapeutic treatments focused on bodily responses are particularly effective in these cases because they address the processing of physical sensations within a safe context of attention and present-moment listening, thereby reducing the emotional charge associated with the original memory.

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Analogous resonances may be experienced by the psychotherapist, aspects of countertransference involving the somatic sphere which, far from interfering with treatment, can become valuable signals for understanding the therapeutic relationship in progress.

Perinatal Life and Trauma Reappraisal

Regardless of epigenetic influences and transgenerational transmission, the origin of the sense of self in perinatal relationships is indelibly marked; likewise, the perinatal environment is permeable to environmental stress, understood systemically in all its dimensions (chemical, cultural, family situations, socioeconomic conditions, social climate…). Scientific research over the past twenty years has shown that stress-induced neuroinflammatory processes are linked to a wide range of psychological disorders (Bottaccioli F., Bottaccioli A.G., 2017, 2024a). Environmental stress shapes the maternal and perinatal family environment and can render the developing stress axis particularly dysfunctional, leading to allostatic overload that narrows tolerance windows and alters the development of regulatory mechanisms. Numerous and inescapable scientific evidences establish that life experiences, particularly perinatal life, are decisive for human development, in health or disease, not only due to direct effects but also because of the dysfunctional calibration of biological networks in formation.

Abandoned by Freud in the early years of psychoanalysis, except for the contributions of W. Reich and Ferenczi, trauma has returned to be re-evaluated within psychoanalytic psychotherapy (Gabbard & Westen, 2003; Bromberg, 1998). Recent years have brought new insights from research on ACEs (*adverse childhood experiences*) or ELA/ELS (*early life adversity*, *early life stress*) as etiopathogenetic factors, with primary focus on the caregiving relationship. Although much research on the relationship between stress and perinatal life, and stress and epidemiology in general, focuses on situations of overt psychosocial stress (poverty, isolation, abuse, illness, conflicts…), the category of "adverse events" should be expanded beyond major traumatic events to include more elusive deficiencies in concrete caregiving relationships, such as those related to contact (Mahler *et al.*, 1978; Beebe & Lachmann, 2002). This expansion makes the reference population universal and opens the way to developments in primary prevention and salutogenesis. The latter, referring to the human organism's ability to generate and maintain health even under adverse conditions, can also be promoted by caregivers through an open sensitivity to observe simultaneously somatic and psychic functions, and their analogous connections of meaning: somatic symptoms can help identify psychic inclinations, and conversely, psychic symptoms can be related to somatic dispositions. In Western history, the first to establish a systematic relationship between organic

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dysfunctions and psychic dysfunctions was Franz Alexander, who is thus considered the founder of psychosomatic medicine (Bottaccioli F. & Bottaccioli A.G., 2024b).

Mind-Body Connections in Health and Disease

Between the 1930s and 1950s, Franz Alexander, a Freudian psychoanalyst who founded the Chicago Psychoanalytic Institute in 1932, developed his own metapsychology on the origins of disease. Starting from the distinction between conversion disorders and genuine organic alterations in which the psychic cause is evident – first termed "psychosomatic" – Alexander proposed an innovative reinterpretation of pathogenetic mechanisms, identifying them, from a complexity perspective, in the dynamic interaction between organic vulnerability, early psychodynamic patterns, and triggering environmental situations. None of these variables alone is considered sufficient to determine disease.

With this approach, the Hungarian physician foresaw the limitations of a dualistic mind-body view, proposing a clinical and scientific method centred on the concept of the organism as a psychobiological unity, thus anticipating one of the most fertile epistemological foundations of the PNEI paradigm (Bastianelli *et al.*, 2021; Bottaccioli F. & Bottaccioli A.G., 2024a). This model proves surprisingly current, capable of integrating two vital dimensions for the sciences and practices of care: the biological and the psychological. Alexander advocated an anti-dualist, holistic philosophy and proposed an integrated approach to pathology – biological, psychological, and socio-environmental – predating Engel. While establishing a solid biological framework, he emphasized the role of psychology as «*the only field capable of explaining human motives*» (Alexander & Selesnick, 1966, p. 402) and as an effective way to influence the organism, complemented by medical analysis and intervention in the biological dimension: «*The basic position of the current psychosomatic approach is that human personality and the body constitute an indivisible whole, and that medicine should address personality problems and their effects on the body with a combination of psychological and somatic treatment methods. The psychological approach is one path to influence the organism. Psychology and biology address the same complex organism representing two different aspects*» (ibid.). The main limitation of his model lies not so much in the "emotional specificity" as a cause of psychosomatic illness – a posthumous simplification attributed to him – but in the cultural limitation arising from the scientific backwardness of his time regarding the functioning of the human organism. Alexander effectively illustrates the influence of the psyche on biology. In contrast, the reverse is understandably absent in his writings, given that the first partial demonstrations of bottom-up communication between the immune

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system and the brain only appeared in the 1980s, and only recently has evidence emerged for the influence of inflammation, nutrition, etc., on the psyche.

Already in the 1920s, Ludwig Binswanger sought to overcome the determinism of psychoanalysis in favour of a broader view of human experience. He focused on how humans inhabit the world and, on this basis, developed the concept of existential analysis, integrating Heideggerian phenomenology with psychoanalysis, which he applied to psychiatric practice. Subsequently, Medard Boss (1963[7]) integrated Binswanger's legacy into a structured psychotherapeutic practice model called *Daseinsanalyse*. Boss studied the role of somatic disorders in the subject's existential economy but rejected Alexander's linear causal model linking psychic conflicts to organic pathologies. In line with *Daseinsanalyse*, he approached an existential analysis of illness, in which the symptom is not merely the expression of an unconscious conflict but a mode of being-in-the-world. Boss thus rejects any generic definition of somatic or psychic symptoms, asserting, for example, that there is no general definition of asthma, only "my asthma", i.e., *my asthmatic way of being in the world*.

In medicine, Hans Selye (1936) conducted significant research on the effects of stress, defining the distinction between good and bad adaptation: *eustress* and *distress*. He highlighted how adaptation can function more or less effectively and how diseases result from this process. Prolonged stress responses can create alterations (today called signatures) and predispose the organism to disease, thereby defining the difference between good and bad stress and, more importantly, between activation and allostatic overload. Prolonged stress responses to diverse stimuli can induce an inflammatory state and lead to disease. The capacity for self-regulation – understanding, through proprioceptive and interoceptive mechanisms, the need to modify or vary repetitive dysfunctional response patterns – defines the retroactive modality that allows remaining within one's window of tolerance. The window of tolerance can be defined as the space within which necessary feedback occurs, psychically stimulating and supported by reflective and meta-observational functions on one's actions.

With Selye, research on bidirectional relationships between biological systems and the psyche began, initially between the immune system, the brain, and the psyche, which developed from the 1960s within nascent Psychoneuroimmunology. In 1964, the American psychiatrist George F. Solomon published *Emotion, Immunity, and Disease: A Speculative Theoretical Integration*, in which the term "Psychoimmunology" first appeared. A few years later, he hypothesized that «alterations of

[7] Swiss psychiatrist, trained in psychoanalysis and analysed by Karen Horney, he was introduced by Binswanger to the work of Heidegger, who became both a friend and a mentor. In 1958, he wrote *Daseinsanalyse e psicoterapia II*, included in the 2018 collection published by Cortina.

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the brain during psychic illness could have an immunological reflection and, conversely, it seems conceivable that immune alterations could play a role in the pathogenesis of psychic illness, particularly in schizophrenia». Today, sixty years later, research on severe psychiatric disorders continues to investigate these relationships. The works of Robert Ader, Hugo Besedovsky, and Candace Pert in the 1970s anticipated by decades the mainstream and heterodox science (Damasio, 1994), breaking down the separation between physical-biological systems and the psyche-brain system (Bottaccioli, 2026, in press).

Siegel's contributions are particularly relevant: in trauma clinics, Siegel (1999) defines the window of tolerance as the zone between two levels of arousal: the lower limit, marking hypoactivation dysregulation, and the upper limit, representing hyperactivation dysregulation. Arousal beyond these limits does not favour trauma processing but triggers the dysfunctional re-experiencing of traumatic memories, hindering reflective presence to one's experience. Arousal within the limits, conversely, promotes an observational attitude, self-presence, and awareness of psychic contents and their bodily connections; it allows one to be within memories while observing them externally, as one would observe the landscape from a moving train.

Hyperactivation involves excessive sympathetic activity, with tendencies toward fight-or-flight or avoidance responses, and a disconnection of the prefrontal cortex from limbic circuits. Visible somatic manifestations include tachycardia, sweating, and muscle tension. Traumatic memory fragments activate but cannot be processed due to cortical disconnection. Hypoactivation is characterized by freezing, tonic immobility, and dissociation, a state of emotional distance from one's experience that may extend to derealization and depersonalization. Disconnection of fronto-subcortical circuits results in severe somatic disconnection, a "shutdown" state preventing trauma reprocessing.

Understanding the window of tolerance is useful not only for complex or attachment trauma treatment. It helps clinicians read somatizations from allostatic overload, i.e., when disease arises from prolonged stress-axis maintenance without resolution, i.e., calibration between sympathetic activation and parasympathetic return. It also supports evaluating patient stabilization and monitoring the return of self-regulatory functions within the window of tolerance after clinical interventions. This recalibration process indicates a return from the acute stress response to a resolution phase and the restoration of balance (Sinibaldi & Achilli, 2022). Awareness of these processes allows management of the patient's position relative to the window of tolerance and their reflective and meta-observational capacity. An example of integrated stress measurement is the scale developed in 2000 (Di Nuovo, Rispoli & Genta, 2000), which correlates physiological indices (skin con-

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ductance, electromyography, blood pressure, heart rate) with biochemical measures (cortisol, GH, LH, PRL) and the MSP questionnaire.

Rewriting Biochemical Patterns

Considering the human being as an organism, and reevaluating trauma in psychotherapy, as discussed above, implies another significant aspect: the impact of treatment on biochemical patterns. Although findings are not yet conclusive, there is robust evidence regarding the biochemical effects of psychotherapy. One could hypothesize that it is precisely the functional rewriting of these patterns that ensures the long-term stability of psychotherapeutic effects, although research in this area is still evolving. To date, evidence has come primarily from cognitive approaches and, to a lesser extent, from psychodynamic ones.

We have repeatedly emphasized that, within the new paradigm, the body cannot be conceived as an autonomous and isolated entity. Rather, it is a complex organism capable, from the beginning of life, of retaining relational imprints, which remain encoded in implicit memory (more generally, in PNEI functional networks), influence future relationships, and constitute the self as experienced individually, the care of which is ultimately the goal of psychotherapy. Rewriting biochemical patterns can occur through both bottom-up processes (as discussed later via direct interventions, whether internal to or collateral to treatment) and top-down processes, through cognitive and emotional restructuring. These interventions should be understood in a perspective of complementarity and circularity, where micro- and macro-level phenomena represent the same process, albeit at different logical levels.

Current research on the mechanisms of change induced by psychotherapy primarily aims to retrospectively identify the biochemical changes that result from the clinical intervention. We are still far from satisfactory results, but it is hoped that future research may allow the programmatic identification of rewriting targets (i.e., which biochemical or neural mechanisms should be modified to achieve the desired change) and the modalities that explicitly address them (i.e., which therapeutic interventions most effectively act on those mechanisms).

At present, the reduction of chronic inflammation is probably the most promising area of such research and has already been scientifically confirmed (Shields *et al.*, 2020; Ma H. *et al.*, 2022).

Addressing the Broader Systemic Crisis

In addition to the above, there is an urgent need for psychotherapy as well as all health disciplines to intervene in the systemic crisis currently gripping the world,

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which has created a pervasive and increasing state of uncertainty and generalized stress. An epiphenomenal pandemic of mistrust, conflict, and social distancing is underway, with already epidemiologically significant effects, particularly following the COVID-19 emergency, converging on a body increasingly prone to dysfunction, whether explosive or implosive[8].

Of particular concern is the sharp rise in psychological disorders, especially among adolescents, and emerging pathologies related to sensory disorganization, eating disorders, affective blunting, self-harm, anxiety and panic, anti-conservative behaviours, social withdrawal, suicide, and violence. A closely related and highly relevant chapter concerns the use of technology and its impact, especially in developmental stages (Bianchi, 2019).

Intervention in this direction is essential to mitigate the spreading disorders and, above all, to reduce the risk that the chronicity and proliferation of stress may generate dysfunctions whose epigenetic signatures could be transmitted intergenerationally.

Focus on the Bodily Traces of Life Experiences

Psychotherapy, as a therapeutic practice, is concerned with the "traces" of traumatic or dysfunctional life experiences (which in epigenetics may be observed as "signatures") in order to intervene through specific methodologies. As previously noted, the ongoing trend toward integrated psychotherapy implies an evolution of general psychological theories, in the sense of a systemic reconsideration of the mind-body relationship and a decisive revaluation of the role of the body in the clinical process. This represents an epistemological evolution that brings different psychotherapies closer together.

The traces that psychotherapies consider constitute a kind of theoretical and technical hub, relevant both to the development of a theory of mind and to the rewriting of technical interventions. Regardless of how they are defined, experiential traces have the following characteristics:

- They are primarily written by early relational experiences, conveyed through perceptual and interoceptive information (i.e., the perception of the body's internal states).
- These experiences leave "imprints" on the body, in the sense that they establish settings within biological networks, particularly the well-studied stress axis (hypothalamic-pituitary-adrenal axis).

[8] We do not report here the numerous studies in this regard: from COVID-related research to the field of psychotraumatology, to epigenetic studies on generational transmission. Similarly, this applies to the following section concerning the impact of technology.

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- They influence subsequent life, affecting emotional and physiological regulation, and if dysfunctional, can generate disturbances throughout the psychobiological continuum.
- Although predominantly unconscious, somatic traces are not repressed and can therefore be accessed and modified through new relational experiences.
- They may become a sensitive locus for the modulation of epigenetic traces that regulate gene activity without altering DNA.

These considerations can stimulate clinicians' reflections in psychotherapy: How are traces inscribed in the organism? Which relational experiences determine them? Are there particularly salient traces that could guide primary prevention and salutogenesis? How do dysfunctional traces act, and through which pathways? Which tools are necessary to detect them in the therapeutic relationship? Which interventions facilitate their rewriting in the organism to promote a new equilibrium of health? Could there be greater convergence among psychotherapies regarding the factors that drive change?

Manipulation of the Body

Social and cultural dynamics, together with vicissitudes in family relations, profoundly influence the organism, forcing it into continuous allostatic adaptations. When tolerance windows are exceeded, the risk of exposure to epigenetic signatures increases, thereby increasing the likelihood that acquired dysfunctions may be transmitted to subsequent generations. For this reason, the PNEI (Psycho-Neuro-Endocrine-Immunology) approach considers it essential that such dynamics be included within the framework of listening and care.

A phenomenon of growing global relevance must be considered. This trend runs counter to the evolutionary direction of science, which seeks to overcome dualism, a principle that underpins this work.

Worldwide, almost 40 million people – and approximately 1 million in Italy –[9], undergo procedures to modify their bodies through medical and cosmetic surgery. To these numbers must be added a vast but unquantifiable use of tools for more or less permanent body modifications: gym activities, unsupervised diets, tattoos, and piercings. The figures are striking in 2024; the increase over the previous four years was +42.5%. The age group most involved is 35-40 years, predominantly female, though requests from young people (under 24) and men are also rising.

Reading this phenomenon in its complexity, the numerical increase cannot be

[9] Data drawn from the 2024 Global Annual Survey of the International Society of Aesthetic Plastic Surgery (ISAPS), presented at the ISAPS Olympiad World Congress in Singapore. https://www.isaps.org/discover/about-isaps/global-statistics/global-survey-2024-full-report-and-press-releases/

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attributed solely to the accessibility of medical technology, which now allows the general population to undergo interventions previously limited to elites. This is a genuine cultural trend.

The ridge-line between a legitimate desire to improve one's appearance and a shortcut to overcoming deep insecurities is both narrow and steep. Leaving aside the biological risks associated with such practices, the phenomenon undoubtedly falls within the domain of psychotherapy, as an expression of generalized identity lability. This identity fragility is evident in many aspects of individual and social life and underlies numerous psychological disorders.

We identify a common thread linking four interactive phenomena: stress in this era of global crisis, uncertainty about individual and social identity, relational difficulties accompanied by distrust and conflict, and the need for compensatory modes of self-affirmation.

In a historical moment in which identity is increasingly less grounded in concrete, shared social actions that leave a meaningful mark in social and relational contexts, the solidity of the self diminishes. Social acceptance, which is indispensable, increasingly relies on the narrow window of apparent image and compliance with – or ostentation of – standards that are themselves becoming more fluid.

The reference mirror becomes increasingly external rather than internal. This same fragility of the Self intertwines with another epochal phenomenon: the exponential expansion of communication technologies, an additional factor in the global crisis.

Just as medical technologies can be understood as opportunities to bypass personal insecurities by directly modifying the body, communication technologies are widely used to seemingly overcome difficulties in concrete relationality, effectively "de-corporizing" the organism. Digital de-corporization can thus be considered a form of bodily manipulation. Non-corporeal relationships are created, developed, and concluded online, often in a very short time span, without direct contact, bypassing the complexity and psychobiological richness of real-life encounters.

The effects, however, are neither ephemeral nor illusory. The organism, interacting through a smartphone, is activated in its full complexity; the stress axis is engaged, often chronically (given the time spent online[10]), yet an inability or unwillingness to act within concrete relationality prevents a return to the functional range.

New dysfunctional behaviours reflect this process, such as doomscrolling, the tendency to compulsively and passively scroll through negative news online. First

[10] In Italy, 90% of the population spends an average of nearly 6 hours per day online, according to the 2025 annual Digital report by We Are Social. See: https://wearesocial.com/uk/blog/2025/02/digital-2025-the-essential-guide-to-the-global-state-of-digital/

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described during the pandemic (Anand *et al*., 2022), doomscrolling has been associated with anxiety, stress, sleep disturbances, and a general deterioration in psychological and physical well-being. There is clear evidence that digital spaces are often experienced not as opportunities to expand concrete sociality, but rather as substitutes or compensations for it.

This is particularly critical during development, when concrete experiences should calibrate the formation of psychobiological networks. The early introduction of technologies raises genuine concerns about the deprivation of formative experiences in real relationality. It is equally risky to expose children to digital experiences before they are psychobiologically equipped to manage them.

It is urgent that psychotherapy and psychology more broadly engage in deep reflection on these phenomena. Society itself can be seen as an organism in need of care.

New Questions and Directions for Responses in PNEI-Oriented Psychotherapy

The shift in the paradigm regarding the relationships between mind and body, when applied in the clinical realm of psychological theory and practice, inevitably raises broader questions. How does the new scientific paradigm of complexity impact the clinical process of psychotherapy? In this new scenario, how can the psychotherapist integrate the processes of consciousness useful for the development of the clinical process? Given that consciousness is now considered a complex phenomenon emerging from interrelations, interactions, interdependencies, and interferences between mind, body, and interpersonal relationships, how does the concept of narrative and clinical dialogue expand? How can a therapist maintain the centrality of their therapeutic orientation while modifying it to integrate the organism in a meta-level approach? How can verbal therapies be reconciled with body-based therapies while preserving the most significant aspects? How should the organism be conceptualized across different epistemologies? Which interventions aimed at restoring the organism's balance, valid across different theoretical orientations, should be validated and integrated into a meta-model? What training needs might be hypothesized for clinicians?

No longer limited to the verbal domain, in therapy, narratives and dialogues between subjects are also expressed in the explicit and implicit forms, functions, and processes of interacting bodies. Intertwined verbal and non-verbal cues influence mutual listening between patient and therapist. Within this complexity, clinical listening and therapeutic action are enriched when the therapist, beyond verbal exchange, can orient their attunement to those narrative forms unfolding in the

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amodal rhythm of verbal and gestural dialogue, easily captured by attention to the external perceptual field; or to those forms articulated in the sensory resonance of organs and viscera, normally muted, detectable only through intentional attention to the internal perceptual field. From this perspective, narrating and dialoguing become true actions that reverberate from one organism to another, from patient to psychotherapist and vice versa (Amore, 2021, 2024).

The complexity of narrative modalities articulated by the organism and its multiple, parallel processes of experience elaboration, as assumed by the Multiple Code Theory (Bucci, 1997), is both verbal and non-verbal, while the intersubjective field of the clinical encounter consists of multidirectional communication between the mind-bodies of two interlocutors who mostly interact through the implicit, non-verbal channel, in addition to the verbal one. In this expanded interactional field, in agreement with Jacobs (1991), we believe that the development of cultivated perceptual sensitivity to bodily experience is necessary for the psychotherapist in training.

This *embodied* vision of the human being constitutes a strong element of scientific evolution and is central to the PNEI paradigm. The theoretical-clinical significance of this premise ensures that the body, as an organism, is not merely a variable to be added to therapeutic protocols, but a central construct that calls for reconsideration of both psychotherapeutic theories and techniques.

From here, we want to highlight the need for more radical reflections on the deconstruction of outdated body-mind relational models that nevertheless guide therapeutic actions, rather than the simpler inclusion of the body within preexisting models. That is, from the first consultation encounter, a patient's observation should accord the clinician a gaze capable of continuously shifting between psychic and bodily experiences, capturing the functional and meaningful connections within the experiential economy of the person during consultation and throughout their development. In this way, we aim to articulate as closely as possible the subjective sense of human existence in an integrated mind-body-world representation, restoring to the subject the specificity of their complexity. Since dysfunction and illness are now conceived as the result of the unrecognition or dissociation of different aspects of the Self, this constitutes a first, fundamental therapeutic action aimed at integrating the constitutive aspects of the Self normally polarized into psychic and bodily representations. Therefore, «*repairing dissociation implies first operating an integration between mind and body, between somatic and psychic states, tolerating and exploring sensory experiences, thereby fostering the necessary connections for the development of a sense of self-cohesion aligned with self-awareness*» (Amore, 2024, p. 63).

The inevitability of the above has now led almost all models to affirm the cen-

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trality of the body in psychotherapy; however, these statements carry very different connotations, referring to underlying theoretical frameworks and corresponding intervention methodologies. The impression remains that the significance of this shift in vision is not yet fully grasped (or is overlooked), and that pre-existing theoretical-clinical models are updated without substantial modification, as if the body could be treated as a simple additional variable enriching therapeutic practice. Scientific progress cannot advance in a fragmented manner; the evolution has been significant, but it is still weak. A strong meta-model is necessary, one that synergistically captures scientifically validated evidence and represents a renewed stimulus for research arising from the abandonment of unvalidated views.

PNEI Proposals for Incorporating the Body into Technique

Expanding Assessment

Generally, across different assessment modalities, the body is investigated as an anamnesis datum: narratives about bodily vicissitudes are collected for diagnostic purposes but often do not involve exploration of the body in its relational functions.

The gamut of information collected ranges from past and/or present disorders to related medical therapies. Less frequently, it includes subtler experiences related to past and current developmental history. There is no consensus on which elements are the most significant for observation and collection. Likewise, regarding the meaning of the collected data and its therapeutic use, the range of possibilities is broad.

Somatic symptoms are consistently included in assessment questionnaires and in many DSM criteria. Yet, their deeper meaning is often overlooked, and a vision that frames their etiopathogenetic origins and developmental consequences is missing. From this emerges the need to conceive of a simultaneously dual care of the Person, defined in the roles of physician and psychologist. Their different professional backgrounds should converge to collect significant content relevant to both domains. This joint approach allows the construction of a hypothesis of functioning that considers both the organic-psychic and the psycho-organic dimensions (where "psycho" here also refers to social and cultural levels).

In terms of process, it is more appropriate to avoid assigning hierarchical salience to the collection of anamnesis information, as this would imply maintaining a non-integrated system view. Conversely, a common perspective is necessary by recognizing the specificity of each exploratory logic without subordinating one to the other. Collaboration between psychologists and physicians must be based on a

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shared communicative code, allowing a parallel and integrated approach to patient care. This means professionals should work together not only chronologically but also through a multidimensional reading of the case. Each specialist maintains their own level of access and competence, but they decode phenomena in an integrated manner.

For example, suppose we consider an eating disorder to be an expression of systemic inflammation caused by intestinal dysbiosis, maintained by prolonged emotional and psychosocial stress, in this scenario. In that case, therapeutic interventions should converge on multiple fronts:

- Emotional regulation: Techniques such as biofeedback (e.g., breathing, increased heart rate variability) and mindfulness.
- Interventions on gut health: Detailed dietary prescriptions by the physician, including natural remedies to reduce inflammation.
- Psychotherapy and psychotraumatology: To address emotional causes and traumas.
- Internal medicine guidance: Specific medical treatments.

For this approach to work, professionals will have to share a common language and understand the intricate psycho-neuro-endocrino-immunological connections and their manifestations. This will require a position of humility and cooperation among all involved figures.

The Body in the Anamnesis

Let us take as an example a data collection form proposed by the Order of Psychologists of Tuscany in June 2024. The form is divided into three sections: Personal History, Clinical History, and Analysis of the Request. Bodily data appear in the *personal history* as "current and/or past organic diseases" (and related pharmacology), "dietary habits", "sleep-wake rhythm", and use of "alcohol, smoking, or drugs"; but there are no references to bodily data in the *clinical history* (in the family and personal anamnesis sections), while they are indirectly included in the subsection *analysing life skills and personal resources*, such as "stress management" and "effective/assertive communication". Bodily data are more present in the *analysis of the request*, within the section dedicated to the *physical examination*, in dimensions such as "clothing, self-care, speech, motor activity, agitation, etc.".

Yet, the form can be considered advanced in some respects: it is transversal to theoretical models (although it does ask for identification of attachment style at one point); it considers dietary habits; it records bodily aspects in the physical examination; and it addresses the topic of stress. However, no reference is made to the body in the person's life history, such as birth details or possible breastfeeding experiences. Sexuality is also largely absent. Finally, there is no guidance on how

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to observe the few collected data, which, from our perspective, are elements that influence and define epigenetics.

For a PNEI-oriented psychotherapist who interfaces with a person whose personal history is traceable through the organism's functioning, it is necessary to go beyond such data collection. The assessment should include minimal aspects of historical-developmental anamnesis (e.g., breastfeeding, crawling, Early Life Adversity (ELA), early motor characteristics, sports activities, etc.) together with objective observations collected in the here-and-now of the encounter (non-verbal patterns, but also indicative data of possible alterations: skin tone, temperature, tachycardia, breathing patterns, etc.). At this stage, a more in-depth anamnesis would be useful, including the evaluation of potential biological and epigenetic markers. Particular attention should be given to those related to inflammatory mediators (cytokines, chemokines, histamine, etc.) and to data on gut microbiota health, now recognized as an active part of the immune system, along with any alterations. The psychotherapist alone can collect and integrate some of this information systematically; however, collaboration with a physician would allow deeper investigation through specific analyses, providing a more useful and truly integrated clinical picture.

The collection should also include experiences of sexuality, both as lived and narrated by the subject, and as objective data potentially influenced by dysfunctions or complications (see the Dis.Men Commission document on sexuality published in PNEI Review: Vaccaro *et al.*, 2024). Finally, all these data should be framed within the context of the subject's birth and development. This framework includes the place of birth, socio-cultural context, myths and assumptions of the social and family system, occupational positions, and everything relevant to the life context.

Regarding data collection, it is also relevant today to reflect on technology-mediated modalities. There is a growing tendency to replace physical co-presence in clinical encounters with virtual platforms, and the criticality of this phenomenon is noted, especially during development (Bianchi, 2019). This vast, complex, and controversial topic will be addressed in a future reflection.

The Body in the Relationship

The patient's learned relational patterns are directly observable in their approach to the therapist through nonverbal communication. Observed patterns should be placed within a systemic view, including familial, social, and cultural levels of relational experience. Only by considering this framework can current observations of posture, musculoskeletal flexibility, bodily modes of emotional regulation, and inferences about traces left by past experiences in the construction of the Self gain meaning.

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These data can be considered "macro" epiphenomena of processes and traces inscribed at the "micro" level. Frequently, observable data in the here-and-now reveal alterations in emotional and stress regulation processes and simultaneously constitute potential access points.

From the body psychotherapy tradition, some useful parameters to expand the physical examination to include the relational sense of non-verbal language are highlighted:

- *Breathing.* Breathing is a general regulatory factor and has been scientifically demonstrated to be linked to major biological, emotional, and cognitive systems, particularly in stress management. Biochemical traces of alteration (subject to rewriting or correction) are also reflected in breathing. When unaltered, breathing promotes interoceptive listening, maintaining contact with sensations, and supporting bodily awareness, perception, and emotional expression. Ancient practices, such as meditative techniques (both static and in motion), as well as many modern physiotherapeutic and rehabilitative approaches, share the use of mindful breathing as a privileged gateway to the autonomic nervous system and to physiological-affective regulation. All these techniques, within different theoretical frameworks, converge in considering the respiratory rhythm a basic tool for promoting self-regulation and the development of self-awareness.
- *Posture, voice tone, gaze.* These data make the relational modes of openness, closure, or withdrawal, conveying emotional experiences, more evident. Life skills from anamnesis forms can thus also be captured directly, beyond what the patient reports.
- *Muscle tone.* Alterations in muscle tone within the hyper- and hypotrophy ranges are very common. Beyond causing disorders, muscle tone quality, perceptible through movement flexibility/fluidity, indicates why the organism has calibrated its relational defences toward rigidity or softness, opposition or adaptation.
- *Movement quality.* Characteristics defining specific ways of moving in the world, i.e., sensorimotor patterns, are multiple. The organism interacts with the world and with relationships through learned motor abilities, which, in turn, affect relational possibilities. Each individual develops a personal repertoire of gestures and motor patterns. A person gesturing broadly and decisively may be perceived as extroverted or passionate, whereas someone using contained and cautious gestures may appear more introverted or reserved. These motor patterns are not random; they are learned and shaped by early relational experiences and influence how we are perceived and how others choose to interact with us. The body psychotherapy tradition suggests observing these dynamic elements from the first moment of care, as they form the self-other motor patterns. The RIGs, to use Stern's term.

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Expanding the Technique repertoire

After the data collection phase, the psychotherapist translates the observed data into an intervention plan, often developed implicitly, that guides clinical interaction. The clinical attention to the body spans a continuum of lesser or greater therapist involvement. Even without a shared integrated vision, bodily symptoms or signals during sessions are increasingly recognized by theories as emerging from the relationship. However, except in body-mediated psychotherapies, bodily events generally remain in the background of verbal discourse: even when noticed and considered, clinical exchange focuses on verbal content rather than bodily manifestations. Occasionally, when specific symptomatology brings them prominently to the forefront (e.g., DAP, PTSD), bodily events are addressed through brief-focused interventions (as in some CBT protocols). Nonetheless, except for certain techniques (EMDR, DBR, or some hypnosis practices), these events are not directly and systematically explored, nor are their connections with accompanying emotional experiences investigated.

For the PNEI-oriented psychotherapist, the body is present constantly, not only when symptoms or somatic dysregulations forcibly attract attention. There is ample scope to integrate coherent practices across different therapeutic models that involve the body more directly[11]. The following are proposals for reorientations that are useful for defining psychotherapy from a PNEI perspective.

Interoceptive listening

In therapeutic dialogue practice, it is useful to implement interoceptive listening techniques, which are already used in some clinical practices. Since the psychotherapeutic encounter itself structures an intersubjective field, consciousness promoted by the psychotherapeutic process emerges also from non-verbal clinical dialogue and is experienced by both participants primarily as an embodied experience in implicit sensorimotor forms. Especially when consciousness cannot access the experience, and verbal forms are unavailable to narrate it, the sensory and proprioceptive states of both remain available for exploration. In these cases, the psychotherapist's body, like a tuning fork, can resonate with the patient's unconscious subjective experience. The clinician's participation can take the form of sensory experiences or enactments[12] in the here-and-now of the clinical encounter (Ogden,

[11] Regarding the psychoanalytic orientation, we refer to the works of Marina Amore.

[12] Enactment, first conceptualized by Theodor Jacobs (1986), describes an unconscious response of the therapist to the implicit perception of dissociated or unmentalized content belonging to the patient's experience. This response may manifest in verbal or behavioural actions that disrupt the therapeutic setting, creating discontinuities in how the patient experiences the therapist. Once recognized, enact-

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1997; Bromberg, 1998, 2011). The ability to access their own sensory experience and the routine practice of microanalytic monitoring often represent key competencies for those working with patients whose body language precedes or substitutes verbal language. The therapist's interoceptive observation can become the sensory basis for attuning to the patient's sensorimotor experience, initiating exploration that promotes the patient's awareness of affective states—a first step toward expanding consciousness. Based on the clinical work of authors from various theoretical orientations, the empirical utility of sensory focus for both partners in the therapeutic dyad is considered transversal, aiming to amplify the patient's sensory experience in the here-and-now of clinical dialogue and as a facilitator for verbal expression (Ogden, 2006, 2021; Amore, 2012, 2021; Frank, 2001).

Direct Bodily Interaction

Physical contact between therapist and patient, while historically utilized in the early stages of psychoanalysis, later became taboo and was practiced only by so-called heretics. With the collapse of the myth of opacity and the advent of the relational turn, theoretical assumptions shifted. Nevertheless, apart from certain exceptions such as Gestalt therapy, psychodrama, and the composite area of body-oriented psychotherapy, practice in most psychotherapies remains predominantly verbal. In light of new data, the distinction between verbal and body-based therapy should fade; yet this distinction still persists as a lingering dichotomy. Considering the human being as a circular organism, why not render the therapeutic relationship circular in its technical possibilities as well?

Once again, body-oriented psychotherapy offers illustrative examples. For this therapeutic orientation, as previously highlighted, attention to the body occupies a central place in the care process, and interventions using various "body" techniques may involve physical contact between therapist and patient. Direct contact in therapy can be categorized into two types (Bianchi A., 2018):

- *Diagnostic touch*: aimed at highlighting asymmetries in different areas of the body, contractures, temperature, perceptual thresholds, pain, mobility, and alarm reactions.
- *Reconstructive touch*: aimed at directly acting on altered planes and functions, according to the therapeutic phase, to expand mobility, increase body awareness, modify muscle tone, access ancient and regressive sensorimotor patterns, and reconnect them with other experiential contents (such as emotions and memories).

ment can serve as a powerful pathway to access the patient's dissociated affective experiences and become a potent instrument for transformation in therapy.

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Within body-oriented psychotherapy, the therapeutic program unfolds simultaneously through verbal and non-verbal channels to integrate the two levels of consciousness. For example, to work on assertiveness and stabilize the biochemical changes that support it, targeted techniques that re-establish open, strong movements, an open posture, diaphragmatic breathing, direct gaze, and an appropriate voice tone are useful.

Direct work on the body takes advantage of interoceptive listening, the ability to perceive internal bodily sensations. Interoception serves as a direct channel to access unconscious memories and contents, as occurs spontaneously during sleep. Dream construction and the ensuing narrative emerge from this circular process of perceiving and amplifying somatic sensations, which occurs automatically and below the threshold of awareness. Similarly, bodily signals during the session – muscle tension, posture, breathing, motor quality, sensations, and somatic symptoms – can be intercepted and explored. Like the elements of a dream, these signals provide access to the patient's implicit narrative and allow for its deeper meaning to be decoded (Amore, 2021, 2022).

We can envisage a trend in the evolution of psychotherapeutic technique that, starting from the verbal definition of experiential contents, initiates processes that amplify interoceptive traces within a multidimensional experiential framework, aiming to integrate the emotional, cognitive, and sensorimotor planes in the here-and-now of the clinical relationship. Through interoceptive listening, each psychotherapeutic orientation can explore these traces according to its clinical tools, which may involve forms of contact and movement in functional psychotherapy or microanalytic verbal exploration of bodily occurrences in psychoanalytic settings. Naturally, the use of interoceptive listening must take into account certain limitations and caution in the case of patients with specific characteristics (traumatized individuals hypersensitive to physical contact, those prone to affective dysregulation, or individuals with disabilities).

The body in therapy is also the main pathway for experimenting with new behaviours: in experiential approaches, such as Gestalt therapy, experiences proposed by the therapist and lived by the patient within the safety of the setting and therapeutic relationship engage the organism as a whole, allowing the exploration of new behaviours that can reconsolidate previously dysfunctional patterns. Continuous guidance from the therapist to attend to interoceptive signals while experiencing new behaviour or emotionally significant experiences in the session promotes the integration of unconscious experiences and the exploration of new possibilities.

The primary route to understanding the boundaries of action and the most effective therapeutic approaches at any one stage of the clinical process remains the

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relationship. Attention to observable aspects within the relational context protects against the risk of rigidly applying standardized protocols and ensures individualized pathways aimed at reconstructing injured aspects of the Self.

The first question arises: *if it is legitimate and sometimes necessary to administer questionnaires or tests, why not also test movements, postures, breathing, or pain thresholds?*

The second question: *as a more immediate example, why not work on restoring diaphragmatic breathing in therapy (given its known link to stress), as part of a more complex rewriting of biochemical states?*

Integrated Therapy: Our Proposal

Renewed attention to the role of the body in psychotherapy has led to increasingly widespread adoption of techniques of a somatic nature, in cognitive behavioural therapies and in the psychoanalytic ambit. EMDR, Sensory Motor, DBR (Deep Brain Reorienting), and hypnosis, or through the growing in-session use of specific techniques as supplements to the protocols in use across various therapeutic models. This represents undeniably a step forward, but a feeble step rather than a real rethinking of psychotherapy as an instrument capable of taking care of the complexity of all the dysregulated manifestations – psychic and somatic – of the whole organism.

Inserting a few somatic techniques into the process risks just scratching the surface of that self-sufficiency with which psychotherapy has traditionally defended its territory, claiming specialist knowledge, in parallel with the fragmented competencies of the many specialisations in Western medicine. Change in this way is just partial and superficial, lacking the will to accept the – sometimes unavoidable – necessity of involving professionals from other contexts, in the medical field or other complementary disciplines. Without this further step, the therapeutic relationship will miss the chance to accompany the patient in the conquest of a cohesive representation of the Self, which should include somatic functioning as well as psychic functioning.

What would be preferable is an expansion of the network of cooperation, allowing the psychotherapist to engage in dialogue with a richer constellation of professionals. Not just with the psychiatrist – with whom collaboration is well established – or with teachers in the case of developmental contexts where dialogue is often sought reciprocally. A more choral form of treatment, which has a greater possibility of generating deep and lasting change.

From a PNEI perspective, in aiming to define a metamodel which integrates both synchronous attention to biological and psychic processes and cooperation across disciplines, it is valuable to co-construct with other professionals – and to-

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gether with the patient – the lines of intervention necessary to restore a state of health consistent with the patient's psychic and somatic needs. The strength of integrated therapy emerges when diverse therapeutic indications come out of a shared vision among caregivers.

In the PNEI sense, integrated therapy consists of proposing a unified diagnostic process (medical and psychological) with correlated, progressively monitored, specific interventions (Bottaccioli F. & Bottaccioli A.G., 2024a). This perspective must include the creation of a shared language regarding biopsychological mechanisms to facilitate communication between psychotherapists and specialists from other biological disciplines. A shared diagnostic foundation encourages rapprochement between healthcare professions, requiring all parties to broaden the scope of their diagnostic evaluations while maintaining the specificity of their interventions. For the physician, this involves opening up to a non-reductive organicist view. At the same time, the psychotherapist benefits from foundational knowledge of the connections between biological and psychic processes in order to guide clinical exploration of the patient's lifestyle, dietary habits, physical activity, and so on.

Within this perspective, it is useful to consider with the patient options among well-being practices, such as meditation (for its known effects on emotional regulation and mindful attention), acupuncture, homeopathy, herbal medicine, music therapy, Tai Chi Chuan, Qigong, and others aligned with the organism's need for repair.

In summary, all health professionals should learn to read and contextualize, and to intervene according to their specific expertise at the emotional, cognitive, bodily, and social levels in a recursive manner.

Expanding Training

The proposal of an integrated PNEI-based therapy, therefore, implies, for the psychotherapist, the need to access integrated training aimed at sensitizing clinical listening and attention to the complexity of communication levels at play between individuals, and to the necessity of their interconnection on the level of conscious awareness, in order to promote the optimal development of the change process.

Below are some directions for training to be implemented, summarized in bullet points. One key point is the development of the psychotherapist's capacity to perceive themselves as an interconnected organism, mind, and body, and to understand the implications of this interconnection in the exercise of clinical practice. This condition is encapsulated by the concept of *embodiment*, coined by Varela to express the embodied state of cognition[13].

[13] The term has commonly been translated as "embodied cognition", although the correct translation would be "incorporated cognition", which we prefer.

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Outside the tradition of body-oriented psychotherapy, the psychotherapist generally knows less about their own body than the patient's body. In the history of psychoanalysis, we can trace a line of reflections which, starting with Ferenczi and Reich and continuing through the attention that Bion and Ogden paid to the presymbolic and implicitly embodied dimensions of experience, has repeatedly highlighted the need to include the body in our understanding of the analytic process. In this perspective, Theodore Jacobs, as early as 1991, pointed out that the psychoanalytic tradition had long privileged the listening to verbal communication at the expense of what is conveyed through the body, gesture, and the infinitesimal, unspoken vibration of experience. According to the author, the lack of training attuned to the nonverbal level creates a kind of blind spot in the analyst-in-training. This ingrained perceptual habit tends to take root and be transmitted from one generation of analysts to the next as a technical shortcoming of the discipline, thus making a renewal of analytic technique desirable. In 1998, the volume edited by Aron and Sommer Anderson, *The Body in Relational Psychoanalysis*, represented an important point of convergence among different clinical contributions aimed at restoring centrality to the bodily dimension within relational psychoanalysis; however, the issue of training analysts in this regard remained largely unexplored.

The idea of a renewed psychotherapy resonates deeply with the concept of the embodied mind, which lies at the heart of Francisco Varela's epistemological perspective (1992), oriented toward understanding the mind as an embodied and relational process and conceiving the transformation of consciousness as an experience rooted in the body-in-relation[14]. We maintain that, to realize such a project, each school, regardless of orientation, should include in its training program attention to certain dimensions necessary for developing in the psychotherapist the sensitivity for integral listening and the skill to use data gathered from their own interoception to guide clinical work. We consider a broad reflection on the bodily intersubjectivity of the therapeutic relationship to be useful, one that examines key elements that help in conceiving a meta-model within which the specificities of each orientation can be referenced.

Below, we propose some key elements for such a reflection, which we believe can serve as a cornerstone for this debate.

[14] Varela introduced a revolutionary way of thinking about the mind, moving it out of the brain and into the body, relationships, and lived experience. His work laid the foundations for neurophenomenology, influencing contemporary neuroscience, psychology, and philosophy.

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The Therapist's Body

During training, the therapist should have the opportunity to explore their own body's experience to develop certain listening sensitivities that support the cultivation of conscious awareness. Therefore, part of the training program should include activities aimed at:

- Raising awareness of sensory experience and discernment regarding its use within the clinical dialogue: the experiences that each clinician has of the therapeutic relationship are never purely cognitive but always involve sensory perception. This is often spontaneously prominent when the therapeutic field hosts dissociated and/or unformulated affective organizations that tend toward consciousness, and whose processing is necessary for therapeutic progress. In these cases, the therapist must develop a foundational disposition for both verbal and non-verbal listening to guide therapeutic action.
- Ensuring increased attention to symptoms as potential indicators of biological alterations and medical pathologies, as well as to traces for understanding dysfunctional relational organizing principles.
- Ensuring basic knowledge of biological functioning and the relational setting of regulatory systems and processes, particularly stress, including an awareness of epigenetic markers and their effects on psychobiological networks.
- Developing knowledge of the impact of lifestyle and nutrition on hormonal cycle alterations and gut microbiota functions, and how such alterations influence emotional and cognitive manifestations.
- Acquisition of a shared clinical language that allows communication not only with psychiatrists but also with internists, general practitioners, and specialists from other biological disciplines.
- Learning basic clinical interventions for somato-emotional regulation that may be necessary during the session, both to reduce stress in the here-and-now if it exceeds the window of tolerance and as autonomous tools for the patient to decrease inflammatory response and support the organism in restoring and maintaining emotional balance. Techniques such as diaphragmatic breathing and meditation are examples.

Additional key aspects for good practice include:

The therapist's attention to their own well-being

Just as ongoing cognitive training (ECM) is mandatory and valued, the training program should also offer practices aimed at the therapist's well-being to maintain functional stress regulation capacities, which are normally challenged during professional activity. Consequently, the therapist's equilibrium requires constant attention and monitoring.

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Beyond validating the importance of personal psychotherapy aimed at understanding one's own functioning – currently required only in dynamic-oriented training models[15] – it is important to maintain ongoing attention to personal well-being and health. Like their patients, therapists should consistently evaluate the use of tools and practices (previously mentioned) that promote functional integration of the organism.

Multidisciplinary supervision sessions should complement individual work in line with the PNEI paradigm.

Expanded conception of countertransfert

Often insufficiently considered, although increasingly reflected upon, is the therapist's self-observation of signals emerging from their own body, both inside and outside the session. These signals and experiences, often initially without meaning, are frequently perceived by therapists as interference rather than explored as clinical tools.

This issue has a historical context. In 1958, Heinrich Racker, a Polish psychoanalyst who emigrated to Argentina to escape Nazism, wrote: «*It is important that the analyst perceives their own facial expression, frames it as a countertransference response to the transference, and, after controlling for the personal factors it expresses, reintegrates that part of their personality onto the patient via interpretation*» (Racker, 1968, p. 45).

In 1988, in the first comprehensive text on body-centred psychotherapy that would soon become Functional Psychotherapy, Barbara Andriello and Luciano Rispoli, referencing Racker, added:

«*…facial expression is only one aspect of the bodily self that, beyond our conscious intentions, impacts relational configurations… the inner phantasmatic world, which heavily influences countertransferential actions, is not triggered solely by impulses generated internally; nor does it originate exclusively from a mechanical concatenation between the patient's thoughts and images… and the therapist's fantasies. Input channels include all perceptual levels to which the therapist's sensory world is exposed, both exogenous and endogenous. These messages produce a complex network of resonances, not all of which belong explicitly to conscious awareness. Exploring this vibration of emotional, bodily, and cognitive strings constitutes a therapeutic use of expanded countertransference*» (pp. 248-249).

In addition to images and thoughts, during the session, the therapist can often register somatically marked experiences: repulsion, disgust, withdrawal, empathy,

[15] When referring to dynamically oriented models, we do not mean exclusively psychoanalysis and psychoanalytic psychotherapies, but also other approaches that share an emphasis on unconscious and relational dynamics, such as Gestalt therapy and Transactional Analysis.

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tenderness, alarm, and sometimes tensions or pains, as well as interoceptive and exteroceptive sensations whose nature may not be immediately clear. If recognized in their connection with the current relationship, even ancient bodily experiences – such as a migraine – can transform from obstacles into signs of therapeutic evolution.

The gaze of a psychotherapist oriented by the PNEI perspective, regardless of their clinical model of reference, should be able to perceive the whole and the continuity between the patient's verbal and non-verbal expressions, integrating their shared meaning to foster greater cohesion in the sense of self. The patient's bodily signals, conveyed through the implicit channels of communication, are reflected in the therapist's bodily experience, who perceives their echo through the multiple signals discussed above. For psychotherapists trained in verbal therapies, it may be necessary to develop and integrate skills not normally addressed in training for "talk therapies". These skills should primarily concern the ability to intercept and identify, in a microanalytic way, how the dynamics of the here-and-now of the therapeutic relationship resonate in one's own bodily experience as a representation of the patient's past relational dynamics, and, subsequently, to learn to use one's sensory resonances as traces to promote exploration in clinical dialogue.

We consider it highly useful for training institutions to take into account the need to sensitize trainees to sensory-motor forms of listening that require a different register of perception and information processing than that required by traditional listening to verbal content brought by the patient in therapy. This sensitization would require psychotherapy training programs to include the development of intersubjective listening through dedicated activities.

Regarding integrated listening, where does psychotherapy training stand today? We believe that, for many orientations and for many individual professionals, progress in this direction is still hindered by action schemes that rely, to paraphrase Daniel Stern's central concept, on old theoretical-clinical RIGs that struggle to be deconstructed in favour of *new ways of being-with*.

At the same time, we observe in society a progressive movement that, increasingly rapidly, is moving toward a disembodiment of relational experience. We wish to believe that psychotherapy, as care for the human subject in their entirety, can still intervene to counteract this dehumanizing tendency of humanity. This is also the *project for psychotherapy* that Jacobs hoped for in 1991[16], and which refers to the concept of the *embodied mind* that characterized the central epistemological po-

[16] Despite what Jacobs still hoped for in 1991, to date, training schools with this orientation in Italy normally do not include in their curriculum educational activities specifically aimed at developing interoceptive sensitivity in clinical listening. The only exception is represented by the newly established School of Specialization in Psychosomatic Psychotherapy with a PNEI orientation.

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sition on the idea of consciousness transformation in Francisco Varela's theory in 1992[17].

Conclusions

The evolution of scientific knowledge, which underlies PNEI (psycho-neuro-endocrine-immunology), demonstrates that to understand the human being in health and disease, it is necessary to adopt a systemic perspective. This vision recognizes the individual as a complex organism in which biological and psychological dimensions constantly communicate bidirectionally.

A direct consequence of this paradigm is that the physical and biological elements of the person and their interrelations have become central and indispensable material in psychotherapy and clinical practice as well.

The overcoming of the mind-body dichotomy has represented a long process in the evolution of psychotherapeutic thought, from the origins of psychoanalysis throughout the twentieth century.

The present work has described the key stages of this long process: from the historical authors within early psychoanalysis – Reich, Ferenczi, and Groddeck – to the first school of psychosomatics with Alexander; from contributions coming from neuroscience and infant research, to the internal evolutions of the main psychotherapeutic models: psychodynamic, cognitive-behavioural, relational-systemic, psychocorporeal, and Gestalt.

Although there is a clear tendency to revalue corporeality in psychotherapy, this often translates into eclectic solutions that fail to grasp the depth of the change required. Due to their specificity linked to a particular orientation model, such approaches are unable to provide a connected and unified understanding.

The PNEI approach addresses all areas of psychotherapy. It does not merely constitute a simple update but requires even radical modifications of the basic theoretical assumptions and technical modalities of intervention.

It has been highlighted how outdated and scientifically unfounded conceptualizations must be abandoned in favour of new assumptions. The physical and biological elements of corporeality convey inescapable meanings, just like thoughts and experiences that can be communicated verbally, with which they are deeply intertwined. They must therefore fully become material for therapeutic action, as they constitute historical traces of the relational and bodily foundation of the psy-

[17] Varela introduced a revolutionary way of thinking about the mind, taking it out of the brain and into the body, the relationship, and lived experience. His work laid the foundations for neurophenomenology, influencing contemporary neuroscience, psychology, and philosophy.

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che, dating back to early attachment experiences. These traces, predominantly unconscious but not repressed, have a primarily procedural nature and, in our view, are generally unsatisfactorily defined as "body memories". They pertain to the perceptual and sensory sphere, to gestures, body attitudes, somatic symptoms, and the underlying settings of psychobiological networks.

As in any intersubjectivity, the therapeutic relationship too develops as a relationship between organisms in the fullest sense, implying reciprocal transformative processes aimed at returning elaborated and transformed experiences to the patient.

It has been suggested that even the dimension of therapeutic techniques should adapt, transversally across models, to intercept and use physical and biological elements from the assessment phase onward.

It has been emphasized that interoception constitutes a direct channel for accessing unconscious memories and contents. Similarly, bodily signals present during the session (muscle tension, posture, breathing, sensations, and somatic symptoms) can not only be intercepted and explored but can also become the object of direct therapeutic intervention. To this end, suggestions have been offered both for the expansion of assessment and for the recovery of techniques derived from the tradition of body-oriented psychotherapy.

It has also been urged that each therapeutic model reflect on appropriate modifications in training. PNEI proposes to implement biological training for psychotherapists as well, always embedded within a meta-model of interpretation. This would allow equal collaboration with medical colleagues, envisaging the desired possibility of joint care.

Finally, it has been reiterated how social and cultural dynamics profoundly influence the organism, forcing it into continuous and sometimes difficult allostatic adaptations. The ongoing global crisis (in its systemic, political, health, and ecological aspects) correlates with increasing identity lability, manifested in phenomena such as the reification of one's own body, contrary to the evolutionary direction of science, which has led to the overcoming of the mind-body dichotomy. Such phenomena include the increase of forms of body manipulation and digital decorporealization in the exponential use of new communication technologies, with consequent risks also at the epigenetic level, which health sciences must and will increasingly address, both in terms of care and prevention.

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Author Contributions: Conceptualization: M.A., A.B., D.D.C; writing-original draft preparation: M.A., A.B., D.D.C; writing-review and editing: M.A., A.B., D.D.C., L.B., F.B., R.C., I.R.C., E.S., L.V.
Funding: This research received no external funding. Conflicts of Interest: The authors Marina Amore, Alessandro Bianchi, Donatella De Colle, Laura Bastianelli, Francesco Bottaccioli, Raffaella Cardone, Ines Romy Cutrona, Emanuela Stoppele, Laura Vaccaro declare no conflict of interest. All authors have read and agreed to the published version of the manuscript.

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