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Article

The Synergetics of Change: Phase Transitions and Neural Resonance in the Activation of the Spiritual Self

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Abstract

The psychotherapeutic landscape of late modernity is marked by a fundamental paradox: despite a wealth of effective interventions, a unified theoretical framework is lacking to explain the mechanisms of profound, transdiagnostic change (Hofmann & Svitak, 2024). The Resonance-Inference Model (RIM) overcomes this fragmentation. It is a meta-model that creates a coherent language for the phenomena of suffering and healing by uniting insights from neuroscience, systems theory, and psychology in a process-based framework. The RIM conceptualizes suffering not as an illness, but as a state of chronic existential dissonance experienced as high free energy. It posits that sustainable healing requires not a local repair, but a global reorganization of the self-pattern, which is made possible by a "sacred prediction error" and the activation of a hierarchically highest spiritual prior. This master prior serves as an anchor that enables the organism to tolerate the chaotic phase of transition because it makes an overarching prediction about the meaningfulness and coherence of life. Viktor Frankl's logotherapy serves as a case study to demonstrate the power and mechanism of this master prior repair.

Keywords: Resonance-Inference Model; Synergetics; active inference; spiritual self; logotherapy; phase transition; master prior; downward causation; process-based therapy

Public Significance Statement

This article introduces the Resonance-Inference Model (RIM), a new framework that explains why psychotherapy works. Instead of focusing on symptom-based diagnoses, the RIM suggests that psychological suffering is a state of deep, inner dissonance. It proposes that lasting healing requires a fundamental reorganization of one's entire self-pattern, a process driven by the activation of a "spiritual prior," or a deep-seated belief about life's meaning and coherence. This model provides a new, unified perspective on how diverse therapeutic approaches achieve profound change and highlights the crucial role of finding meaning in overcoming suffering.

Introduction: The Paradox of Psychotherapy and the Call for a Paradigm Shift

The landscape of psychotherapy presents a fascinating yet profoundly paradoxical picture: on one hand, there is a remarkable diversity and abundance of effective approaches that contribute to the alleviation of human suffering (Grawe, 2004). Empirical research has demonstrated the efficacy of a wide range of therapeutic schools, from psychodynamic to cognitive-behavioral and humanistic approaches. This spectrum of validated interventions is a sign of the field's maturity and progress and has led to the notorious "Dodo-Bird-Verdict," which states that most therapies are, on average, similarly effective (Rosenzweig, 1936; Luborsky et al., 1975). This phenomenon is at the core of the psychotherapeutic paradox: How can such diverse therapeutic approaches, which in their theoretical assumptions and procedures fundamentally contradict one another, lead to similar positive outcomes? This dilemma points to the absence of an overarching, process-based mechanism that drives therapeutic change.

On the other hand, there is a deep fragmentation that divides the field into a mosaic of hundreds of schools, often operating with incommensurable theoretical premises (Raskin, 2007). These schools develop their own terminology, models, and interventions, leading to a babylonian confusion of tongues. A psychoanalyst may speak of "unconscious repression," while a cognitive-behavioral therapist diagnoses "cognitive distortions," and a humanistic therapist emphasizes the "incongruence" between self-image and experience. This conceptual and theoretical fragmentation is not merely an academic challenge; it complicates communication among clinicians, hinders uniform training, and makes the systematic development of psychotherapy as a coherent scientific discipline nearly impossible. The call for integration, for a process-based meta-model that transcends specific schools, is therefore more urgent today than ever before. It is a response to the realization that behind the diversity of approaches, universal principles of change must exist that we have yet to identify and model.

This paper presents such a process-based roadmap with the Resonance-Inference Model (RIM). Instead of forcing suffering into rigid diagnoses, the RIM conceptualizes the human mind as a predictive machine that works tirelessly to validate its own predictions about the world. This model unites the insights of neuroscience, systems theory, and psychology and creates a coherent language for the phenomena of suffering and healing. Suffering is understood in this framework not as a disease, but as a state of chronically elevated free energy—a persistent dissonance resulting from the violation of fundamental psychological basic needs and trapped in a rigid, maladaptive generative self-pattern. The brain makes tireless attempts to reduce this energetic burden, often through ineffective and painful strategies that nevertheless follow the primacy of predictability.

In this context, healing is not a mere local repair of symptoms but a global reorganization of the entire self-pattern. This profound change is made possible by a "sacred prediction error" and the activation of a hierarchically highest spiritual prior. This master prior, as the ultimate anchor, enables the organism to tolerate the chaotic phase of a transition because it makes an overarching prediction about the meaningfulness and coherence of life.

The Pillars of Transformation: An Integrated Theoretical Framework

The psychotherapeutic landscape, with its variety of schools such as psychoanalysis, cognitive-behavioral therapy, and humanistic psychology, has historically developed its own terminologies, which complicate interdisciplinary communication. A therapist may speak of "unconscious defense mechanisms," while another diagnoses "maladaptive schemata." The RIM, in contrast, offers a universal vocabulary based on the principles of free energy and predictive processing, thereby building a bridge between these different approaches. It allows for the evaluation of the effectiveness of interventions on a common, fundamental mechanistic level by conceptualizing change as a systemic reduction of free energy and the restoration of resonance.

The Resonance-Inference Model (RIM) overcomes this hurdle by creating a coherent theoretical framework that connects the core principles from six seemingly independent scientific disciplines, conceptualizing them as pillars of transformation. Each of these pillars answers a fundamental question and makes a crucial contribution to understanding the architecture of our mind and the dynamics of its change. The pillars are:

- The Free-Energy Principle (FEP): It describes how the brain processes information and suffers.
- The Self-Pattern Theory: It conceptualizes what the self is.
- Synergetics: It explains how change unfolds in the system.
- Spatiotemporal Neuroscience: It anchors psychological phenomena in measurable neurobiological patterns.
- Affect Logic: It provides the energetic drive for psychological dynamics.
- Consistency Theory: It explains why the system suffers at all and what the fundamental priors are.

By bringing these disciplines together, the RIM creates a coherent theoretical basis that demonstrates the deep interconnectedness of mind, brain, and body and provides a process-based roadmap for therapeutic work.

The Predictive Brain: Karl Friston's Free-Energy Principle (FEP)

The RIM is based on the Free-Energy Principle (FEP) developed by Karl Friston as its computational foundation. It posits that the brain does not function as a passive stimulus-response mechanism but as an active "inference machine" whose primary goal is to minimize surprise from its environment (Friston, 2010). Surprise, in this context, is an information-theoretic quantity that measures the discrepancy between the brain's predictions and the sensory data that actually arrive. The minimization of this surprise, known as variational free energy, is the most fundamental imperative of life.

To this end, the brain maintains a hierarchical, generative model of the world, ranging from the highest, abstract beliefs (priors) to the lowest levels of sensory data. The minimization of free energy occurs in two complementary ways, which can be considered the basic forms of existence: perceptual inference and active inference. In perceptual inference, the brain adjusts its internal model to reality to improve its predictions. In active inference, however, the brain changes the world through action to align the sensory data with its existing predictions. From this perspective, psychological suffering can be defined as a state of chronically high free energy, in which the generative model is no longer capable of adequately predicting or actively shaping reality.

The dynamics of this system are governed by a finely tuned neurobiological balance: the excitatory-inhibitory (E/I) balance (Tucker et al., 2025). Excitatory signals (E) fire up the system and are associated with the formation of predictions and the processing of curiosity and confidence. Inhibitory signals (I) act as a brake and are associated with error correction, but also with anxiety and caution. The precision weighting of a prior (the system's confidence in its prediction) is modulated by this E/I ratio. A stable, healthy brain operates in a state of criticality, which is located on the "edge of chaos" (Leidig, 2025). In this state, the E/I balance is dynamic and flexible, allowing for maximum information processing capacity, as the system neither descends into rigid order nor into uncontrolled chaos. Depression could be understood as a subcritical state in which inhibitory forces dominate, leading to rigid, repetitive thinking. Mania, in contrast, would be a supercritical state with uncontrolled excitatory activity. Therapeutic interventions can be interpreted within this framework as techniques for the targeted modulation of the E/I balance, leading the system back to a state of criticality.

The Self as a Dynamic Gestalt: Shaun Gallagher's Self-Pattern Theory

The FEP describes how the brain works, but not what it is. Here, the RIM builds a bridge to the phenomenological level with Shaun Gallagher's Self-Pattern Theory. He conceives of the self not as a fixed entity or an unchangeable core ego, but as a dynamic and emergent pattern (Gallagher, 2013). This self-pattern arises from the complex, reciprocal interaction of a number of dimensions, such as the embodied, affective, narrative, and social self. The Markov blanket, which the FEP describes as the informational boundary between the organism and its environment, is the statistical realization of this self-pattern. It separates the internal states from the external ones but at the same time mediates the exchange. Each of the self-pattern's dimensions can be understood as a nested level of priors in the generative model's hierarchy. The embodied self represents the deepest priors about the body's physiological states, while the narrative self functions as a high-ranking, integrating prior that provides an overarching meaning and a coherent story for the other dimensions.

However, Gallagher's original conception of the self as a "dynamic gestalt" was criticized for lacking an explicit causal mechanism to explain the interaction of the different dimensions. At this point, the RIM takes a decisive step: it translates the phenomenological description into a dynamic, neurobiologically founded heuristic. Each dimension of the self-pattern—from physical sensations to

affective tones and social roles—corresponds to a specific level of priors in the hierarchical generative model. The dynamics between these levels are controlled by circular causality: higher-ranking priors (e.g., a story about one's own identity) generate predictions that influence processing at lower-ranking levels (e.g., the interpretation of bodily signals). Conversely, prediction errors flow from the bottom up, forcing the system to update its higher-level priors.

An example may clarify this circular dynamic. A person with low self-efficacy (a prior of the narrative self) may approach a new physical challenge (e.g., a climbing wall) with a negative prior. Their brain generates a prediction: "I can't do this." This prediction activates an affective pattern of fear, which in turn manifests in the embodied dimension—the body becomes tense, and muscles stiffen. These bodily signals are interpreted by the brain as evidence for the original, negative prediction, which further solidifies the prior "I can't do this." The RIM shows here that suffering is not a static state but a self-stabilizing, circular cycle that extends across different levels of the self-pattern.

Therapeutic interventions in the RIM are aimed at interrupting this circular causality at a crucial point. Instead of focusing solely on the cognitive (narrative) pattern, interventions can start at the embodied level. For example, working on posture, breathing, or mindfulness for interoceptive signals can provide the system with new, positive sensory evidence. This new data can challenge the original negative prior and thus transform the circular cycle into a new, positive dynamic. The therapeutic goal is to shift the self-pattern from a rigid attractor to a more flexible, adaptive state.

The Non-Linearity of Change: Hermann Haken's Synergetics

To explain how a rigid self-pattern changes, the RIM draws on Hermann Haken's Synergetics. It posits that complex systems self-organize and fall into stable patterns called attractors (Haken, 1996). Psychological states such as depression or a stable personality are thus attractors. Change in this model is rarely linear but occurs through sudden, non-linear phase transitions that happen when a crucial control parameter exceeds a critical value. This transition leads to a temporary destabilization and a state of chaos, which is a prerequisite for reorganization into a new, more adaptive attractor. Synergetics thus provides the formal basis for the clinical observation that a therapeutic deterioration often precedes a breakthrough.

Synergetics is not a metaphysics, but an interdisciplinary science that originated in physics and deals with self-organization in systems consisting of many interacting parts (Haken, 1983). A flock of birds flying in a complex swarm pattern without a central leader coordinating the movement is a vivid example of this. Applied to psychology, this means: Our thoughts, feelings, habits, and beliefs are the "particles" whose local interactions create a collective, macroscopic pattern—psychological suffering or well-being. Such a stable state, an attractor, is like a valley in a complex energy landscape: the system tends to roll back into this valley because it is energetically most favorable. Depression may be agonizing, but for the system, it is a stable, predictable state of low free energy (Leidig, 2025). The system knows the paths in this valley and can predict the future with precision within this framework.

The phase transition is the moment when the system abruptly jumps from one attractor to another. One can imagine this like the moment when water freezes into ice or turns into steam—a tiny change in a control parameter (e.g., temperature) triggers a dramatic, qualitative change in the entire system. In psychology, the control parameter is often a persistent emotional tension or a new piece of information (a prediction error) that the system can no longer ignore. This point of instability is called criticality—a state on the edge of chaos, where the old patterns lose their coherence, dissolve, and the system enters a phase of increased flexibility that makes it receptive to new learning processes and reorganizations.

The clinical implication is profound: the feeling of therapeutic deterioration that patients often experience shortly before a breakthrough is not the failure of therapy but the direct, phenomenological experience of this phase transition. It is the moment when the old, painful attractors lose their stability and the system enters a temporary chaos. The therapist's task is not to

fight the chaos but to understand it as a necessary, productive step, to accompany the patient through this phase, and to provide a safe container for reorganization.

The Neurobiological Anchor: Georg Northoff's Spatiotemporal Neuroscience

Georg Northoff's approach situates these dynamics on their neurobiological stage: the spatiotemporal dynamics of the brain. He argues that mental phenomena are rooted in the intrinsic space-time patterns of neural activity and that mental disorders manifest as a disturbance of these dynamics. Depression is thus understood as a slowing down and impoverishment of this neural "basic melody," leading to rigid, repetitive patterns. Northoff's theory thus translates psychological metaphors such as "mental rigidity" into measurable neurobiological parameters like the complexity and rhythm of neural dynamics. This offers the possibility of objectively substantiating the effectiveness of interventions and connecting the subjective experience of change with an objectifiable reality in the brain.

Northoff's thesis is revolutionary because it abandons the idea that the brain is a pure data center that only becomes active in response to external stimuli. Instead, he emphasizes the immense importance of the brain's spontaneous activity, which never completely comes to a standstill even at rest and can be understood as the "basic melody" or "neurobiological noise" of our being. He posits that the self does not emerge in response to a stimulus but is encoded in the fundamental spatiotemporal form of this spontaneous activity (Northoff, 2014).

Mental disorders are therefore a dysregulation of this basic melody. In depression, this manifests as a slowing down and impoverishment of neural dynamics. The brain's symphony, which in a healthy state is characterized by a complex, multi-voiced soundscape, lapses into a monotonous, repetitive rhythm (Northoff, 2023). The brain plays the same sad melody over and over again, unable to integrate new, vitalizing tones from the outside world. This slowing down is not just a metaphor; it correlates with a measurable reduction in the complexity of neural fluctuations. This rigid pattern is the neural signature of the psychological attractors of depression, which manifest as rumination loops and emotional rigidity. It is a subcritical state characterized by a dominance of inhibitory processes (the "brake") and the blocking of the brain's ability for dynamic adaptation.

In contrast, an anxiety disorder could manifest in a different form of dysregulation: as an uncontrolled acceleration and desynchronization, a supercritical state in which the brain's symphony disintegrates into chaotic noise. Here, the excitatory system is overactive, and the abundance of incoming signals can no longer be integrated into a coherent perception.

Northoff's approach offers a crucial anchor for therapy. He translates psychological metaphors such as "mental rigidity" or "inner emptiness" into objective, neurobiological parameters such as the rhythm and complexity of neural dynamics. This not only makes it possible to substantiate the effectiveness of interventions through imaging methods but also to rethink the therapeutic work itself. The goal is no longer just the modification of thoughts or behaviors but the restoration of the brain's original, rich, and flexible "basic melody." The therapeutic relationship and interventions can be understood as external impulses that offer the brain a new, coherent frequency to which the dissonant system can resync, thereby connecting the subjective experience of change with an objectifiable reality in the brain.

The Energetic Drive: Luc Ciompi's Affect Logic

Luc Ciompi's Affect Logic provides the energetic drive for the dynamics of the self-pattern (Ciompi, 1997). He posits that emotions (affects) and thinking (cognition) are not opposites but form an inseparable functional unit. Affects are the primary operators that structure thinking by focusing attention and providing the "energetic" driving force. In the RIM, information-theoretic free energy is equated with experienced emotional tension. Aversive feelings like fear and frustration are thus the tangible manifestation of an informational state of emergency. Ciompi thus provides the

motivation for the minimization of free energy: the system strives to reduce it because high free energy feels bad.

Affect Logic goes far beyond the mere interaction of feeling and thought. Ciompi (1997) posits that this interaction is fractal or self-similar. This means that the basic patterns of affective-cognitive interaction repeat themselves at all scales of organization—from a fleeting emotion in a short moment to the stable emotional basic mood and personality of an individual over decades. A moment of acute panic (a fast, intense affective charge) follows the same organizational principles as chronic anxiety disorder (a slow, persistent affective charge). A person's entire psychological "eigenwelt" can be understood as a fractal pattern characterized by a dominant affect logic.

This perspective is central to the RIM because it explains the deep, holistic effect of mental disorders. Suffering is not limited to a specific cognitive distortion but permeates the entire system. A depressive feeling is not just a mood; it is a "depressive logic" that structures all cognitive processes. It causes the brain to preferentially perceive negative information, devalue positive information, and persist in rumination loops. The emotional tension a client feels is the direct phenomenological correlate of a neurodynamic dysbalance (the E/I balance) that manifests fractally at all levels of the self-pattern.

The therapeutic implication is that we must work not only on the cognitive content (the thought) but also on the affective energy (the tension) to achieve lasting changes. An intervention that creates a healing prediction error must not only be cognitively understood but also emotionally felt to break the fractal dynamic. Affect logic thus provides the motivation for the minimization of free energy: the system strives to reduce it because high free energy feels bad. It is the energetic impulse that drives synergetics and can modulate the criticality of the system.

The Motivational Priors: Klaus Grawe's Consistency Theory

Klaus Grawe's Consistency Theory closes the motivational gap of the RIM by explaining why the organism minimizes free energy in the first place. It posits four universal basic needs (attachment, orientation and control, self-esteem, and pleasure/aversion avoidance) that function as the highest, evolutionarily anchored priors of our generative model (Grawe, 2004). The satisfaction of these needs is essential for psychological well-being, and their chronic violation is the primary cause of suffering.

Psychological suffering is defined as the experience of inconsistency, a painful dissonance that arises when these fundamental priors are chronically violated. This experience of inconsistency is not simply an abstract dissatisfaction; it is the tangible, phenomenological experience of a chronic, high-ranking prediction error that manifests at the emotional level as high free energy (Ciompi, 1997). The brain has a deeply anchored expectation that its basic needs should be met. When reality contradicts this expectation, an informational state of emergency arises. Consistency Theory grounds the RIM in psychological reality, as human suffering is understood here not as an abstract disorder, but as a direct consequence of unfulfilled needs, whose fulfillment or violation drives the dynamics of the entire system.

The satisfaction of these basic needs is governed by motivational schemas, which Grawe describes as learned, often unconscious action plans (Grawe, 2004). These schemas essentially follow two fundamental forces: approach, which motivates us to move toward need-satisfying goals, and avoidance, which leads us to avoid situations that might violate a need. A person trapped in a maladaptive attractor often uses a dominant avoidance schema. This schema reduces free energy in the short term by warding off an immediate threat, but in the long term, it cements the experience of inconsistency by preventing precisely those corrective experiences necessary for healing. A person with a fear of rejection may avoid social contact, which dampens anxiety in the short term but chronically frustrates the need for attachment in the long term and maintains inconsistency.

The effectiveness of psychotherapeutic interventions in the RIM can therefore be measured by their ability to update these motivational schemas and strengthen approach schemas over avoidance schemas. This is done by the therapist, who in a safe setting enables new, corrective experiences that prove to the brain that the old schemas are no longer adequate. These new experiences function as

healing prediction errors that falsify the underlying prior (e.g., "closeness is dangerous") and encourage the system to choose a new, more life-serving strategy. Consistency Theory thus provides the compass for change, as it dictates the direction in which the inference dynamics must move to overcome suffering and enable a more fulfilling life.

The Leap into the Depths: The Master Prior and Healing Beyond the Markov Blanket

The Limits of Local Optimization

Most therapeutic approaches, regardless of their theoretical orientation, focus on a local optimization of the human system (Leidig, 2025). In the context of the Resonance-Inference Model (RIM), this means working directly on the Markov blanket, a central concept from the Free-Energy Principle (FEP). Originally from probability theory, the blanket, named after the mathematician Andrey Markov, denotes an informational boundary that statistically separates a system from its environment. In the context of the RIM, this blanket is the immediate interface of the self to the world, consisting of all those sensory impressions and active states through which an organism interacts. The goal of these local interventions is to reduce dissonance. Behaviors or specific thoughts are changed to create new, need-consistent experiences. While these approaches are effective in alleviating symptoms and reducing short-term dissonance, they are often limited to the most superficial levels of the neural hierarchy.

This paradigm of local optimization reaches its limits when the deeper, high-precision priors—the unconscious, emotional, and often deeply rooted in early experiences fundamental assumptions about oneself and the world—remain untouched. A person with social anxiety, for example, may learn to control their panic attacks through breathing exercises and even give a speech in front of a group. This is a remarkable achievement of local optimization. But if the deepest prior "I am fundamentally flawed and will be rejected by others" remains untouched, the system will revert to its old, painful patterns under stress. The healing is fragile because the underlying informational dissonance persists. The system is in a state of "Bayesian optimal pathology" (Chamberlin, 2023): it has learned to live with its suffering because the alternative—a fundamental reorganization of the self—would release a too large and unpredictable amount of free energy. Local optimization is akin to trying to plaster a crack in a house wall without fixing the fragile foundation. Each time the system encounters a similar challenge, the deep inconsistency is reactivated, and the old, maladaptive attractors regain their pull. Sustainable healing that goes beyond mere symptom relief therefore requires a transformation that affects the very foundation of the self-pattern.

The "Sacred Prediction Error": A Therapeutic Phase Transition

Profound, sustainable change rarely happens through incremental steps; it is an abrupt, non-linear phase transition (Haken, 1996). In the RIM framework, such a change is not simply triggered by confronting a problem, but by a "sacred prediction error"—a moment of maximal free energy ($F_{\max}$) that requires a total dissolution of rigid priors. This prediction error is "sacred" because it not only corrects a false assumption but challenges the deepest priors about one's own existence. It is an event so radically contradictory to the system's fundamental assumptions that it is unable to process the new information through simple local adjustments (perceptual inference) or manipulation of the environment (active inference).

Phenomenologically, this moment is experienced as a feeling of total loss of control, existential uncertainty, or creative chaos. It is a feeling as if the ground is being pulled from under one's feet, which often precedes therapeutic breakthroughs. The system is brought to the brink of collapse, to the point of criticality (Northoff, 2023), where old, painful patterns lose their stability and the Markov blanket becomes porous. In this liminal state (Leidig, 2025), the system can reorganize and

spontaneously converge to a new, healthier, and more coherent pattern. The familiar and the known dissolve, and space is created for a completely new way of being and experiencing the world.

From the perspective of synergetics, this process is a targeted but risky strategy. A stable, maladaptive attractor (e.g., a chronic anxiety disorder) is a state with low short-term free energy because the system has learned to predict its environment with precision, albeit painfully. To break out of this attractor, the system must tolerate a state of maximal entropy and free energy (Carhart-Harris et al., 2014), in which the old, predictable patterns disintegrate. The sacred prediction error functions as the control parameter that triggers this destabilization. A person who has lived their entire life guided by the belief "I am unlovable" may experience a "sacred prediction error" when they encounter unconditional love or acceptance in a moment of absolute vulnerability that cannot be explained by their old schemas. This generates such high free energy that the entire system is forced to renegotiate.

The Spiritual Self: A Hierarchical Master Control Parameter

To understand how such a global reorganization is triggered and controlled, the RIM extends Gallagher's Self-Pattern Theory with a hierarchically highest level: the spiritual self (Leidig, 2025). This self is not a homunculus that consciously controls the system but a master control parameter that regulates the dynamics of the entire system through downward causation (Leidig, 2025). The spiritual self is the deepest and most fundamental belief about the meaningfulness, purpose, and basic nature of one's own existence. It is the highest prior that modulates the E/I balance and thus the brain's criticality.

This spiritual self is not necessarily religious. It can manifest in priors such as "My life has a higher purpose," "I am part of a larger, interconnected whole," or "I trust the process of life." Such a master prior acts like the operating system of a computer: a change at this level has far-reaching effects on every single app (i.e., every thought, feeling, and behavior). For example, if a system's master prior changes from "The world is fundamentally chaotic and hostile" to "The world is fundamentally a place of love and learning," the entire attractor landscape reorganizes itself. The precision weighting of events is recalibrated, the system's affective tonality shifts, and even old, painful patterns lose their stability because they lose their relevance in the light of the new, overarching meaning. The spiritual self is thus the anchor that enables the organism to tolerate the unavoidable prediction errors of life because these lose significance in the light of the overarching meaning.

The downward causation at work here is not to be understood as a magical or supernatural force, but as a measurable neurobiological dynamic (Leidig, 2025). A new sense of purpose or a deep spiritual conviction—whether through meditation, encountering art, or confronting one's own mortality—changes the precision weighting of events at all hierarchical levels. A master prior that conveys stability and meaningfulness can modulate the E/I balance in such a way that emotional reactions to lower-level prediction errors are dampened. The amygdala alarm that goes off with a small criticism becomes less loud because the master prior signals that one's own existence does not depend on this feedback. This enables the prefrontal cortex to evaluate the situation more rationally, rather than falling into an automatic, stressful reaction.

This master prior is not a one-way street of control, but part of a circular causality principle (Gallagher, 2013). The spiritual self-pattern influences the system's dynamics from top to bottom, but is in turn shaped and updated from bottom to top by the organism's experiences and actions. A person who has a prior of "connection with everything" will actively seek out experiences of connectedness and interpret them as evidence for their belief. This creates a self-reinforcing upward spiral that leads to an increasingly stable and coherent self-pattern.

The spiritual self is thus the anchor that enables the organism to tolerate the unavoidable prediction errors of life because these lose significance in the light of the overarching meaning. The activation of this prior leads the system into a new, more adaptive state of resonance that goes beyond mere symptom relief and creates the foundation for a fulfilled, meaningful life. In the sense of Frankl

(2005), the human capacity for self-transcendence—to orient oneself toward a cause or another person—is the concrete realization of this master prior. It is the movement of the mind that leaves the ego to find meaning in the You or in the matter. This is the process through which the free energy that was bound in a painful, egocentric fixation is released and channeled in a productive, meaningful direction. Frankl called this the "defiant power of the human spirit" (Sprakties, 2023), which can be understood as the resistance of the human spirit to the adversities of life.

Vertical Resonance: The Restoration of Connection to Meaning

The therapeutic change in the RIM is not aimed at a horizontal optimization of life circumstances but at the restoration of vertical resonance (Rosa, 2016). While horizontal resonance describes the successful connection with the external world—effortless interaction with friends, a fulfilling profession, a hobby—vertical resonance is the deep connection to an overarching meaning. This concept incorporates the logotherapeutic dimension of meaning into the RIM and describes the moment when the self is experienced as part of a larger whole (Frankl, 2005).

The restoration of this vertical resonance manifests as a state of overarching coherence in which life is experienced as being embedded in a context of meaning. This state provides a stability that allows the system to tolerate inconsistencies at lower levels (e.g., frustrated needs or painful experiences) because these lose significance in the light of the overarching meaning. From a logotherapeutic perspective, this is the healing of the noetic dimension, the place where humans can preserve their inner freedom even under the most adverse circumstances. Frankl's survival strategies in Auschwitz are the ultimate example of this: the search for a meaning in the painful circumstances (e.g., the thought of his wife or the goal of restoring his manuscript) served as a master prior that enabled him to tolerate physical and psychological inconsistency and to survive. He did not minimize the free energy generated by hunger and cold, but changed the precision weighting of these signals by placing them in the context of an overarching, meaningful narrative. The pain was no longer just a meaningless prediction error but became a sign of resistance that confirmed the master prior. This radical re-weighting of reality did not minimize the physical hardship, but it minimized the free energy that would have arisen from interpreting this hardship as meaningless and hopeless. From a logotherapeutic perspective, this is the healing of the noetic dimension, the place where a person can maintain their inner freedom even under the most adverse circumstances. The activation of this spiritual prior leads the system into a new, more adaptive state of resonance that goes beyond mere symptom relief and creates the foundation for a fulfilled, meaningful life.

Case Study: Logotherapy as Master Prior Repair

To demonstrate the viability and original power of our model, we apply the Resonance-Inference Model (RIM) to Viktor Frankl's logotherapy. Frankl's approaches, which grew out of his existential border experiences in concentration camps, at first glance appear to be a philosophical, humanistic-existential framework that evades a neuroscientific interpretation. The RIM, however, shows that Frankl's "height psychology" (Frankl, 1975) is a brilliant, albeit intuitive, anticipation of the mechanisms that drive a deep, global reorganization of the self-pattern. From our perspective, Frankl's logotherapy is a practice of master prior repair that leads a person from a state of existential dissonance (high free energy) to a state of resonance.

Frankl's "Will to Meaning" Reinterpreted

Frankl's concept of the "will to meaning"—the primary human motivation that goes beyond the will to pleasure (Freud) or power (Adler)—can be interpreted in the RIM as the highest prior. This concept is not just a psychological category but a master control parameter that regulates the hierarchy of the entire self-pattern (Leidig, 2025). The will to meaning is the most fundamental assumption an organism can have about the coherence and purpose of its existence. In the context of the RIM, it is the anchor that gives life direction and establishes an overarching order that allows the

system to tolerate inconsistencies and prediction errors at lower levels. The power of this prior lies in its capacity for downward causation, with which it recalibrates the entire system from top to bottom. This downward causation is not to be understood as a mystical force, but as a neurobiological process in which a deeply rooted, meaning-giving belief modulates the precision weighting at all subordinate levels.

Frankl described the will to meaning as a noetic dimension, which he contrasted with the biological and psychological dimensions of man (Frankl, 1975). In the RIM, this noetic dimension is understood as the highest level of the hierarchical generative model. It is the place where a person anchors their fundamental values and meaning. While the psychological and biological apparatus of a person (the physical and affective self) registers painful events as prediction errors, the noetic prior enables a re-evaluation of these errors. Thus, an existential crisis can no longer be interpreted as a meaningless stroke of fate, but as a challenge that allows for inner growth.

This re-evaluation of reality is the core of Frankl's "defiant power of the human spirit" (Sprakties, 2023). It is the specifically human ability to distance oneself from physical and psychological conditions and to choose an inner attitude that recalibrates the entire system. In the RIM, this is the conscious decision to assign an overarching precision to the master prior of meaning, even if the sensory data (suffering, hunger, cold) seem to contradict it. The activation of this prior gives life an overarching order that allows the system to tolerate inconsistencies and prediction errors at lower levels. Frankl's survival in the concentration camp can be understood as the ultimate proof of the power of this master prior. He found an overarching meaning in suffering—the thought of seeing his wife again or the commitment to write down his insights about human nature—which gave him an inner stability that the external circumstances could not destroy. This downward causation from meaning to existence is the key to experiencing suffering not as meaningless chaos, but as a source of strength and inner freedom.

The Existential Vacuum as a State of Chronically High Free Energy

Frankl's concept of the existential vacuum—the feeling of meaninglessness and inner emptiness—finds its direct equivalent in the RIM as a state of chronically high free energy at the highest hierarchical level of the self. The existential vacuum is the phenomenological expression of a system whose master prior has failed. Without an overarching, meaning-giving assumption, the brain is overwhelmed by a flood of disjointed, unpredictable experiences. This informational overload leads to the state of disorientation described by Frankl and to maladaptive attempts to reduce free energy in the short term. Frankl's "mass neurotic triad"—depression, aggression, and addiction—can be understood as such dysfunctional strategies that serve the purpose of numbing or compensating for the unbearable existential dissonance (Sprakties, 2023).

The existential vacuum is therefore not simply a lack of happiness or success; it is a fundamental collapse of the inner map, a state of informational hunger that results from the absence of a clear, overarching meaning. The brain, which is trained to find patterns and make predictions, is confronted in this state with an infinite amount of potential meanings and options for action, without an inner compass that allows for prioritization. This leads to a paralyzing ambivalence and a feeling of powerlessness. Every decision is potentially perceived as wrong or meaningless, which causes the system to enter a state of "raging standstill" (Rosa, Zonig, et al. 2024), in which immense energy is squandered in internal conflicts.

From a neuroscientific perspective, the existential vacuum can be associated with a dysregulation in the Default Mode Network (DMN) and the associated value processing networks. The DMN, which normally maintains narrative continuity and a sense of self, loses its orientation without a meaning-giving prior. Instead of generating coherent, future-oriented narratives, it lapses into repetitive rumination loops or into a disoriented, chaotic activity (Northoff, 2023). The brain tries to reduce the chaos by clinging to substitute, often pathological, goals. Addiction, in this sense, is a desperate attempt to offer the brain a simple, predictable source of reward that numbs the complexity of the existential vacuum. Aggression can be understood as a maladaptive form of active inference

aimed at reducing the perceived threat to one's own existence by controlling the environment. And depression is the final, painful attractor of meaninglessness, in which the system persists in a state of minimal activity and maximal consistency.

Logotherapy acts here as a "height psychology" that does not fight the symptoms but targets their cause at the highest level of the self (Frankl, 1975). It tries to restore the master prior of meaning, which enables the brain to integrate the abundance of experiences into a coherent and meaningful context. This restoration of meaning serves as an ordering factor that reduces free energy and paves the way out of the existential vacuum.

The Three Categories of Values as Ways to Reprogram the Self

Frankl's three categories of values—creative values, experiential values, and attitudinal values—are not philosophical abstractions but concrete ways to reprogram the self-pattern. They represent different inference strategies aimed at repairing the master prior. In the RIM, they are understood as the three fundamental forms in which a person can establish vertical resonance (Rosa, 2016).

Creative values are a form of active inference. A person finds meaning by actively shaping the world through creative acts. These actions—whether working on a piece of art, engaging in a social cause, or writing a book—generate new, need-consistent sensory evidence that supports the master prior of meaning. The deep satisfaction that arises from such work is the positive feeling of resonance that signals that one's own actions are in perfect harmony with the overarching values. In the context of Frankl's camp experience, this manifested itself in his commitment to restore his manuscript, which gave him an active role in an otherwise powerless situation.

Experiential values are a form of perceptual inference. A person consciously opens themselves to the beauty and love of the world. These experiences provide the system with rich sensory data that refute the old, rigid priors and enable a new, resonant relationship with the environment. Frankl's anecdotes about the beauty of nature or the laughter of his fellow prisoners show how these small experiences of happiness broke through the overwhelming meaninglessness of the camp. The conscious perception of the beauty of a sunset or a flower is a conscious decision to provide the system with new, positive evidence that nourishes the master prior of meaning. In the RIM, this is the conscious modulation of precision weighting: the significance of the moment is maximized, while the sensory data of suffering lose weight.

Attitudinal values are the most complex and radical form of acceptance and finding meaning. They come into play when a person is confronted with unchangeable suffering that represents a massive, non-minimizable prediction error. In this situation, where neither perceptual nor active inference can lead to a reduction of free energy, only the choice of an inner attitude remains. This is the radical act of creating meaning, in which a person down-weights the precision of suffering and places it in the context of an overarching meaning. Frankl's own attitude in Auschwitz, which he called the "defiant power of the human spirit," is the ultimate example of this: he chose the attitude of dignity and resistance, which gave him an inner freedom that no one could take away from him. This recalibration of the master prior frees the energy bound in meaninglessness, which can now be used for a meaningful action that points beyond the immediate situation.

Narratives as Therapeutic Downward Causation

Frankl's therapeutic method, which relies heavily on personal stories and anecdotes, is a form of narrative downward causation in the RIM. By presenting narratives of resilience, dignity, and meaning (e.g., the story of Jerry Long), the therapist provides highly precise external inferences. They offer the client an alternative, coherent generative model of life that challenges the master prior of meaninglessness. These new stories destabilize the old self-pattern and make the system receptive to a phase transition that leads to a new, meaningful attractor. The narrative thus becomes a powerful tool to change the structure of the self-pattern from top to bottom.

Frankl used the power of stories to directly reach the "spirit" of his clients (Sprakties, 2023). This is a direct intervention at the highest level of the generative model. By presenting a narrative that embodies a master prior of meaningfulness, this new prior is staged in the client's mind as a kind of "dress rehearsal" (Fischer-Lichte, 2004). The client's neural networks simulate the new story, which allows them to experience vertical resonance even before they have had such an experience themselves. This simulation results in a strong downward causation. It changes the precision weighting of the lower-ranking priors: the client's brain begins to look for evidence for the new story. A formerly meaningless event can now be interpreted as a sign of strength, a small gesture of kindness as confirmation of a meaningful existence.

The story of Jerry Long, the man with quadriplegia who found meaning in his suffering, is a paradigmatic example of such an external inference. For a client who despairs at the meaninglessness of their own suffering, Jerry Long's statement "I broke my neck, it didn't break me" (Frankl, 2005) is not just a quote but a highly precise prediction error. It refutes the client's prior that suffering leads to total destruction and offers them an alternative, meaning-giving model. This story becomes "external information" that destabilizes the old, painful master prior and opens up a new perspective for the client. The client can recognize themselves in this story, which builds a bridge to their own buried potential.

In this sense, Frankl's therapeutic anecdotes are not mere illustrations but strategic interventions that target the client's noetic dimension (Frankl, 1975). They are powerful tools to disrupt the internal pattern and initiate a reorganization. The therapist acts as an "inference architect" who not only analyzes the client's dysfunctional story but also provides them with new, healing narratives. The narrative thus becomes a powerful tool to change the structure of the self-pattern from top to bottom, initiate a phase transition to a new, meaning-giving attractor, and help the client move from a passive victim of their story to a conscious author of their own future.

Conclusions & Outlook

The psychotherapeutic landscape of late modernity is marked by a fundamental paradox: despite a wealth of effective interventions, a unified theoretical framework is lacking to explain the mechanisms of profound, transdiagnostic change (Hofmann & Svitak, 2024). The Resonance-Inference Model (RIM) overcomes this fragmentation. It is a meta-model that creates a coherent language for the phenomena of suffering and healing by uniting insights from neuroscience, systems theory, and psychology in a process-based framework. The RIM conceptualizes suffering not as an illness but as a state of chronic existential dissonance experienced as high free energy. It posits that sustainable healing requires not a local repair but a global reorganization of the self-pattern, which is made possible by a "sacred prediction error" and the activation of a hierarchically highest spiritual prior. This master prior serves as an anchor that enables the organism to tolerate the chaotic phase of transition because it makes an overarching prediction about the meaningfulness and coherence of life.

Summary: Psychological Change as Synergetic Reorganization

From the perspective of the RIM, psychological change is a synergetic phase transition (Haken, 1996). The brain as a predictive machine attempts to maintain a state of minimal free energy. Chronic suffering manifests as a rigid, maladaptive attractor in which the system perceives and shapes the world in a way that repeatedly confirms its negative priors. The way out of this attractor leads through the destabilization of this pattern, triggered by an increase in emotional tension—the tangible manifestation of free energy (Ciompi, 1997). This process is controlled by a master prior: the spiritual self. It is the anchor that enables the organism to tolerate the chaotic phase of transition because it makes an overarching prediction about the meaningfulness and coherence of life. Healing, in this sense, is the system's return to a more flexible, resonant attractor, characterized by a dynamic balance between order and chaos, which is called criticality (Northoff, 2023).

Implications for Clinical Practice: Development of RIT and RIC

The findings of the RIM have far-reaching implications for clinical practice. They provide a theoretical basis for the development of Resonance-Inference Therapy (RIT) and -Coaching (RIC). RIT focuses on the healing of pathological attractors by combining local optimization with global reorganization. This is done by consciously inducing "sacred prediction errors" in a safe therapeutic setting to destabilize the self-pattern and enable a reorganization. RIC, in contrast, is aimed at psychologically healthy individuals and focuses on growth and the expansion of the capacity for resonance. It supports clients in consciously mapping and cultivating their master priors to create a more fulfilled and meaningful life. Viktor Frankl's logotherapy is a paradigmatic example of an intuitive RIT application.

Future Research: The Measurement of Free Energy and Neural Resonance

The RIM is an emerging meta-model whose hypotheses require empirical validation. Future research should focus on measuring the neural correlates of free energy and resonance. Neuroimaging techniques such as EEG and fMRI could be used to study the spatiotemporal dynamics of the brain and to establish the E/I balance and the complexity of neural networks as biomarkers for therapeutic progress. Studies could also investigate the influence of targeted interventions, such as music therapy or direct neurostimulation, on the stability of attractors and the reorganization of the self-pattern. The future of psychotherapy lies in deciphering this fundamental, universal grammar of change.

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