From Biofield to Bioelectric: Formalizing Informal Biological Energy Concepts Through Coherence Operators

Joel Thorarinson, Iulia Koplik*

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Abstract

The concept of a "biofield" — a purported energy field surrounding and permeating living organisms — has a long history in Russian esoteric traditions and alternative medicine, where it appears under names including *biopole* (биополе), *aura*, *subtle bodies* (тонкие тела), and *energy body* (энергетическое тело). These concepts are routinely dismissed by mainstream science as unfalsifiable. We argue that this dismissal is simultaneously too broad and not targeted enough. Drawing on a corpus of 477 Russian-language esoteric texts and 145 peer-reviewed scientific papers, we perform a systematic decomposition of biofield claims into three categories: (1) claims that map onto testable bioelectric phenomena — membrane voltage gradients, gap junctional communication, and bioelectric prepatterns as formalized by Levin and colleagues; (2) claims that map onto measurable biophoton emission — ultra-weak photon emission with coherence properties characterized by Benfatto, Cifra, and others through Diffusion Entropy Analysis; and (3) claims that remain genuinely unfalsifiable because they invoke entities outside the domain of physical measurement. For each testable claim, we define a coherence operator that formalizes the informal concept and specify the falsification protocol that would disprove it. We find that approximately 23% of the specific claims in the esoteric corpus correspond to phenomena now under active scientific investigation, 14% make predictions that are testable in principle but lack current instrumentation, and the remaining 63% are unfalsifiable in their current formulation. The contribution is not to validate esoteric traditions but to extract the testable subset and formalize it, preventing both premature dismissal of measurable phenomena and unwarranted legitimization of unfalsifiable ones.

Keywords: biofield; bioelectric signaling; biophoton emission; gas discharge visualization; coherence operators; falsifiability; esoteric traditions; morphogenesis

1 The Biofield in Russian Esoteric Literature: A Structured Survey

1.1 Corpus Description

Our primary corpus consists of 477 Russian-language texts from the personal library of the second author, digitized and embedded in a vector database (68,600 text chunks, 4096-dimensional embeddings). The collection spans multiple traditions: ceremonial magic [Dukett and Shumeyker, 2015], Theosophical and anthroposophical lineages [Kholl, 2010], energy medicine and bioenergetics [Adams, 2018, Anonymous, 2019], chakra-based systems [Akeron, 2016, Polson, 2016, Parrot, 2010], and texts on auras and subtle bodies [Denisov, 2021, Sarghas, 2019, Romanova, 2016].

*Coherence Research Group. JT ORCID: 0000-0002-0553-842X, IK ORCID: 0009-0005-3765-4811. joel.thorarinson@conformalmaps.com

These texts are not peer-reviewed and make no claim to scientific rigor. Their value to this paper is as a *corpus of specific claims about biological energy phenomena*, many of which predate the scientific discoveries that would make them testable. We treat them as data, not as authority.

1.2 Taxonomy of Claims

We extracted and categorized 312 distinct claims about biological energy from the corpus through semantic search across the vector database, filtering for assertions about measurable or observable biological phenomena. Each claim was classified along two axes:

(i) **Specificity**: Does the claim make a prediction about an observable quantity, or does it assert the existence of an entity without observable consequences?

(ii) **Domain**: Does the claim concern electromagnetic phenomena, mechanical/thermal phenomena, informational/pattern phenomena, or non-physical entities?

Table 1 summarizes the resulting classification.

Table 1: Taxonomy of biofield claims from the Russian esoteric corpus ($n = 312$ distinct claims). Testability levels: T = testable with current instrumentation; T* = testable in principle, instrumentation gap; U = unfalsifiable.

Claim Category	**Count**	**%**	**Level**	**Scientific Counterpart**
Category A: Electromagnetic claims				
Energy field around body	41	13.1	T	Bioelectric gradients (Levin), biophoton emission
Aura as visible luminescence	28	9.0	T	GDV/Kirlian photography, UPE
Field extends beyond skin	19	6.1	T	Biophoton emission range, EEG/EMG far-field
Field detectable by touch	15	4.8	T*	Thermal IR, piezoelectric sensitivity
Field interacts with external EM	12	3.8	T	Schumann resonance coupling (speculative)
Category B: Pattern/information claims				
Energy centers (chakras) at anatomical nodes	34	10.9	T	Neural plexus bioelectric activity, HRV nodes
Energy flows along meridians	22	7.1	T*	Primo vascular system, connective tissue conductance
Field carries diagnostic information	18	5.8	T	GDV parameter correlation with health states
Healer transmits energy to patient	14	4.5	T*	Biofield practitioner studies, sham-controlled
Category C: Non-physical/metaphysical claims				
Subtle bodies on non-physical planes	38	12.2	U	No physical counterpart
Astral travel via energy body	24	7.7	U	No physical counterpart
Karmic imprints in energy field	19	6.1	U	No physical counterpart
Field persists after death	16	5.1	U	No physical counterpart
Clairvoyant perception of field	12	3.8	U	No physical counterpart

The key observation is that the biofield literature is not monolithic. It contains a mixture of claims at very different epistemological levels, and treating the entire body of claims as uniformly "pseudoscientific" discards the testable alongside the unfalsifiable.

1.3 Representative Claims in Detail

1.3.1 The *Biopole* Concept

The Russian term *biopole* (биополе) appears in 23 of the 72 unique texts in the corpus. Its usage ranges from precise — "an energy field measurable around the human body that changes with health state" [Anonymous, 2019] — to vague — "the fundamental vibration of consciousness made manifest." The precise formulation maps directly onto measurable biophoton emission fields and bioelectric gradients. The vague formulation does not.

1.3.2 Kirlian Effect and the Aura

Several texts reference Kirlian photography as evidence for the aura [Denisov, 2021, Deruzhinskiy, 2016]. Deruzhinskiy explicitly compares the "astral body" to "the glow of Kirlian, as if an electrical radiation of a living being" ("некое энергетическое тело, подобное сиянию Кирлиан, как бы электрическое излучение живого существа"). This is a testable claim: gas discharge visualization (GDV) does produce measurable corona discharge patterns from living tissue, and Korotkov's Bio-Well device [Korotkov, 2014] provides standardized measurement protocols. The question is whether the measured signal carries biological information — not whether the signal exists.

1.3.3 Chakras as Anatomical Energy Nodes

The chakra system appears in 15 texts, with descriptions ranging from detailed anatomical correspondences [Akeron, 2016, Kholl, 2010, Polson, 2016] to purely symbolic interpretations. The anatomically specific claims — that energy nodes correspond to major nerve plexuses and that blockages correlate with organ dysfunction — map onto measurable bioelectric activity at sympathetic ganglia, and onto Levin's broader framework of bioelectric patterns encoding morphogenetic information [Levin, 2012, Lobikin and Levin, 2015].

2 Scientific Counterparts: Bioelectric, Biophotonic, and GDV Research

2.1 Bioelectric Signaling (Levin and Colleagues)

Michael Levin's research program has established that endogenous bioelectric signals — specifically, resting membrane voltage (V_{mem}) gradients, gap junctional communication, and ion channel-mediated voltage patterns — encode morphogenetic information and control large-scale patterning in development, regeneration, and cancer [Levin, 2012, Lobikin and Levin, 2015, Levin, 2021]. Key findings relevant to biofield formalization:

(a) **Bioelectric prepatterns encode target morphology.** Voltage reporter dyes reveal bioelectric patterns in embryonic tissue that precede and predict the anatomical structures that will form [Levin, 2012]. This is the scientific counterpart to the esoteric claim that "energy fields contain information about the body's form."

(b) **Altering bioelectric patterns changes anatomical outcome.** Gap junctional blockade in planarian flatworms stochastically induces head anatomies of *other species* in genetically wild-type animals [Emmons-Bell et al., 2015]. The bioelectric pattern, not the genome, determines which species-specific morphology is implemented. This is a measurable, reproducible phenomenon that corresponds structurally to the esoteric claim of "energy patterns determining physical form."

(c) **Bioelectric signals operate at the tissue/organ scale, not just the cellular scale.** Levin's concept of "cognitive glue" [McMillen and Levin, 2024, Shreesha and Levin, 2025] — that bioelectric networks coordinate collective intelligence across cell populations — provides a formal framework for what the esoteric literature calls "the energy body as an organizing principle."

(d) **Electroceuticals demonstrate therapeutic manipulation of bioelectric states.** The emerging field of electroceuticals [Balasubramanian et al., 2021, Selberg et al., 2020] shows that targeted electrical stimulation can modify wound healing, regeneration, and disease states — the scientific version of "energy healing."

2.2 Biophoton Emission

All living organisms emit ultra-weak photon emission (UPE), historically called "biophotons," at rates of 10^1–10^3 photons/s/cm^2 [Brouder and Cifra, 2015]. These photons originate from electronic transitions in biological molecules (primarily reactive oxygen species, lipid peroxidation intermediates, and excited carbonyl groups). The critical question is whether this emission is merely metabolic noise or carries biological information encoded in its coherence properties.

2.2.1 Evidence for Coherence in Biophoton Emission

Benfatto et al. [2021] applied Diffusion Entropy Analysis (DEA) to biophoton time series from germinating lentil seeds and found anomalous scaling ($\eta \neq 0.5$) throughout germination. Early germination exhibits non-ergodic crucial events (criticality-induced intermittence), while later stages show fractional Brownian motion with stationary infinite memory. This transition from critical to coherent dynamics is a *measurable coherence signature* of a biological process.

Benfatto et al. [2023] extended this to bean germination, confirming cross-organism consistency. De Paolis et al. [2024] reviewed the "hard problem" of biophoton origin — whether emission reflects stochastic decay or coherent field dynamics — and concluded the question remains open but experimentally tractable.

Dlask et al. [2019] estimated Hurst exponents from short biophoton time series via fractional Brownian bridge analysis, finding negative memory (anti-persistence) in mung bean photon counts. This is significant because anti-persistent dynamics differ qualitatively from both random noise and persistent memory, suggesting active regulation.

Wang et al. [2023] demonstrated reduced biophotonic activity and spectral blueshift in synaptosomes from Alzheimer's disease and vascular dementia models. This establishes that biophoton signatures change with neurological disease state — a directly testable prediction of the biofield hypothesis that "the energy field degrades with illness."

2.2.2 Neural Biophotonic Communication

Three papers from the Koplik scientific collection demonstrate that biological tissue contains photonic waveguide infrastructure:

- Kumar et al. [2016]: Myelinated axons function as photonic waveguides, with FDTD modeling confirming guided optical modes at biologically relevant wavelengths.
- Zangari et al. [2018]: Nodes of Ranvier function as bio-nanoantenna arrays, generating electromagnetic radiation from ion channel currents at wavelengths 300–2500 nm.
- Zarkeshian et al. [2022]: Biophotons guided by axons may enable backpropagation-based learning in the brain, providing a biological mechanism for photonic information transfer.

These findings do not validate the esoteric "aura" but they do establish that living tissue produces, guides, and potentially uses photons for information processing — phenomena the esoteric literature described qualitatively long before they were measured.

2.3 Gas Discharge Visualization (GDV)

Korotkov's Bio-Well device [Korotkov, 2014] standardizes the Kirlian photography technique into a reproducible measurement system. A weak electrical current applied to fingertips produces a gas discharge whose pattern is recorded by a CCD camera. Bio-Well parameters include total area, entropy, and sector-specific glow intensity, which are mapped to organ systems using a correspondence scheme derived from Su Jok acupuncture points.

The Bio-Well literature claims correlations between GDV parameters and various health states, stress levels, and environmental conditions. The device produces real, reproducible signals; the open question is what those signals encode. This is where formalization is needed.

3 Coherence Operators Applied to Bioelectric Signals

We now formalize the mapping between informal biofield claims and measurable bioelectric/biophotonic phenomena using coherence operators from the Coherence Engine framework [Thorarinson, 2026].

3.1 The Formalization Problem

The esoteric literature makes claims like "the energy field is strong" or "the aura is weakened." These are not operationally defined. A coherence operator transforms such informal claims into measurable quantities with defined baselines, perturbation responses, and degradation criteria.

Definition 1 (Biofield Coherence Operator)**.** *Let $\mathbf{x}(t) \in \mathbb{R}^d$ be a time series of bioelectric or biophotonic measurements from a living system. A **biofield coherence operator** $\mathcal{C}$ maps $\mathbf{x}$ to a scalar coherence score:*

$$\mathcal{C} : \mathbf{x}(t) \mapsto c \in [0, 1] \tag{1}$$

where $c = 1$ represents maximal coherence (all recovery signatures intact) and $c = 0$ represents complete decoherence (no structured response to perturbation).

3.2 Operator 1: Bioelectric Pattern Coherence ($\mathcal{C}_{\mathbf{BE}}$)

For a tissue or organism with n bioelectric measurement sites, define the bioelectric state vector $\mathbf{V}(t) = (V_1(t), \ldots, V_n(t))$ where $V_i(t)$ is the membrane voltage at site i at time t.

Informal claim (esoteric): "The energy body has a characteristic pattern that corresponds to health."

Formal operator:

$$\mathcal{C}_{\mathrm{BE}}(t) = 1 - \frac{\|\mathbf{V}(t) - \mathbf{V}^*\|_2}{\|\mathbf{V}^*\|_2} \tag{2}$$

where $\mathbf{V}^*$ is the reference bioelectric prepattern for the target morphology (species-specific, measurable via voltage reporter dyes following Levin's protocols). $\mathcal{C}_{\mathrm{BE}} \approx 1$ when the bioelectric pattern matches the target; deviation indicates morphogenetic instability.

Measurability: Direct. Voltage reporter dyes (e.g., DiBAC4(3), CC2-DMPE) provide cellular-resolution voltage maps [Levin, 2012].

3.3 Operator 2: Biophoton Coherence ($\mathcal{C}_{\text{BP}}$)

For a biophoton time series $\phi(t)$ (photon counts per time bin), define coherence via the DEA scaling index:

Informal claim (esoteric): "Living beings emit a luminous energy that reflects their vitality."

Formal operator:

$$\mathcal{C}_{\text{BP}} = \left| \frac{\eta_{\text{measured}} - \eta_{\text{noise}}}{\eta_{\text{healthy}} - \eta_{\text{noise}}} \right| \tag{3}$$

where η_{measured} is the DEA scaling index of the biophoton time series, $\eta_{\text{noise}} = 0.5$ (ordinary diffusion / random noise), and η_{healthy} is the scaling index characteristic of healthy tissue of the same type. Values of $\mathcal{C}_{\text{BP}} > 1$ indicate supercritical dynamics; $\mathcal{C}_{\text{BP}} \approx 0$ indicates the biophoton signal is indistinguishable from noise.

Measurability: Direct. Photomultiplier tubes in dark chambers provide photon counting time series [Benfatto et al., 2021, Dlask et al., 2019].

3.4 Operator 3: GDV Corona Coherence ($\mathcal{C}_{\text{GDV}}$)

For a Bio-Well measurement session producing $k = 10$ fingertip images, each with extracted parameters (area A_i, entropy H_i, fractality F_i):

Informal claim (esoteric): "The aura can be photographed and reveals energy blockages."

Formal operator:

$$\mathcal{C}_{\text{GDV}} = 1 - \frac{1}{k} \sum_{i=1}^{k} \left(\frac{|A_i - \bar{A}|}{\sigma_A} \right)^2 \tag{4}$$

where $\bar{A}$ and σ_A are population normative values from Bio-Well's reference database. $\mathcal{C}_{\text{GDV}} \approx 1$ when the discharge pattern is symmetric and consistent; large deviations indicate "gaps" that GDV practitioners interpret as organ-system stress.

Measurability: Direct, but interpretation is contested. The discharge is real; whether gap-to-organ mapping is valid requires controlled trials.

3.5 Operator 4: Gap Junctional Communication Coherence ($\mathcal{C}_{\text{GJ}}$)

For a tissue region with measurable gap junctional coupling:

Informal claim (esoteric): "Energy flows through the body along channels; blockages cause disease."

Formal operator:

$$\mathcal{C}_{\text{GJ}} = \frac{1}{|E|} \sum_{(i,j) \in E} g_{ij}(t) / g_{ij}^{\text{ref}} \tag{5}$$

where E is the set of gap junction connections in the tissue, $g_{ij}(t)$ is the measured conductance between cells i and j, and g_{ij}^{ref} is the reference conductance for healthy tissue. The "blockage" concept maps onto gap junctional blockade — precisely the manipulation that produces species-level anatomical changes in planarians [Emmons-Bell et al., 2015].

Measurability: Direct in laboratory settings (fluorescent dye transfer, electrophysiology). Not yet portable to clinical settings.

3.6 Unified Biofield Coherence Index

We define a composite index as the weighted geometric mean of individual operators:

$$\mathcal{C}_{\text{bio}} = \prod_{k \in \{\text{BE, BP, GDV, GJ}\}} \mathcal{C}_k^{w_k} \tag{6}$$

where the weights w_k sum to 1 and are determined by the measurement context (e.g., $w_{\text{GDV}} = 0$ when no Bio-Well device is available). The geometric mean ensures that complete failure of any single channel ($\mathcal{C}_k = 0$) drives the composite to zero, reflecting the intuition that coherence requires all channels to function.

4 Falsification Protocols

The value of formalization is that each operator comes with a built-in falsification criterion. If the formal operator fails its test, the informal claim it formalizes is disproven — not as a metaphor, but as a measurable prediction about a physical system.

4.1 Protocol F1: Bioelectric Prepatterns Encode Morphogenetic Information

Claim formalized: "The energy body contains information about the physical body's form."

Test: Apply voltage reporter dyes to developing embryos at multiple stages. If bioelectric patterns do *not* predict subsequent anatomical development with accuracy exceeding chance, the claim is falsified.

Status: *Not falsified.* Levin's group has demonstrated that bioelectric prepatterns predict face morphology in Xenopus [Levin, 2012], and that manipulating these patterns alters downstream anatomy [Emmons-Bell et al., 2015]. The claim survives.

4.2 Protocol F2: Biophoton Emission Carries Biological Information

Claim formalized: "Living beings emit an energy that reflects their state of health."

Test: Compare biophoton coherence ($\mathcal{C}_{\text{BP}}$) between healthy tissue and diseased tissue. If there is no statistically significant difference in scaling index η, the claim is falsified.

Status: *Not falsified.* Wang et al. demonstrate significant reduction in biophotonic activity and spectral changes in Alzheimer's models [Wang et al., 2023]. Benfatto et al. show coherence transitions during germination [Benfatto et al., 2021]. The signal exists and varies with biological state.

4.3 Protocol F3: GDV Parameters Correlate with Health State

Claim formalized: "The aura, when photographed, reveals information about organ health."

Test: Conduct double-blind trials comparing Bio-Well GDV parameters of patients with confirmed diagnoses vs. healthy controls. If $\mathcal{C}_{\text{GDV}}$ distributions do not differ between groups, the claim is falsified.

Status: *Partially tested, results mixed.* Some studies report correlations between GDV parameters and stress levels, meditation states, and certain pathologies. However, the organ-mapping scheme lacks independent validation, and many published studies suffer from small sample sizes and inadequate blinding [Korotkov, 2014].

4.4 Protocol F4: Gap Junctional Communication Mediates Large-Scale Biological Coordination

Claim formalized: "Energy flows through channels in the body; blocking these channels causes systemic dysfunction."

Test: Block gap junctions in a controlled tissue system. If blocking does *not* produce coordinated large-scale changes (i.e., changes remain purely local), the claim is falsified.

Status: *Not falsified.* Gap junctional blockade in planarians produces species-level changes in head morphology [Emmons-Bell et al., 2015], demonstrating that gap junctional communication mediates non-local coordination of biological form.

4.5 Protocol F5: Healer-Patient Energy Transfer

Claim formalized: "A healer can transfer energy to a patient, producing measurable biological effects."

Test: Measure biophoton emission ($\mathcal{C}_{\text{BP}}$) and/or GDV parameters ($\mathcal{C}_{\text{GDV}}$) of patients before and after sessions with biofield practitioners, compared with sham controls. If no significant difference between practitioner and sham conditions, the claim is falsified.

Status: *Insufficiently tested.* Existing studies are heterogeneous in methodology and outcome measures. A properly formalized test using the operators defined above has not been conducted.

5 What Remains Unfalsifiable and Why

5.1 Structural Unfalsifiability

The 63% of claims classified as unfalsifiable (Category C in Table 1) share a common structure: they assert the existence of entities or processes that are, by their own definition, not accessible to physical measurement. "Subtle bodies on non-physical planes," "astral travel," "karmic imprints" — these terms are defined in ways that explicitly exclude empirical test. If an entity exists on a "non-physical plane," no physical instrument can detect it, and no measurement can refute the claim.

This is not a failure of current instrumentation. It is a definitional feature of the claims. A claim that is unfalsifiable by design cannot become falsifiable through technological advance. The problem is not that we lack instruments; it is that the claim specifies that no instrument, in principle, could apply.

5.2 The Boundary Is Not Where You Think

The interesting finding is that the boundary between testable and unfalsifiable claims does not follow the boundary between "esoteric" and "scientific" traditions. Within a single text — Deruzhinskiy's *Book of Vampires* [Deruzhinskiy, 2016], for example — the author discusses both the Kirlian glow (testable, now measured by GDV) and astral bodies (unfalsifiable). The same author who accurately describes a measurable phenomenon also makes claims that no measurement could address. Treating the author's entire output as either "valid" or "pseudoscience" is an error of granularity.

5.3 The Mereological Fallacy in Both Directions

Dismissing all biofield claims because some are unfalsifiable commits the same error as validating all biofield claims because some have been confirmed. The correct response is decomposition: claim by claim, operator by operator, test by test. This is what formalization provides.

5.4 Why Unfalsifiable Claims Persist

We note, without endorsing, three structural reasons why unfalsifiable claims persist alongside testable ones in the esoteric corpus:

1. **Historical priority.** Many testable claims (e.g., the existence of a measurable field around the body) were first articulated in traditions that also included unfalsifiable metaphysics. The two categories share a common cultural and textual history.

2. **Protective belt.** In the Lakatosian sense [Lakatos, 1978], unfalsifiable claims protect the "core" of the biofield hypothesis from refutation. If the aura is not detected, the claim shifts to "higher planes."

3. **Category error about measurement.** Some claims are unfalsifiable not because they are *about* non-physical entities, but because their authors lack the conceptual vocabulary to specify what a measurement would look like. "The body has an energy field" can be unfalsifiable (if "energy" is undefined) or testable (if "energy" means "measurable photon emission at 10^1–10^3 photons/s/cm^2"). Formalization resolves the ambiguity.

6 Discussion

6.1 What Formalization Achieves

The coherence operators defined in Section 3 achieve three things that the informal biofield concept cannot:

1. **Reproducibility.** An operator produces the same value for the same measurement, regardless of the observer. The informal concept of "seeing the aura" is observer-dependent; $\mathcal{C}_{\text{BP}}$ is not.

2. **Comparability.** Operators produce values on a common scale, enabling comparison across organisms, tissues, conditions, and time. Whether the "energy field" of a germinating seed is comparable to that of a human hand is unanswerable informally; whether their DEA scaling indices share the same anomalous scaling structure is a testable question.

3. **Falsifiability.** Each operator specifies the null hypothesis: that the measured signal is indistinguishable from noise ($\mathcal{C} \approx 0$). If the null holds, the corresponding informal claim is disproven.

6.2 What Formalization Does Not Achieve

Formalizing a biofield claim as a coherence operator does *not* validate the broader metaphysical framework from which the claim originates. Demonstrating that biophoton emission has measurable coherence properties does not validate chakra theory, astral projection, or energy healing. Each testable claim stands or falls independently. The metaphysical superstructure is a cultural artifact, not a scientific framework, and our formalization is deliberately indifferent to it.

6.3 Relation to Levin's Research Program

Levin's bioelectric research program provides the strongest existing bridge between informal biofield concepts and rigorous biology. His terminology — "morphogenetic fields," "bioelectric prepatterns," "cognitive glue" — deliberately echoes field-theoretic language while remaining empirically grounded. Our contribution is to make this bridge explicit and systematic: not every biofield claim maps onto bioelectrics, but the ones that do are now formalized with coherence operators and falsification criteria.

6.4 Implications for Future Research

Two directions emerge:

1. **Systematic biophoton coherence profiling.** Apply the $\mathcal{C}_{\text{BP}}$ operator to tissue samples across disease states, developmental stages, and species. If coherence systematically degrades with pathology (as Wang et al. suggest for Alzheimer's [Wang et al., 2023]), biophoton coherence becomes a diagnostic candidate.

2. **Controlled GDV studies with formalized outcomes.** Apply the $\mathcal{C}_{\text{GDV}}$ operator in double-blind designs with pre-registered hypotheses. The existing GDV literature suffers from post-hoc analysis and underpowered designs; coherence operators provide the outcome measures needed for rigorous trials.

7 Conclusion

The biofield concept, as it exists in the Russian esoteric tradition and in alternative medicine globally, is a mixture of testable predictions and unfalsifiable metaphysics. By decomposing the corpus into individual claims and defining coherence operators for the testable subset, we provide a framework that:

- Prevents premature dismissal of measurable phenomena (bioelectric gradients, biophoton coherence, GDV signatures) that happen to share vocabulary with unfalsifiable claims.
- Prevents unwarranted legitimization of unfalsifiable claims (subtle bodies, astral travel, karmic energy) by association with confirmed measurements.
- Provides falsification protocols that can resolve the status of currently ambiguous claims (healer-patient energy transfer, meridian conduction, Schumann resonance coupling).

The approximately 23% of biofield claims that survive formalization correspond to an active and growing body of peer-reviewed research. That these phenomena were described — qualitatively, imprecisely, embedded in metaphysics — before they were measured is a historical curiosity, not a validation of the traditions that described them. Science measures what exists; it does not need permission from the traditions that named it first.

Data Availability

The Russian esoteric corpus is available as a vector database collection (`koplik_library`, 68,600 points, 4096-dimensional embeddings on Qdrant instance, port 7333). The scientific paper corpus is available in the `legal_docs_v2` collection (port 6333, filter: `domain=koplik_science`). Claim taxonomy data and operator computation scripts are available at https://github.com/jthorvaldur/publications.

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