

CORRELATIVE ONTOLOGY

The Net and the Phenomenology of Kent D. Palmer

*A systematic correlation of vacuum resonance, winding dynamics, General
Schemas Theory, the meta-levels of Being, Special Systems, and emergent worlds*

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Leiden · 5 August 2026

Abstract

This essay correlates Hans Konstapel's Net/Vacuum theory with Kent D. Palmer's phenomenological systems philosophy. The proposed synthesis is asymmetrical but reciprocal. The Net supplies an ontic generator: one self-resonating strand, open and closed states, recursive winding, contextual tension, and a load–discharge–relax cycle repeated across scales. Palmer supplies an ontological and phenomenological articulation: schemas as a priori organizations of spacetime, the S-prime hierarchy, Janus-faced holons, meta-levels of Being, Special Systems, and the constitution of worlds by situated observers. The two theories should not be collapsed. Winding depth describes what emerges; schema describes how an emergent entity is organized and rendered intelligible. Their correlation therefore forms a matrix rather than a single ladder. The essay develops that matrix, proposes a formal bridge between closure and schematization, identifies the observer as a reflexive winding of the net, and distinguishes genuine consequences from analogical correspondences. It concludes with an annotated bibliography of the Palmer corpus and the principal philosophical, systems-theoretical, mathematical, and physical literature mobilized in the correlation.

Keywords: vacuum medium; resonance; winding; schema; phenomenology; emergence; autopoiesis; holonomy; meta-levels of Being; Kent Palmer; General Schemas Theory.

1. The Problem of Correlation

The Net begins from a physical wager of maximal economy: the vacuum is a medium whose sole primitive is a self-resonating strand. The strand is not a substrate carrying vibration; it is the self-maintaining flow of resonance itself. In its open state resonance travels without fixed form. In its closed state it folds back into phase with itself and becomes a persistent winding. Matter is consequently interpreted as closed light, mass as stored resonance, and gravity as the contextual strain of the medium around its knots. Recursive winding produces a ladder extending from elementary structures through organisms and societies to the cosmic web and the universe considered as a single, greatest knot.

Palmer's project begins from a different question. Systems theory calls almost every organized phenomenon a system, but what else can something be? Palmer's answer is General Schemas Theory: system is only one among a finite set of templates by which spacetime organization becomes intelligible.

His S-prime hypothesis proposes ten nested schemas—Facet, Monad, Pattern, Form, System, Meta-system or OpenScape, Domain, World, Kosmos, and Pluriverse—with two adjacent dimensions per schema and two schemas participating in each internal dimension. These schemas are not ontic levels such as atom, cell, organism, or society. They are ontological organizations that can be projected upon entities at any ontic level (Palmer 2003, 2014, 2017, 2021).

The correlation must therefore preserve a categorical difference. The Net answers how relatively stable entities can be generated. Palmer answers how entities, relations, environments, and worlds become

organized and comprehensible for finite beings. If the two ladders are simply identified—electron equals Monad, cell equals System, society equals World—the result contradicts Palmer, because a cell or a society can be apprehended as monad, pattern, form, system, or meta-system depending on the question. The productive synthesis instead places winding depth and schematic articulation on orthogonal axes.

Reality-as-encounter = ontic winding depth × schematic articulation × situated disclosure

2. Method: Correlation without Reduction

A correlation is stronger than a metaphor but weaker than an identity. It requires (1) a structural mapping, (2) preservation of differences, (3) a transform between vocabularies, and (4) consequences that can fail. Four distinctions regulate the analysis.

Ontic / ontological. A knot, storm, organism, or galaxy is ontic. Pattern, Form, System, and World are ontological modes of ordering what appears.

Generation / disclosure. Winding dynamics generates relatively stable organization; phenomenology describes how organization becomes manifest within a horizon.

Scale / scope. A winding rung is a scale of emergence. A schema is a scope of intelligibility. Every rung permits several schematic readings.

Mechanism / interpretation. Load, discharge, topology, and constitutive response claim mechanisms. Pure Being, Process Being, and Wild Being name modes in which phenomena are encountered and understood.

This method also prevents an idealist misreading. Saying that schemas are projected does not imply that consciousness creates the vacuum. It means that an already-existing ontic articulation is never encountered without selections of identity, boundary, relation, relevance, and horizon. Conversely, the Net prevents Palmer's schemas from floating free as merely cognitive classifications: if schematic differences repeatedly correspond to dynamically generated closures, they may track real invariants of organization.

3. The Net as Ontic Generator

3.1 One primitive, two states

The open/closed distinction is the minimal engine of the theory. Open resonance is maximally connected and minimally localized. Closure imposes constraint, establishes phase recurrence, stores tension, and makes persistence possible. The first knot is therefore both an energetic event and the institution of a boundary. The crucial reversal is that freedom is primary and form secondary: form is held openness.

open resonance → phase return → closure → stored resonance → persistent knot

3.2 The universal machine

A wound strand loads slowly, discharges rapidly through weak knots, relaxes, and begins loading again. The temporal asymmetry gives the model its proposed cross-scale signature: heavy-tailed fluctuations, long memory, punctuated release, and critical slowing before transitions. Resonance is selective; only phase-compatible configurations persist. Recursive compatibility should therefore yield a discrete ladder rather than a continuum of arbitrary organizations. The Bronze Mean sequence is offered in The Net as a candidate recursion, not as a derived result.

3.3 Contextual law

Because a knot is a deformation of a medium, its behavior depends on the state of the surrounding net. Constants become effective parameters of a local constitutive regime. The Net expresses this through tension-dependent stiffness, healing length, propagation speed, effective mass, and fine-structure coupling. The resulting ontology is relational without eliminating local identity: a knot persists, but what it can do is co-determined by its OpenScape.

$$L_{\text{eff}}(K) = L(K, \chi_{\text{environment}}); \text{ constants} = \text{state functions, not external decrees}$$

4. Palmer's Phenomenological Architecture

4.1 Schemas as organizations of spacetime

Palmer retrieves schema from the Kantian problem of mediation between concepts and intuitions, then generalizes it beyond a single homogeneous spacetime synthesis. A schema is an a priori template through which an entity's spatiotemporal organization is understood. Facet and Monad articulate the lower scaffolding of discrimination and isolatability; Pattern, Form, System, Meta-system, Domain, and World organize direct experience; Kosmos and Pluriverse provide upper scaffolding for totality and possible totalities. The hierarchy is nested, but no schema monopolizes an ontic level.

4.2 Projection and the transcendental field

In Palmer's phenomenological reading, schemas are projected upon phenomena. Projection is not arbitrary fabrication. It is the anticipatory organization through which anything can show itself as a bounded form, a related system, or an environmental field. Drawing on Heidegger and Merleau-Ponty, Palmer situates the projector inside the projected world. Dasein is not a spectator outside reality; it is a finite being whose practical involvement already discloses a world. The projection is individual and communal: perspectives differ, yet a shared language and culture sustain a common world.

4.3 Meta-levels of Being

Palmer uses twentieth-century Continental philosophy to distinguish several meta-levels or kinds of Being. Pure Being privileges identity and presence; Process Being introduces becoming and temporal constitution; Hyper Being exposes difference, absence, undecidability, and the excess of possibility over presence; Wild Being names the chiasmic intertwining prior to stable subject/object division. Palmer sometimes explores a further Ultra Being in connection with emergence. These levels should not be treated as cosmic substances. They are reflexive transformations in the sense of Being through which phenomena and designs are intelligible.

4.4 Special Systems

Special Systems Theory occupies the bridge between generic schemas and concrete emergence. Palmer correlates three mathematically exceptional, holonomic organizations with three qualitatively different regimes: dissipative ordering, autopoietic symbiosis, and reflexive social organization. A dissipative structure maintains order by throughput; an autopoietic system produces the organization and boundary that produce it; a reflexive social system can model itself and others in a mutually constituted field. These are not merely larger systems. They are discontinuous increases in organizational closure and self-reference.

5. The Two-Axis Synthesis

Let L_n denote an ontic level produced by recursive winding, and let S be the set of Palmer's schemas. The winding operator W generates higher-order knots, while a schematic operator Π_s articulates any selected level according to schema s .

$$L_{(n+1)} = W(L_n), \quad \Pi_s(L_n) = L_n \text{ disclosed under schema } s, \quad s \in S'$$

The two operations do different work. W changes the ontic organization; Π changes the scope under which that organization is disclosed. Their interaction is nevertheless constrained: a schema is adequate only if the phenomenon supplies the relations, boundaries, or horizons that the schema requires. A Form reading requires closure; a System reading requires persistent internal relations; a Meta-system reading requires a horizon of possible system trajectories.

Winding level	Illustrative ontic entity	Possible schematic readings
Elementary	electron-like closed resonance	Facet: charge/spin; Monad: one excitation; Pattern: phase relation; Form: toroidal topology; System: self-maintaining loop
Molecular	molecule	Pattern: bonding; Form: geometry; System: reactions; Meta-system: chemical environment
Living	cell or organism	Form: membrane; System: metabolism; Meta-system: niche; Domain: ecological regime

Winding level	Illustrative ontic entity	Possible schematic readings
Social	person, institution, market	Monad: actor; Pattern: communication; System: organization; World: shared horizon
Planetary	storm, tectonic region, biosphere	Pattern: flow; System: load/discharge; Meta-system: climate; Domain: planetary regime
Cosmic	star, galaxy, cosmic web	Form: compact object; System: stellar cycle; Kosmos: largest coherent physical totality

This matrix resolves a recurring ambiguity in scale-free theories. Similar statistics at different levels do not establish material identity. They indicate that a common generative grammar may be realized by different substrates and described through the same schemas. Universality becomes a relation among dynamics, organization, and observation rather than the assertion that a neuron, market, and star are literally the same object.

6. Deriving the S-prime Transitions from Closure

A conditional derivation begins with a winding operation that lifts organization from a configuration in dimension d to a closure or trajectory in dimension $d+1$. Each schema spans the source and result of one such transition: $\Sigma_d = (d, d+1)$. Adjacent schemas share a dimension, which derives the formal rule of two dimensions per schema and two schemas per internal dimension. The semantic names require phenomenological interpretation; winding alone does not uniquely name them.

Pair	Schema	Winding–phenomenological transition
–1, 0	Facet	A difference or constraint becomes locally manifest as a non-isolatable
0, 1	Monad	A position is continued as one identifiable trajectory or strand.
1, 2	Pattern	Trajectories acquire recurrence, phase relation, and ordered variety.
2, 3	Form	A pattern closes, instituting figure, boundary, inside, and outside.
3, 4	System	A form maintains its identity through a temporal feedback cycle.
4, 5	Meta-system / OpenScape	A system becomes one trajectory in a field of possible states and environments.
5, 6	Domain	Meta-systems share constraints and stabilize a constitutive regime.
6, 7	World	Domains are integrated into a perspectival and culturally coherent horizon.
7, 8	Kosmos	The factual totality is grasped as the largest discriminable coherent whole.
8, 9	Pluriverse	A kosmos becomes one member of the space of possible total organizations.

The first pair is written $(-1, 0)$, correcting an occasional informal transcription as $(-1, 1)$, which would violate S-prime's adjacency rule. More importantly, the derivation does not prove that the hierarchy must terminate at dimension nine. Standard topology does not generally abolish inside/outside at that dimension. Ten schemas therefore remain a disciplined hypothesis unless an independent closure

condition is supplied. A possible Net condition is reflexive completion: Pluriverse closes the sequence when the space of possible global windings becomes itself the context from which the actual Kosmos is selected. This proposal is intelligible, but it remains to be mathematically demonstrated.

7. Closure as Physical Event and Phenomenological Institution

Closure is the deepest bridge. Physically, a returning resonance creates a persistent winding.

Phenomenologically, the same event makes possible identity, figure/ground, interior/exterior, and object/environment. These are not two separate closures accidentally described by the same word. A stable boundary is simultaneously a dynamical constraint and a condition under which something can appear as something.

physical closure + schematic uptake = phenomenon with identity and horizon

Yet the boundary belongs wholly to neither side. It is where the knot and its environment meet. This is why Palmer's System and Meta-system are complementary. A system has a boundary; an OpenScape has a horizon. The Net gives this complementarity a material correlate: the same tension field that individuates a knot also couples it to the surrounding medium. No knot is context-free, and no context is merely external.

The open state of the strand consequently correlates not with formless nothingness but with the transcendental field before determinate figure/ground separation. The closed state correlates with the institution of a noematic nucleus: a relatively invariant 'something' around which changing appearances cohere. The correlation is not an identity with Husserl's hyle or noema; rather, the Net offers a candidate ontic dynamics capable of supporting their distinction.

8. The Meta-levels of Being Re-read through the Net

8.1 Pure Being: persistence mistaken for substance

A stable knot appears present and self-identical. Pure Being is the ontology appropriate to that appearance: $K(t_1) \approx K(t_2)$. The Net radicalizes the result by denying an inert rope beneath the resonance.

Identity is achieved recurrence. What metaphysics treats as substance is a phase-locked accomplishment.

8.2 Process Being: the temporal production of identity

Process Being discloses the knot as loading, releasing, relaxing, and retuning. The entity is not first given and subsequently changed; it exists through regulated change. The slow-load/fast-discharge asymmetry provides a physically specified form of becoming and makes temporal direction internal to organized existence.

8.3 Hyper Being: exclusion, absence, and phase incompatibility

Resonance is selective. Many mathematically conceivable windings do not return in phase and therefore fail to persist. An actual knot is consequently structured by excluded possibilities. Hyper Being—the play of difference and absence that destabilizes simple presence—correlates with the gap between conceivable configurations and dynamically admissible closures. The missing possibility is not another hidden object; it is constitutive of the selected trajectory.

8.4 Wild Being: chiasm before subject and object

Wild Being is the most important phenomenological correlate of the open net. Merleau-Ponty's chiasm refuses the clean opposition between perceiver and perceived: the body belongs to the field it senses. In the Net, the observer is literally made of the same strand as the observed. Measurement is interaction among windings inside one medium. The distinction between subject and object is real at the level of closed organizations but derivative relative to the shared resonance that supports both.

8.5 Ultra Being: emergence as a new closure regime

Where Palmer experiments with Ultra Being, the useful correlation is not 'a fifth substance' but emergence of a new organizational rule. A higher winding does not merely add components; it changes what counts as an element, boundary, memory, and possible action. Ultra Being would name the event in which the previous ontology becomes material for a novel closure.

9. Special Systems as Empirical Bridges

Palmerian regime	Closure achieved	Net interpretation	Indicative cases
Dissipative ordering	Pattern maintained by throughput	Tension gradients continually recreate a metastable winding	vortices, flames, storms, stars
Autopoietic symbiosis	Network produces its own boundary and components	A knot actively re-ties and repairs the conditions of its closure	cell, organism, ecological symbiosis
Reflexive sociality	Agents model self, other, and shared situation	Windings synchronize through representations carried on shared strands	language, institutions, markets, science

This threefold bridge improves the Net's ladder by distinguishing mere repetition from qualitative emergence. A storm and a cell may both display nonlinear loading and discharge, but the cell recursively produces the membrane and metabolism that produce it. A society adds a further recursion: participants coordinate through symbols that alter the very organization those symbols describe. The universal machine remains, but its closure operator changes type.

The empirical research program should therefore compare not only power laws but closure capacities. For a candidate level L_n , ask: What is maintained? What boundary is produced? What information

about self and environment enters the feedback? What failures destroy the organization? Cross-scale similarity becomes significant when dynamical signatures co-vary with a demonstrable increase in closure.

10. The Observer: The Net Folded into Disclosure

The Net leaves its ‘first distinction’ open: what draws the first closure, and where does the observer enter? Palmer allows the question to be decomposed. Physical closure need not already be observation.

Three closures can be distinguished:

1. **Physical closure:** a resonance becomes a persistent knot.
2. **Autopoietic closure:** a knot produces and repairs the conditions of its own persistence.
3. **Phenomenological closure:** a reflexive knot distinguishes itself, its environment, and relevant possibilities within a world.

An observer is therefore not an external eye but a reflexive winding O within the net N whose operations partition N into self, object, background, and horizon. The partition is constrained by bodily organization and social practice; it neither exhausts nor invents N .

$$O \subset N; \quad \text{World}_O = \Pi(O, N); \quad \text{observation} = N \text{ locally differentiating itself through } O$$

This formulation joins Heidegger’s being-in-the-world to the Net’s one-strand ontology. Dasein is a fold in which the world is disclosed, while remaining one finite entity among others. Palmer emphasizes that world projection is also communal. Language, instruments, and disciplines synchronize the schemas of many observers. A scientific world is thus a reflexive social winding that stabilizes repeatable projections and tests them against resistant phenomena.

11. Laws, Constants, and Hermeneutic Horizons

The Net’s context principle and Palmer’s phenomenology converge on locality without relativism. Measurements are always made from inside a tension state and through a schema. This does not mean that every interpretation is equally valid. The medium constrains possible results, while the schema selects what is treated as object, variable, background, and invariant.

A constant of nature can consequently be analyzed at three levels: optically, as a state-dependent constitutive parameter; schematically, as a relation stabilized within a Domain; and hermeneutically, as a rule embedded in an historically developed scientific World. If α varies with vacuum tension, the physical variation belongs to the medium. Recognizing and measuring it requires a domain-specific instrument, calibration practice, and interpretive horizon. The ontic and hermeneutic accounts complement rather than cancel one another.

measured constant = medium response × experimental coupling × schematic interpretation

12. Emergence, De-emergence, and Discharge

Palmer treats emergence as a discontinuous reorganization in which new distinctions and constraints become intelligible. The Net supplies a candidate dynamics: tension accumulates within an existing organization until a threshold is crossed; rapid discharge destroys or reconfigures weak closures; relaxation stabilizes a new pattern. Emergence and catastrophe are therefore complementary readings of one transition. What is discharge relative to an old System may be formation relative to a new one.

This yields a useful distinction between emergence and de-emergence. Closure integrates differences into a higher-order knot; discharge can reopen that closure and return its components to a Meta-system.

The same event may appear as system death, environmental release, and precursor to a new organization. Palmer's dialectical and meta-dialectical analysis helps prevent the cycle from being reduced to one-way progress.

loading → loss of stability → discharge → reconfiguration → new closure or de-emergence

13. What the Correlation Explains

The synthesis yields five substantive gains.

A grammar of emergence. The Net's knots can be distinguished as patterns, forms, systems, autopoietic closures, and reflexive worlds instead of being called knots in one undifferentiated sense.

A non-dualist observer. Palmer explains how a winding can disclose a world without standing outside the medium or reducing reality to representation.

A disciplined account of context. System/OpenScope complementarity gives ontological form to state-dependent effective laws.

Cross-scale comparability. The two-axis matrix permits structural comparison across levels while preserving different mechanisms and materials.

Operational research questions. Each schema and Special System suggests measurable requirements: recurrence, boundary maintenance, environmental dependence, self-production, and reflexive modelling.

14. What the Correlation Does Not Yet Establish

A rigorous synthesis must keep its open obligations visible.

- The existence of power laws across domains does not by itself prove a single physical medium; universality classes can arise from different mechanisms.
- Topological solitons establish the mathematical possibility of stable knots, not that all known particles are literally closed photons.
- The S-prime list and its termination at ten schemas are hypotheses; winding adjacency derives the pair structure but not the unique vocabulary or upper bound.
- The Bronze Mean recursion and the proposed $\gamma \approx 2\pi$ coupling still require derivation from explicit network dynamics.
- Phenomenological correlation does not replace quantitative prediction. It clarifies categories and the observer's role, but physical claims remain answerable to experiment.
- Analogies between storms, seizures, crashes, and wars require matched definitions, controls, and prospective tests before they count as one fingerprint.

15. A Joint Research Programme

15.1 Mathematical task: the closure operator

Define W on an explicit state space of phase, amplitude, topology, and tension. Determine the conditions under which open trajectories close, remain topologically protected, and compose into higher windings. The first target is the Pattern-to-Form transition: calculate when phase organization produces a stable boundary.

15.2 Phenomenological task: invariant schematic operations

Operationalize each schema independently of scale. For example, Form requires a detectable boundary; System requires persistent relations and a state-transition structure; Meta-system requires a horizon of alternative trajectories; autopoiesis requires production of components and boundary by the network itself. Test whether observers and disciplines converge on these operations.

15.3 Empirical task: coupled signatures

Search for paired evidence rather than isolated power laws: statistical loading/discharge signatures together with identified closure dynamics. The strongest evidence would show that approaching transition simultaneously alters autocorrelation, boundary integrity, constitutive response, and the effective schema under which the phenomenon is best modelled.

15.4 Reflexive task: science as a Special System

Treat the research programme itself as a reflexive social system. Its instruments, concepts, and publication practices help constitute the scientific World through which the vacuum appears.

Falsification must therefore address both ontic predictions and schematic blind spots. A failed prediction may indicate a false mechanism, a misplaced scale, or an inadequate schema; the programme must distinguish these rather than immunize itself.

16. Conclusion: One Net, Many Articulations

The strongest relation between Palmer and The Net is neither agreement nor resemblance but division of theoretical labour. The Net proposes that reality is generated by recursive self-resonance: openness folds into constraint, constraint stores tension, tension discharges, and stable windings become elements of higher windings. Palmer proposes that finite beings encounter organization through a differentiated family of schemas and through increasingly reflexive modes of Being. The first is a theory of ontic production; the second is a phenomenology and ontology of intelligible organization.

Together they suggest that a phenomenon is never only a knot and never only a projection. It is a dynamically achieved organization disclosed under a situated schema. Matter is resonance held in form; life is closure that reproduces its own conditions; consciousness is closure that differentiates itself and its horizon; society is reflexive synchronization among such closures; a scientific world is the disciplined communal articulation of the medium by knots within it.

The synthesis can therefore be stated in one sentence:

Phenomenology is the net becoming locally manifest to itself through reflexive windings.

This sentence remains a research thesis, not a completed proof. Its value is that it converts a metaphysical unity claim into a structured programme: derive closure, classify its schematic forms, identify qualitative increases in self-production and reflexivity, and test whether the same constitutive dynamics link laboratory, organism, society, planet, and sky.

Annotated Reference List

Scope note. Palmer's complete oeuvre contains thousands of references across philosophy, mathematics, systems engineering, mythology, software, physics, and design. The list below is exhaustive for the sources explicitly mobilized in this essay and covers the principal literature Palmer uses to construct the relevant parts of General Schemas Theory, systems phenomenology, the meta-levels of Being, Special Systems, and projective/worldview theory. It does not claim to reproduce every citation in every version of Palmer's writings.

A. Primary works by Kent D. Palmer

Palmer, Kent D. 1982. The Structure of Theoretical Systems in Relation to Emergence. PhD dissertation, London School of Economics. The early foundation of Palmer's theory of emergence. It studies discontinuous changes in theoretical systems and provides the background for his later claim that emergence cannot be reduced to ordinary system development.

Palmer, Kent D. 1996. The Fragmentation of Being and the Path Beyond the Void. Apeiron Press. Palmer's large-scale ontological genealogy. It reconstructs the fragmentation of the Western concept of Being through Heidegger, Derrida, Merleau-Ponty and others, and develops the meta-levels of Being that later organize Emergent Design.

Palmer, Kent D. 1996. Wild Software Meta-systems. Apeiron Press. Applies meta-level ontology and meta-system ideas to software and systems. It is important for understanding why Palmer treats systems as bounded gestalts and meta-systems as environments, niches, or fields of possibilities rather than merely larger systems.

Palmer, Kent D. 1997/2000. Reflexive Autopoietic Systems Theory. Apeiron Press. Develops Special Systems Theory around dissipative, autopoietic, and reflexive organizations. This provides the closest Palmerian analogue to successive kinds of closure in The Net.

Palmer, Kent D. 2003–2016. General Schemas Theory: The Advance of Systems Engineering through an Extension of Systems Theory. Working-paper series. Introduces the S-prime hierarchy and argues that System is only one schema among Pattern, Form, Meta-system, Domain, World and others. It supplies the principal conceptual grid used in this essay.

Palmer, Kent D. 2009. Emergent Design: Explorations in Systems Phenomenology in Relation to Ontology, Hermeneutics and the Meta-dialectics of Design. PhD dissertation, University of South Australia. Palmer's most systematic synthesis of phenomenology, ontology, hermeneutics, schemas and design. It develops the relation between emergent events and the meta-levels of Being, especially Hyper and Wild Being.

Palmer, Kent D. 2014. The Foundations of General Schemas Theory as an Extension to Systems Theory. INCOSE/ISSS tutorial. A pedagogical consolidation of S-prime, its dimensional pairings, and the application of multiple schemas to the same ontic phenomenon.

Palmer, Kent D. 2017. Projective Geometry and Schemas Theory. Proposes projective geometry as a mathematical grounding for schema differentiation. It emphasizes projection, horizon, point/line duality, schematic scaffolding, and the Janus character of schemas spanning adjacent dimensions.

Palmer, Kent D. 2017–2018. Conformal Schemas Theory. Explores conformal field theory and critical points as a possible scale-invariant mathematical basis for transformations among schemas. Its value here lies in connecting schematization to universality and phase transition.

Palmer, Kent D. 2018. On the Definition of a Schemata. Clarifies the status of schemas, schematic nerves and their relation to worldview structures. It also surveys Palmer’s own research programme and its mathematical and philosophical dependencies.

Palmer, Kent D. 2021. “General Schemas Theory.” In Systems Research II: Essays in Honor of Yasuhiko Takahara on Systems Management Theory and Practice. Springer. A concise published account of General Schemas Theory, defining schemas as organizations for comprehending experience and locating the project as a foundation broader than General Systems Theory.

B. Phenomenology, ontology, and hermeneutics

Kant, Immanuel. 1781/1787. Critique of Pure Reason. The originating problem of schematism: how pure concepts apply to sensible intuition through temporal rules. Palmer generalizes Kant’s singular schematizing function into multiple spatiotemporal schemas.

Husserl, Edmund. 1913. Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy, Book I. Provides intentionality, noesis/noema, phenomenological reduction, and the constitution of objects. It supports the distinction between an ontic process and the meaningful manner in which that process appears.

Husserl, Edmund. 1936. The Crisis of European Sciences and Transcendental Phenomenology. Introduces the lifeworld as the pre-theoretical ground of scientific abstraction. Palmer’s World schema and concern with scientific projection inherit this problem.

Heidegger, Martin. 1927. Being and Time. Replaces the detached subject with Dasein as being-in-the-world. World is a referential horizon disclosed in practical involvement. Palmer uses Dasein to describe the projector that is also contained within its projection.

Heidegger, Martin. 1935/1953. Introduction to Metaphysics. Important to Palmer’s understanding of Being, emergence, and the historical character of the Western metaphysical worldview.

Sartre, Jean-Paul. 1943. Being and Nothingness. Contributes the distinction between being-in-itself and being-for-itself, negativity, and reflexive consciousness. Palmer incorporates Sartrean themes into the differentiation of modes of Being.

Merleau-Ponty, Maurice. 1945. Phenomenology of Perception. Makes embodiment and perceptual field prior to a detached subject/object split. This is central to interpreting the observer in The Net as a situated winding rather than an external spectator.

Merleau-Ponty, Maurice. 1964. The Visible and the Invisible. Develops flesh, reversibility and chiasm. Palmer reads these as indications of Wild Being, where perceiver and perceived are intertwined before stable dualization.

Derrida, Jacques. 1967. Of Grammatology; Writing and Difference; Speech and Phenomena. Différance, trace, supplementarity and the critique of pure presence help Palmer articulate Hyper Being. In the correlation, dynamically excluded or deferred windings prevent actual form from being understood as simple presence.

Deleuze, Gilles. 1968. *Difference and Repetition*. Treats difference and repetition as productive rather than derivative from identity. This supports the reading of resonant recurrence as the production, not merely the repetition, of a knot's identity.

Deleuze, Gilles. 1988. *The Fold: Leibniz and the Baroque*. The fold supplies Palmer with a vocabulary for the relation between perspective, world, interior and exterior. It is directly relevant to the universe conceived as a strand wound through itself.

Gadamer, Hans-Georg. 1960. *Truth and Method*. Establishes understanding as historically situated and structured by horizons. It grounds the hermeneutic claim that scientific constants and objects are encountered through inherited practices without reducing physical reality to interpretation.

Levinas, Emmanuel. 1961. *Totality and Infinity*. Challenges totalizing ontology through the irreducibility of alterity. Palmer's concern with nonduality and the limits of systematic closure uses this as a warning against making Kosmos or Pluriverse a totalitarian conceptual capture.

Eco, Umberto. 1997. *Kant and the Platypus*. Provides Palmer with a useful history and taxonomy of schema, especially mathematical/geometrical schemas mediating perception and classification.

Koestler, Arthur. 1967. *The Ghost in the Machine*. Introduces the holon: something that is a whole relative to its parts and a part relative to a larger whole. Palmer's Janus-faced schemas and The Net's "knot that is a net below" share this structure.

C. Systems, cybernetics, complexity, and life

von Bertalanffy, Ludwig. 1968. *General System Theory*. The canonical generalization of systems across disciplines. Palmer's project both extends and criticizes it by asking what organizational schemas exist besides System.

Wiener, Norbert. 1948. *Cybernetics*. Establishes feedback, control and communication as cross-domain principles. It underlies both Palmer's systems vocabulary and The Net's self-sustaining resonance and load-release feedback.

Ashby, W. Ross. 1956. *An Introduction to Cybernetics*. Develops state spaces, regulation, variety, and stability. It is particularly relevant to construing a Meta-system as the field of possible system trajectories.

Bateson, Gregory. 1972. *Steps to an Ecology of Mind*. Connects cybernetics, learning, ecology and epistemology. Bateson's recursive "difference that makes a difference" informs Palmer's reflexive and ecological approach to systems.

Prigogine, Ilya, and Isabelle Stengers. 1984. *Order Out of Chaos*. Explains dissipative structures maintained far from equilibrium. Palmer's Dissipative Ordering Special System and The Net's driven knots both use this physical paradigm.

Maturana, Humberto R., and Francisco J. Varela. 1980. *Autopoiesis and Cognition*. Defines living organization as a network that produces the components and boundary that recursively produce the network. It gives exact conceptual content to The Net's "knots that re-tie themselves."

Varela, Francisco J., Evan Thompson, and Eleanor Rosch. 1991. *The Embodied Mind*. Joins cognitive science, phenomenology and enaction. It supports the proposal that cognition is not representation from outside but world-disclosure by an embodied participant.

Luhmann, Niklas. 1984. Social Systems. Applies autopoiesis to communication systems. It helps distinguish biological closure from reflexive social closure, although Palmer's Special Systems framework is not identical to Luhmann's sociology.

Haken, Hermann. 1977/1983. Synergetics. Studies collective order parameters and self-organization. It provides mathematical language for the emergence of macro-patterns from coupled microdynamics.

Kauffman, Stuart. 1993. The Origins of Order. Explores self-organization, autocatalytic sets and adaptive landscapes. It supports, but does not prove, the transition from chemical networks to self-maintaining life.

Deacon, Terrence W. 2011. Incomplete Nature. Develops emergence through nested constraints and distinguishes thermodynamic, morphodynamic and teleodynamic organization. Palmer explicitly notices its resonance with dissipative and autopoietic Special Systems.

Rosen, Robert. 1991. Life Itself. Argues that living systems require closure to efficient causation and cannot be exhaustively captured by mechanistic simulation. It sharpens the demand that biological winding involve a new kind of closure.

Pattee, Howard H., ed. 1973. Hierarchy Theory. Explores hierarchical constraints and the epistemic cut between dynamics and symbolic control. It is relevant to transitions from physical knots to reflexive organizations.

Simon, Herbert A. 1962. "The Architecture of Complexity." Introduces near-decomposability and hierarchical organization. It provides a conventional comparator for Palmer's holonomic nesting and The Net's knots-of-knots.

Rousseau, David, et al. 2018. General Systems Transdisciplinarity. Represents contemporary work seeking transferable systems concepts. Palmer argues that Schemas Theory supplies a wider context in which such concepts can be differentiated rather than all being assigned to System.

D. Mathematics and structural models used by Palmer

Russell, Bertrand, and Alfred North Whitehead. 1910–1913. Principia Mathematica. Higher logical type theory was designed to block paradox by separating levels. Palmer repurposes type levels to articulate reflexive meta-levels of Being and emergence.

Gödel, Kurt. 1931. "On Formally Undecidable Propositions." Incompleteness limits formal self-grounding. Palmer uses Gödel as a model for reflexive discontinuity and, in later schema work, relates recursion and co-recursion to Pascal's triangle.

Pascal, Blaise. 1654. Traité du triangle arithmétique. Pascal's triangle supplies Palmer with a combinatorial field from which he experiments with co-recursive generation of schematic relations. It suggests recursion but does not independently prove S-prime.

Veblen, Oswald, and John W. Young. 1910–1918. Projective Geometry. Classical foundation for incidence, duality, projection and points at infinity. Palmer uses projective geometry to model the internal relations and horizons that differentiate schemas.

Coxeter, H. S. M. 1969. Introduction to Geometry. A standard source for projective and higher-dimensional geometry used to clarify duality, dimensional constructions, and finite geometries.

Baez, John C. 2002. “The Octonions.” *Bulletin of the AMS* 39:145–205. Explains octonionic algebra and its relation to exceptional structures. Palmer correlates complex numbers, quaternions and octonions with Special Systems; these correlations are suggestive structural analogies, not established physical derivations.

Mac Lane, Saunders. 1971. Categories for the Working Mathematician. Category theory shifts attention from isolated objects to morphisms and compositional structure. It supports Palmer’s attempt to relate different schemas and their transformations without reducing them to one type.

Connes, Alain. 1994. Noncommutative Geometry. Provides mathematics in which spatial structure is encoded algebraically and ordinary point-set intuitions fail. Palmer cites such work in exploring deeper mathematical backgrounds for schematic and ontological organization.

Simmons-Duffin, David. 2017. “The Conformal Bootstrap.” *TASI lectures*. A clear modern account of conformal symmetry, operator expansions and bootstrap constraints. It catalyzed Palmer’s Conformal Schemas Theory and his interest in scale-invariant transitions and universal critical points.

E. Physical and empirical sources supporting The Net correlation

Thomson, William (Lord Kelvin). 1867. “On Vortex Atoms.” The historical proposal that atoms are stable vortices in a medium. It anticipates matter-as-knot, although the nineteenth-century ether model itself was not retained by modern physics.

Skyrme, T. H. R. 1962. “A Unified Field Theory of Mesons and Baryons.” Introduces topological solitons whose conserved topology models baryons. It shows how particle-like stability can arise from field configuration rather than an underlying hard corpuscle.

Faddeev, L. D., and Antti J. Niemi. 1997. “Stable Knot-Like Structures in Classical Field Theory.” *Nature* 387:58–61. Demonstrates stable knotted soliton solutions in a field-theoretical setting. This supports the possibility of topological stability but not the stronger claim that every particle is a photon knot.

Williamson, J. G., and M. B. van der Mark. 1997. “Is the Electron a Photon with Toroidal Topology?” *Annales de la Fondation Louis de Broglie* 22. Constructs an electron model from confined electromagnetic circulation. It is the most direct precedent for The Net’s matter-as-closed-light claim; its status remains outside the standard model of particle physics.

Sakharov, Andrei D. 1967. “Vacuum Quantum Fluctuations in Curved Space and the Theory of Gravitation.” The seminal induced-gravity proposal: gravitational dynamics may emerge as an elasticity-like response of quantum fields. The Net extends this analogy into a literal vacuum medium.

Volovik, G. E. 2003. The Universe in a Helium Droplet. Shows how effective particles, metrics and laws emerge for quasiparticles in quantum fluids. It is a powerful analogue for contextual laws, but an analogue is not an identification of vacuum with superfluid helium.

Onsager, Lars. 1949; Feynman, Richard P. 1955. Foundational works on quantized circulation in superfluids. Establish that circulation in a quantum fluid occurs in discrete vortices. They provide laboratory exemplars of countable winding in a real medium.

Kuramoto, Yoshiki. 1984. Chemical Oscillations, Waves, and Turbulence. Develops the canonical phase-oscillator model of synchronization. It supplies a tractable mathematical route from local resonances to collective phase locking.

Strogatz, Steven H. 2003. *Sync*. A broad synthesis of synchronization across physical, biological and social systems. It motivates cross-scale comparison while also documenting the need for domain-specific coupling mechanisms.

Bak, Per, Chao Tang, and Kurt Wiesenfeld. 1987. “Self-Organized Criticality.” Introduces a mechanism generating scale-free avalanches in driven systems. It is a major alternative or complement to a universal-medium explanation of power-law discharges.

Scheffer, Marten, et al. 2009. “Early-Warning Signals for Critical Transitions.” *Nature* 461:53–59. Shows theoretically and empirically how rising variance and autocorrelation can precede regime shifts. It supports a testable loading-before-discharge signature, subject to known limitations and false positives.

McGaugh, Stacy S., Federico Lelli, and James M. Schombert. 2016. “Radial Acceleration Relation in Rotationally Supported Galaxies.” *Physical Review Letters* 117:201101. Documents the tight relation between observed and baryonic acceleration in galaxies. The Net interprets the acceleration scale as a constitutive crossover of the medium; the data themselves do not uniquely select that interpretation.

Bond, J. Richard, Lev Kofman, and Dmitry Pogosyan. 1996. “How Filaments of Galaxies Are Woven into the Cosmic Web.” *Nature* 380:603–606. Develops the gravitational origin of filaments, sheets and knots in large-scale structure. It supplies the observed topological vocabulary for the upper rung of The Net.

Tully, R. Brent, et al. 2014. “The Laniakea Supercluster of Galaxies.” *Nature* 513:71–73. Defines Laniakea through peculiar-velocity flows converging within a basin of attraction. It provides an operational example of a cosmic region identified by collective flow rather than a simple material boundary.

Konstapel, Hans. 2026. *The Net: The Vacuum from the Smallest Strand to the Greatest Knot*. The foundation text correlated in this essay. It states the one-strand primitive, open/closed states, recursive winding ladder, contextual laws, load–discharge machine, empirical signatures, quantitative pins, and explicit falsification criteria.

Source-access notes

Palmer’s public overview of S-prime: <https://medium.com/being-time/general-schemas-theory-762b83030527>

Palmer, Projective Geometry and Schemas Theory: https://constable.blog/wp-content/uploads/2020/10/Projective_Geometry_and_Schemas_Theory.pdf

Palmer, Emergent Design record and manuscript access: <https://philarchive.org/rec/PALED>

Published General Schemas Theory entry: https://link.springer.com/rwe/10.1007/978-981-15-0720-5_73