

Kesson-Driven Thinking

Subjective Experience of Prediction Error and Creative Cognition

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Kesson-Driven Thinking — An Exploratory Description of Prediction Error Retention

Introduction — What Prior Research Has Not Described

Predictive coding has established that the brain does not passively receive sensory input but actively generates predictions and uses the resulting errors for model updating (Clark, 2013; Friston, 2010). Constructionist emotion theory has shown that emotions are not hardwired circuits but are constructed from interoceptive signals, contextual evaluation, and conceptual knowledge (Barrett, 2017). Psychoanalysis has described a function for holding unprocessable mental content — what Bion (1962) called a Container.

Each of these fields addresses a piece of the puzzle: prediction error detection, affective evaluation, and the capacity to hold. Yet as far as I can tell, no existing framework has offered a unified description of the process by which prediction errors are *not* discarded but retained as questions, and how that retention connects to creation.

This essay sits in that gap. It is not a paper. It is an exploratory reading by a single inquirer who is trying to describe what it means to hold a Kesson (欠損) — a felt sense of lack — using structural correspondences with prior research as guideposts. Everything here is a cluster of hypotheses. I mark confidence levels explicitly: *definite* for core definitions (D1-D4), *it appears* for structural similarities with prior work, and *this might* for unverified conjecture.

1. Core Definitions — Four Concepts of Kesson-Driven Thinking

At the center of this framework are four concepts. These are settled as core definitions, but their reach and limits remain under exploration.

D1: Kesson-Driven Thinking (欠損駆動思考)

An attitude of picking up discarded errors as questions.

Most prediction errors are absorbed pre-consciously and discarded. For efficient information processing, this is correct. But among the discarded errors, there may be seeds of creative questions. Kesson-Driven Thinking is the stance — the *attitude* — of picking those seeds up, whether deliberately or dispositionally.

This is not a methodology. It is an attitude. Concrete methods and techniques belong to a separate layer called Kesson-Driven Development.

D2: Kesson (欠損)

The subjective experience of a gap between expectation and reality, apprehended by consciousness as a "lack."

Kesson (欠損) is not prediction error itself. Prediction error can be described as a computational or neural process. Kesson is what happens when that error is subjectively experienced as a felt lack. Here lies a fundamental difference with AI — an AI computes prediction errors, but a human *experiences* them.

Five types of Kesson (欠損) have been observed:

Type	Content
Observation Kesson	Gap between fact and prediction
Subject Kesson	Gap between self-image and reality
Justification Kesson	Gap between behavior and values
Coherence Kesson	Contradiction among beliefs
Meaning Kesson	Loss of meaning, emptiness

D3: Withhold (保持)

A function that retains errors as questions instead of processing them reflexively.

Withhold (保持) is not mere response inhibition. Response inhibition *stops* behavior. Withhold *holds the action-readiness while enabling re-evaluation*.

What Bion called a Container, what Zeami meant by "if you conceal it, it becomes a flower" (*hisureba hana*), what the Hagakure describes as "hidden love" (*shinobu koi*), and what the Doctrine of the Mean calls "the equilibrium before emotions arise" (*mihatsu no chuu*) — these all appear to point in the same direction.

D4: Affective Constitution (情動の構成)

The process by which Kesson (欠損) is evaluated on the F-axis (survival) and O-axis (love/attachment) and constituted as an emotion.

The F-axis (Fear/Fight) is the evaluation axis for survival and threat. The O-axis (Others/Attachment) is the evaluation axis for bonding and belonging. When a Kesson (欠損) is detected, it is evaluated along these two axes and assigned an affective charge. Barrett's constructionist emotion theory — "emotion = interoceptive error + context + evaluation" — and the F-O evaluation described here appear to point in the same direction.

2. The Four-Layer Model of Consciousness (M1)

The four-layer model describes the operational architecture of consciousness in functional terms. Neuroscientific findings are used as reference frames, but the model does not surrender its subject to any specific theory.

Layer 0: Interoception

Monitoring of internal bodily states — heartbeat, respiration, visceral sensation. Craig's interoceptive research on the insular cortex (Craig, 2009) describes a structurally similar function. In the Buddhist five aggregates (*skandhas*), this corresponds to *rupa* (form) and *vedana* (feeling-tone).

E07: If the body does not feel, no Kesson (欠損) arises.

This is one of the framework's foundational claims. Without Layer 0, prediction errors may be "computed" but not "experienced." This is likely why AI can process prediction errors but does not experience Kesson (欠損) — it lacks this layer.

Layer 1: Prediction-Error Loop

Detection of discrepancies between prediction and input. The predictive coding framework (Friston, 2010; Clark, 2013) describes a structurally similar cortical hierarchical process. However, this framework does not equate Layer 1 with predictive coding. Predictive coding is one reference frame that illuminates the phenomena Layer 1 points to.

Most discrepancies are absorbed pre-consciously. Those exceeding a precision threshold — where precision is the attention-mediated tuning of salience — pass through selection and arise in consciousness as Kesson (欠損, D2).

Layer 2: F-O Evaluation

Evaluation of Kesson (欠損) along the F-axis (threat) and O-axis (attachment), assigning affective valence. As candidate reference frames, the amygdala (F-axis) and vmPFC (O-axis) may correspond to this layer's functions.

Barrett's constructionist emotion theory and this layer appear to point in the same direction. The *samskara* of the Buddhist aggregates and the *seishin* ("right mind") of the Bansenshukai (ninja manual) also seem to describe the evaluative function that orients action, each in different vocabularies.

Layer 3: Withhold (保持)

Holding the evaluated action-readiness without executing it immediately, enabling re-evaluation. As candidate reference frames, dlPFC (dorsolateral prefrontal cortex) and ACC (anterior cingulate cortex) may serve this function.

Between Layer 2 and Layer 3 sits the **Gate of Will** (*i no gate*) — a conceptual boundary described as "remaining in the equilibrium before emotions arise, illuminated by sincerity, concealing the flower." This is a functional boundary that determines whether the system will react immediately or hold.

Inter-Layer Re-entry: The F-O Circulatory Model

The output of Withhold (保持, L3) re-enters L1-L2, updating the meaning of the Kesson (欠損). Through this re-entry, the quality of "not-knowing" itself is transformed. This constitutes a circulatory structure:

Withhold (保持) operates as a circulatory process: under F-axis Containment (securing physiological safety), O-axis alpha-transformation (holding and transforming as a question) is activated, and its output re-enters L1-L2, updating the meaning of the Kesson (欠損).

This circulatory structure appears structurally similar to the iterative operation of alpha-function in Bion's Container-Contained model. Beta-elements (undigested sensory experience) are processed by alpha-function and transformed into thinkable elements — and as that process repeats, the mental world expands. The circulatory structure described here appears to point in the same direction.

3. The Five-Stage Creation Model (M2)

Where the four-layer model (M1) describes the operational architecture of consciousness, the five-stage model (M2) describes the creation process.

Overview of the Five Stages

Stage	Name	Structure	Process
1	Field (場)	Void	Drifting
2	Wave (波)	Oscillation, opposition	Differentiation
3	Relation (縁)	Boundary, relationship	Connection
4	Vortex (渦)	Individuation, emergence	Inclusion, fusion
5	Bundle (束)	Direction	Aggregation

From Field to Wave — in the undifferentiated state, difference arises as oscillation. From Wave to Relation — at the boundary, heterogeneous elements meet, influence each other, and relationship emerges. From Relation to Vortex — a coherent "something" stands up. From Vortex to Bundle — the emergent form acquires direction and persists as structure.

E03: Creation arises through remaining at the boundary (際, *kiwa*).

Stage 3 (Relation) is the focal point of the creation process. This is the region that Julia set boundaries, the Heart Sutra's "emptiness is form" (*shiki soku ze ku*), and metastable states all seem to point toward. Remaining in the neither-this-nor-that — that is Withhold (保持) as it manifests in creation.

Structural Comparison with Wallas (1926)

Placing Wallas's four-stage model (Preparation, Incubation, Illumination, Verification) alongside the five-stage model reveals both structural similarities and differences:

Wallas	This framework	Notes
Preparation	Field to Wave	Wallas's "Preparation" is active information gathering. "Field" includes the undifferentiated state
Incubation	Relation	Closest correspondence. Wallas's "Incubation" is unconscious processing. "Relation" is retention at the boundary
Illumination	Vortex	The moment of "standing up"
Verification	Bundle	Structuring and verification

The differences are primarily twofold. First, this framework treats "Field" (the undifferentiated void) more explicitly than Wallas's account does. Second, "Relation" contains a stronger element of *agentic retention* (Withhold) than Wallas's "Incubation." Wallas's incubation leans toward surrendering to the unconscious; Relation implies consciously remaining at the boundary.

That said, I should be cautious about the significance of this difference — I may be underestimating the richness of Wallas's account.

Correspondence Between M1 and M2

The four-layer model (M1) and the five-stage model (M2) describe the same phenomena from different angles:

[M1: Operational Architecture]	[M2: Creation Process]
Layer 0–1: Kesson detection	--> Stage 1–2: Field -> Wave
Layer 2: F–0 evaluation	--> Stage 3: Relation

Layer 3: Withhold Output	--> Stage 3-4: Relation -> Vortex --> Stage 4-5: Vortex -> Bundle
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M1 describes "a single processing loop" microscopically, while M2 describes "the overall transformation of a project" macroscopically. The two may form a nested structure, but the precise nature of their relationship is still under exploration.

4. Structural Correspondence with Bion's Alpha-Function

Bion's theory of thinking is one of the prior works that shows the deepest structural similarity with this framework.

Beta-Elements and Alpha-Function

Bion called the most primitive form of mental experience "beta-elements" — undigested sensory-emotional experiences that cannot be thought, dreamed, or repressed. The function that transforms beta-elements into thinkable mental elements he called "alpha-function" (Bion, 1962).

Translating into this framework's language:

Bion	This framework	Structural correspondence
Beta-element	Kesson (欠損, D2) — a gap that has just surfaced in consciousness	Undigested becomes subjectively experienced as "lack"
Alpha-function	Withhold (保持, D3) + F-O circulation	Holding while iterating re-evaluation
Alpha-element	Kesson retained as a question	A thinkable mental element
Container	Conditions for Withhold (D3-a)	The field that makes holding possible
Contained	The Kesson (欠損) being Withheld	The content being held

This correspondence is *shigetsuteki* (指月的) — "pointing at the moon." What Bion called Container-Contained and what I call Withhold-D3-a appear to describe the same phenomenon in different vocabularies. Whether they point to an identical structure, however, requires careful reservation.

Alpha-Function in the Four-Layer Model

Mapping alpha-function onto the four-layer model:

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Beta-elements = Layer 0-1 (unprocessed signal)
Alpha-function = The transition from Layer 0-1 to Layer 2-3
Alpha-elements = Layer 2-3 (a thinkable "Kesson")
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Hopkins (2018) has argued that Bion's contact-barrier (the boundary between conscious and unconscious, formed by the accumulation of alpha-elements) corresponds structurally to Friston's Markov blanket (the statistical boundary separating self from environment). While this is a suggestive alignment, I treat it as a reference frame rather than an identification.

Internalization of the Container

In Bion's later theory, a critical development is the movement from external Container (caregiver, therapist) to internalized Container. This connects directly to what this framework describes as CN-001 (Internalized Relationship).

The internalization process, located within the four-layer model:

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External Container (interaction with caregiver)
  | repeated experience
Internal Working Model formation (stabilization of L0-L1)
  | incorporation of alpha-function
Internalized Container (autonomous operation of L2-L3)
  |
Foundation of Withhold capacity
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What Bowlby called the Internal Working Model, what Klein called the Introjection of the Good Object, and what Bion called the internalized Container appear to illuminate the same structure from different angles. This framework's CN-001 is an attempt to integrate these insights under the heading "internalization of relationship as a condition for Withhold (保持)."

5. Conditions for Withhold (保持) — D3-a

Withhold (保持) is not individual willpower. It is a function that becomes possible when multiple conditions support it in a layered manner.

Layer	Condition	Examples	Confidence
L0	Physiological margin (homeostasis)	Sleep, nutrition, physical safety, working memory capacity	Definite
L0-L1	Autonomic regulation	Secure relationships, embodied practices (meditation, martial arts, breathwork), environmental design	Definite
L1-L2	External Container (structure, institutions)	Zen koan, tea ceremony form, analytic setting, academic discipline	It appears
L2-L3	Cognitive framework (metacognition)	Epoche (suspension of judgment), Hagakure's <i>kakugo</i> (resolve), Negative Capability	It appears

What demands attention here is the position of **secure relationships** in the L0-L1 pathway.

Internalized Relationships (CN-001)

The "relationship" that serves as a condition for Withhold (保持) includes not only external, physical relationships but also relationships internalized within the mind.

Bowlby's Internal Working Model describes how interaction patterns with caregivers become internalized as cognitive representations. Klein's Introjection of the Good Object describes how external objects are incorporated into the mental world. In his later work, Bion expanded the concept of Container beyond the individual caregiver to include institutions, culture, texts, and O (ultimate reality).

In this framework's language: the relationships that support Withhold (保持) are not limited to "someone who is here right now." A deceased parent, a past mentor, a childhood caregiver's memory — relationships internalized within the mind provide the force that sustains the capacity to "wait a little longer."

Secure relationships form as Internal Working Models, which through O-axis stabilization (trust in relationship) enable F-axis regulation (attenuation of threat response), becoming the developmental

foundation for Withhold (保持) capacity. This connection structure appears to point in the same direction as Bowlby's secure base to exploratory behavior.

As candidate neural substrates, vmPFC (social-affective evaluation) and the default mode network (self-reference, social cognition, retrieval of past relationships) may underlie internalized relationships. This correspondence, however, is a provisional reference frame and not settled.

6. The F-O Coordinate System — Affective Constitution and Two-Axis Evaluation

Why Two Axes Are Needed

When a Kesson (欠損) is detected, what emotion it will be constituted as depends on context and evaluation. Barrett's constructionist emotion theory has shown that emotions are not fixed circuits but are constructed from interoceptive signals combined with conceptual knowledge.

This framework hypothesizes that two fundamental evaluation axes operate within this construction process:

Axis	Full name	Evaluates	Reference frame
F-axis	Fear/Fight	Survival, threat	Amygdala
O-axis	Others/Attachment	Bonding, belonging	vmPFC

The F-axis evaluates: "Is this error a threat?" The O-axis evaluates: "Does this error affect my relationships?" The same Kesson (欠損) can be evaluated as high-threat on the F-axis (I should flee) and simultaneously as high-attachment on the O-axis (I should stay). This might be a structural description of the experience of being "torn."

"Another Despair" — The Moment F-Axis Armor Falls Away (CN-002)

In environments deficient in O-axis nourishment, the capacity for efficient F-axis processing may develop excessively as a survival strategy. One becomes "competent" within an organization — evaluated,

promoted, rewarded. But this "competence" may be nothing more than F-axis surplus compensating for O-axis deficiency.

When something causes that F-axis competence to fail — burnout, job loss, illness — the F-axis armor falls away, exposing the O-axis deficiency underneath. This is a despair qualitatively different from ordinary "failure." This framework provisionally calls it "another despair."

Kafka's K (who can never reach the Castle) and No-Face (*Kaonashi*) in Miyazaki's *Spirited Away* (who devours everything but has no self) appear to be literary descriptions of this structure.

This concept is still under exploration, and it might simply be one consequence of F-axis over-adaptation.

7. Trust Hypotheses — The H08 Routing Model and Multi-Axial Description

The Problem of Defining Trust

"What is trust?" is one of this framework's most persistent open questions. Seventeen hypotheses (H01-H17) have been generated, spanning psychoanalytic, F-O axis, energetic, relational, and accounting perspectives (CN-005). Rather than converging on a single definition, the exploration has revealed that trust resists singular definition and requires multi-axial description (CN-006).

The H08 Routing Model

Among the seventeen hypotheses, H08 has emerged as a structural center:

H08: Trust is the variable that determines where prediction errors are routed — toward the F-axis or the O-axis — as they cross the Gate of Will.

The other hypotheses arrange themselves around H08:

Structural role	Hypothesis group	Description
The routing mechanism itself	H08	Central: determines whether errors flow to F-axis or O-axis

Structural role	Hypothesis group	Description
Preconditions for routing	H05, H09, H10	Sense of safety, surplus capacity, mental space
Results of routing (mental states)	H01-H04	Integration (Klein), internalized Container (Bion), secure base (Bowlby), object constancy (Mahler)
Results of routing (relational structures)	H11-H13	Gift-giving, mutual containment, repairability
Extended routing targets	H14, H15	O-axis applied to non-personal objects
Compensation (when routing fails)	H07	Various forms of compensating for O-axis deficiency

H08 Two-Component Model

H08 is not split into separate variables but has an internal structure with two components:

Component	Nature	Neural candidate	Rate of change
H08.bs	History-dependent, structural	vmPFC-amygdala structural connectivity	Slow (years)
H08.pl	Context-dependent, activational	Transient activation patterns	Fast (situation-by-situation)

H08.bs can be updated through earned security or therapeutic relationships, but the change is slow. H08.pl can shift relatively quickly depending on context, relationships, and training.

Multi-Axial Description (CN-006)

Rather than defining trust singularly, this framework describes it along multiple axes:

Time axis: From expectation-like (future-oriented, unrealized) to trust-like (past-to-present, accumulated, confirmed).

Content axis: From split (expecting only good outcomes; Klein's PS position) to integrated (accepting both good and bad; Klein's D position).

State axis: From activation patterns (transient, easily updated, corresponding to H08.pl) to structural connectivity (persistent, slowly changing, corresponding to H08.bs).

F-O axis (orthogonal): Both F-axis and O-axis states can be either expectation-like or trust-like. "This environment will probably be safe" (F-axis, expectation) versus "This person has accepted me many times" (O-axis, trust).

Circulatory axis: Trust involves both intra-individual feedback loops (secure base experience influences H08, which influences capacity to provide secure base) and inter-generational spirals (parent's H08 shapes caregiving, which shapes child's H08, and so on).

The Net-Asset Hypothesis (H17)

Exploring "what is trust?" through an accounting metaphor surfaces a hypothesis: trust is not a substance but a *balance* — it might be felt as the difference between positive relational experiences (assets) and negative relational experiences (liabilities), analogous to net assets in accounting. It cannot be directly defined, but its true magnitude is revealed only in crisis.

Three layers must be distinguished:

Concept	Position in the model	Status
Sense of trust	Felt direction of net-asset change (H17)	Hypothesized
Trust relationship	Linking of two balance sheets (inter-subjectivity)	Undeveloped
Trust structure	Fixed asset on the balance sheet (Internal Working Model, H03)	Existing

This hypothesis remains in exploration. Its main value is as a lens, not a conclusion.

8. Internalized Relationships — Bowlby's IWM Meets Bion's Internalized Container

The concept of internalized relationships (CN-001) sits at the intersection of attachment theory and object relations, and it is fundamental to this framework's account of Withhold (保持).

Why Internalization Matters

When I write "you cannot wait alone" (E10), the natural reading is that someone must be physically present. But the claim is broader: you cannot wait alone — *unless someone lives inside your mind*. A deceased parent, a mentor from decades ago, a childhood caregiver's warmth — these internalized presences sustain the capacity to hold.

The theoretical convergence is striking:

- **Bowlby** described the Internal Working Model (IWM): patterns of interaction with caregivers become internalized as cognitive-affective representations that guide behavior even in the caregiver's absence.
- **Klein** described the Introjection of the Good Object: external objects are taken into the internal world, where they continue to function.
- **Bion** in his later work expanded the Container concept beyond the therapist to include institutions, culture, texts, and what he called O — ultimate reality.

These three descriptions appear to illuminate the same structure: that which was once held externally becomes an internal capacity for self-holding. In this framework's terms, the developmental path from external Container to internalized Withhold (保持) is precisely this trajectory.

Neural Candidates

As provisional reference frames: vmPFC (involved in social-affective evaluation) and the default mode network (implicated in self-referential processing, social cognition, and the mental retrieval of past relationships) are candidate substrates for internalized relationships. Schore's (2001) work on right-brain affect regulation and the formation of attachment-related representations provides additional reference points.

The Secure Base to Withhold (保持) Pathway

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Secure relationship (external)
  | Repeated containment experience
Internal Working Model (L0-L1 stabilization)
  | 0-axis stabilization (trust in relationship)
F-axis regulation (attenuation of threat response)
  | Metacognitive scaffold formation
Withhold capacity (L2-L3 autonomous operation)
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This pathway appears to describe the same trajectory as Bowlby's secure base leading to exploratory behavior. The secure base does not merely "comfort" the child; it builds an internal structure that later enables the child to explore alone. In this framework's language, it builds the conditions for Withhold (保持).

Earned Security

An important implication: even insecure attachment in childhood can be partially repaired through later relational experiences. Main and Goldwyn's concept of "earned security" describes individuals who experienced insecure attachment but, through reflection and subsequent relationships, developed coherent narrative representations. In terms of H08, this means H08.bs (the history-dependent component) is not immutable — it is slow to change, but it can be updated.

9. Open Questions — Retained Inquiries

This framework contains numerous unresolved questions. These are not "unsolved problems" but "questions held as questions." Holding questions is itself the practice of the framework's central claim (Withhold, 保持).

Structural Questions

- **M1-M2 nesting:** Are the four-layer model and the five-stage model describing the same structure at different scales, or are they describing fundamentally different phenomena?
- **Sufficiency of two axes:** Are F and O sufficient? Might there be contexts requiring a third axis or finer differentiation?
- **The Gate of Will:** Does the functional description of the Gate of Will carry enough evidence to justify the separation of Layer 2 and Layer 3?

Trust Questions

- **Relations among trust hypotheses (H01-H17):** Are they alternative descriptions of the same phenomenon, or descriptions of different layers?
- **The trusted side:** This framework is biased toward describing the *trusting* side. The perspective of the one being trusted is underdeveloped.

- **Inter-subjectivity:** The "consolidated balance sheet" — what happens when two minds' internal models mutually contain each other — remains largely unexplored.

Tension with Friston's Prediction Error Minimization

This might be the framework's most fundamental theoretical tension. Friston's free-energy principle describes organisms as prediction error *minimizers* — the drive is to reduce surprise. D1 (Kesson-Driven Thinking) describes an attitude of *retaining* prediction errors as questions rather than eliminating them. Are these contradictory?

Several possible resolutions exist but none is settled:

1. **Hierarchical resolution:** Retaining errors at a lower level might minimize errors at a higher level (the error about the error). Holding a question might be the brain's way of reducing meta-uncertainty.
2. **Temporal resolution:** Short-term error retention serves long-term error minimization. Withhold (保持) is an "investment" in future predictive accuracy.
3. **Scope resolution:** Friston describes the neural mechanism; D1 describes the phenomenological attitude. They may operate at different descriptive levels without contradiction.
4. **Genuine tension:** D1 might describe a capacity that actively works against the minimization drive under specific conditions — an "override" that the brain permits when supported by sufficient Withhold (保持) conditions (D3-a).

I hold this question. It is not resolved.

Scope Questions

- **Cultural universality:** Is Kesson-Driven Thinking culturally universal, or does it depend on specific cultural contexts?
- **N=1 limitation:** Can the descriptions offered here, which originate in phenomenological self-observation, have reach beyond a single case?
- **Measurement design:** How might Withhold (保持) capacity be operationalized and measured? (This is ISS-42's domain, and preliminary measurement design principles have been articulated in CN-007.)

10. Closing

What I have attempted in this essay is to illuminate the phenomenon of prediction error retention from multiple angles — neuroscience, psychoanalysis, attachment theory, Eastern philosophy, and accounting metaphor — and to describe its structure.

What Bion called a Container, what Bowlby called a secure base, what Zeami meant by "concealing the flower," what the Doctrine of the Mean called "the equilibrium before emotions arise" — these appear to point in the same direction. Like the blind men and the elephant, different fields may be touching the same phenomenon from different sides.

But "may be" is all I can say at this stage. Structural similarity is not proof. Even if multiple fields point in the same direction, that convergence does not guarantee correctness.

What I can say with relative confidence is three things, and one more:

1. Among prediction errors, there are some that should not be discarded.
2. Retaining them without rushing to resolve them is one of the conditions for creative processing.
3. That retention cannot stand without a bodily foundation.
4. And — you cannot wait alone. Unless someone lives in your mind.

How does this structure look from your field? Is there a structural similarity between what this framework describes and what is visible in your domain? Or is there a decisive gap? That gap itself might be the entrance to a new question.

— But you cannot wait alone. Unless someone lives in your mind.

References

Barrett, L. F. (2017). *How emotions are made: The secret life of the brain*. Houghton Mifflin Harcourt.

Bion, W. R. (1962). *Learning from experience*. Heinemann.

Bion, W. R. (1970). *Attention and interpretation*. Tavistock.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. Basic Books.

Clark, A. (2013). Whatever next? Predictive brains, situated agents, and the future of cognitive science. *Behavioral and Brain Sciences*, 36(3), 181-204.

Craig, A. D. (2009). How do you feel — now? The anterior insula and human awareness. *Nature Reviews Neuroscience*, 10(1), 59-70.

Feldman, H., & Friston, K. J. (2010). Attention, uncertainty, and free-energy. *Frontiers in Human Neuroscience*, 4, 215.

Fotopoulou, A., & Tsakiris, M. (2017). Mentalizing homeostasis: The social origins of interoceptive inference. *Neuropsychanalysis*, 19(1), 3-28.

Friston, K. (2010). The free-energy principle: A unified brain theory? *Nature Reviews Neuroscience*, 11(2), 127-138.

Hopkins, J. (2018). Making worlds in a waking dream: Where Bion intersects Friston on the shaping and breaking of psychic reality. *Frontiers in Psychology*, 9, 1674.

Klein, M. (1946). Notes on some schizoid mechanisms. *International Journal of Psycho-Analysis*, 27, 99-110.

Klein, M. (1957). *Envy and gratitude*. Tavistock.

Main, M., & Goldwyn, R. (1984). Predicting rejection of her infant from mother's representation of her own experience: Implications for the abused-abusing intergenerational cycle. *Child Abuse & Neglect*, 8(2), 203-217.

Porges, S. W. (2011). *The polyvagal theory: Neurophysiological foundations of emotions, attachment, communication, and self-regulation*. Norton.

Schore, A. N. (2001). Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal*, 22(1-2), 7-66.

Wallas, G. (1926). *The art of thought*. Jonathan Cape.

Winnicott, D. W. (1971). *Playing and reality*. Tavistock.

This is the current position of a single explorer. A cluster of hypotheses. A reading, not a paper.