

The Foundation and Seven Governing Principles of Human Reality

An Empirically Grounded Theoretical Architecture and Adversarial Validation Monograph

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Second Edition — Evidence-Aligned

Note on evidential discipline

Every substantive claim carries one of seven statuses, defined in §3.4 and recorded in Appendix B. The distinctions between *empirically supported*, *supported synthesis*, *measurement-limited*, and *structurally blocked* are load-bearing and are not interchangeable.

This edition follows a completed source-verification programme in which all twenty citation slots of the first edition were searched against primary literature. **Twenty-two wording corrections were applied and eight claims were deleted rather than repaired.** In every deletion the surrounding argument survived on grounds that verified cleanly; the deleted material was added support that proved contested, unsourced, or pitched at the wrong level of description. **No deleted claim has been replaced with substitute literature.**

The Biological Foundation expansion (§3A) added twenty-seven references and triggered a second bibliographic verification pass, covering thirty-seven individual fields across fifteen entries. All thirty-seven are now verified. That second pass corrected **two source-identity collisions** — entries in which a real paper's metadata had been assembled from two different real papers by the same first author in the same year — and **deleted one unsupported descriptive clause.** Both are recorded in Appendix H.

Where support is inferential rather than direct, the prose says so. **No bibliographic field in this document remains unconfirmed, and no citation in it has been invented.**

Abstract

This monograph presents a structural architecture of human functioning organised around seven irreducible governing components — Belief, Thought, Attention, Intention, Words, Influence, and Action — together with an account of how that architecture was constructed, adversarially stress-tested, corrected, and frozen.

The architecture makes four substantive structural commitments. First, the seven components are irreducible in a specific sense: no one of them can be absorbed into the others without covertly reintroducing the removed function under a different name. Twelve reduction attempts are documented and all twelve failed on that criterion. Second, the seven are *not* equipotent, and they do not occupy equivalent structural positions. Centrality is indexed to scale — Thought at the individual-internal scale, Influence at the person-world interface, Words at the collective and cross-temporal scale — and, within articulated human reality, to level: **Words supplies the differentiated meaning-bearing form through which the articulated operation of the other six is possible at all, while commanding none of them.** Third, represented content has exactly two write-ports — Influence and Thought — with an asymmetry between them: the experiential influence channel writes directly to the deep stratum, while the symbolic channel routes through Thought. Fourth, Thought operates in two modes: a pre-formulative mode over analog structure producing content without attitude, and a formulative mode over linguistic vehicles producing content bearing an attitude. The ordinary category *a thought* names products of the second mode only.

Two elements are deliberately excluded from component status and their exclusions are defended: affect, which modulates weights and gains throughout the architecture but never supplies content, and conditions, which are circumstances and states — person-side as well as world-side — entering only through influence or the affective field.

The seven trunks are the functional architecture of an embodied human organism, and that organism is not architecturally blank. Beneath the functional architecture the monograph states an explicit constitutive level, the **Biological Foundation**: biology insofar as it constitutes, developmentally realizes, continuously instantiates and sustains the person. The Foundation of human reality is not exhausted by that layer. It contains two foundational functions of different kinds: the **Biological Foundation**, which is substrate-constituting and makes the embodied person possible, and **Words**, which is form-constituting and makes meaningful, differentiated, articulated reality possible for that person. The resulting geometry is **Biological Foundation → Embodied Person → Seven Governing Trunks**,

with Words continuing as the central organizing trunk of articulated human reality. This deepens the architecture without adding an eighth trunk, without duplicating Words, and without entering the formal coupling model.

The monograph gives equal weight to the architecture's limits. A structural-block ledger records questions no available human natural experiment can address, distinguished from questions that are merely unresolved. A measurement ledger records claims current instruments cannot test, distinguished from structural uncertainty. An error ledger records thirty-three documented failures of the construction and verification process across six classes, of which exactly one altered the formal graph and none required a component to be added, removed, or merged.

The architecture is frozen in the sense that no open structural question remains under current evidence and current definitions. It is not frozen in the sense of being unrevisable: six explicit reopening criteria are stated, each specifying an observation that would compel structural change.

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PART I — ORIENTATION

1. Introduction

Theories of human functioning divide roughly into two families. One builds from mechanism upward, assembling processes — associative learning, predictive coding, reinforcement learning, working memory — into accounts of larger capacities. The other builds from folk categories downward, taking belief, desire, intention and action as given and asking how they are realised. Both have produced substantial results and both encounter a characteristic difficulty. Mechanism-first accounts under-determine the person: they explain how a process works without specifying what kind of

system it belongs to. Category-first accounts over-determine it: they inherit distinctions from ordinary language whose structural warrant is never examined.

This monograph pursues a third approach. It asks what components a description of human functioning must contain to represent the phenomena without distortion, and tests each candidate by attempting to eliminate it. A component earns its place only if removing it either makes some human function unrepresentable or forces another component to take on a role its own definition excludes. That second condition — *hidden reintroduction* — does most of the work, because it is the condition under which an apparently successful reduction turns out to be a relabelling.

The result is an architecture of seven **trunks** — the term is used to signal that they are structural rather than processual. *Trunk* is the architecture-specific term throughout; *component* is used generically, for structural constituents of any kind. The seven are: **Belief, Thought, Attention, Intention, Words, Influence, and Action**. Around them sit two elements deliberately *not* trunks: an **affective field** that modulates without contributing content, and **conditions**, circumstances and states — including states of the person's own body — bearing on the architecture only through specified interfaces.

The seven trunks are the functional architecture of an embodied human organism; they are not the lowest layer of the account. Beneath them sits the Biological Foundation — the constitutive biological organization that gives rise to, developmentally realizes, continuously instantiates, and sustains the embodied person in whom the seven trunks operate. The resulting geometry is **Biological Foundation → Embodied Person → Seven Governing Trunks**. The foundation is neither an eighth trunk nor part of the formal coupling model. **Nor is the Biological Foundation the whole of what is foundational for human reality**: it makes the embodied person possible, and a second and different foundational function — supplying the differentiated meaning-bearing form without which nothing is articulated for that person — is performed by Words, from within the architecture rather than beneath it (§3A.9, §4.6).

Three features distinguish this architecture from adjacent proposals.

It separates irreducibility from centrality, and functional distinctness from structural position. Every trunk is irreducible; the trunks are nevertheless structurally unequal, and seven distinct governing functions do not entail seven equivalent locations. A claim that some component is central is incomplete until the scale is stated, because the ordering changes across scales — and, within articulated human reality, until the level is stated as well. Thought is the most connected component at the individual-internal scale; Influence is the sole input port at the person-world interface; Words is indispensable at the collective and cross-temporal scale and is, at the individual scale, the most mediated component of the seven. Both facts about Words are true, and treating either alone as the whole answer produces error — as §16 documents.

It separates what a component is from what it holds. The architecture distinguishes *stores* from *operations* from *vehicles*: Belief persists content, Thought transforms it, Words supplies the differentiated meaning-bearing forms in which content is determinate at all, and — where those forms are conventional and compose — in which certain kinds of content can be composed. This resolves a recurring question in philosophy of mind — whether thought is constituted in language — by locating the answer at a boundary rather than at a wholesale yes or no.

It records its own limits with the same care as its claims. Two ledgers accompany the architecture: one for questions current instruments cannot address, one for questions no available human comparison can address. These are different limits and are kept apart. Neither is presented as a defect, and neither appears as an unresolved structural question.

2. Scope and Domain

2.1 · What the architecture models

The architecture models **human reality** — the functioning of current human beings, individually and collectively. Three restrictions are substantive and enforced throughout.

Its subject is persons. Terms such as *condition* and *possibility* are relativised to persons throughout; physical and metaphysical structure lie outside what the architecture addresses.

It models current human cognition and functioning specifically. Comparative evidence from non-human organisms bears on whether a process *can* operate without some feature; how that process is implemented, developed and integrated in an organism that has the feature is a separate question, formalised in §3.6 as the **Comparative Relevance Standard**. Violating it is a documented error.

The human it describes is the current one, whose developmental environment includes linguistic input from before birth, prolonged plasticity, obligate social learning and continuous symbolic exposure — rather than an ancestral or minimal cognitive system.

The person modelled is a biological organism. The monograph accordingly distinguishes two things that are easily

run together: the **biological constitution** of the person — what the organism is made of and how it came to be built — and the **functional architecture** of that person's functioning, which is what §§4–13 describe. The first is treated in §3A and does not enter the formal model; the second is the monograph's subject. Neither reduces to the other, and confusing them is a level error of the kind §2.2 exists to prevent.

2.2 · Levels of description

Level	Question answered
Mechanism	Can a process operate without feature F, anywhere?
Operation	Does a given performance use F online?
Development	Was F necessary to build the system that now performs?
Architecture	Would a system lacking F be the same architecture?

These are logically independent. Evidence at one level is silent about the others absent an explicit and tested bridge premise. Five of the documented errors are violations of this.

The Biological Foundation is not assigned wholesale to one of the four evidential levels.

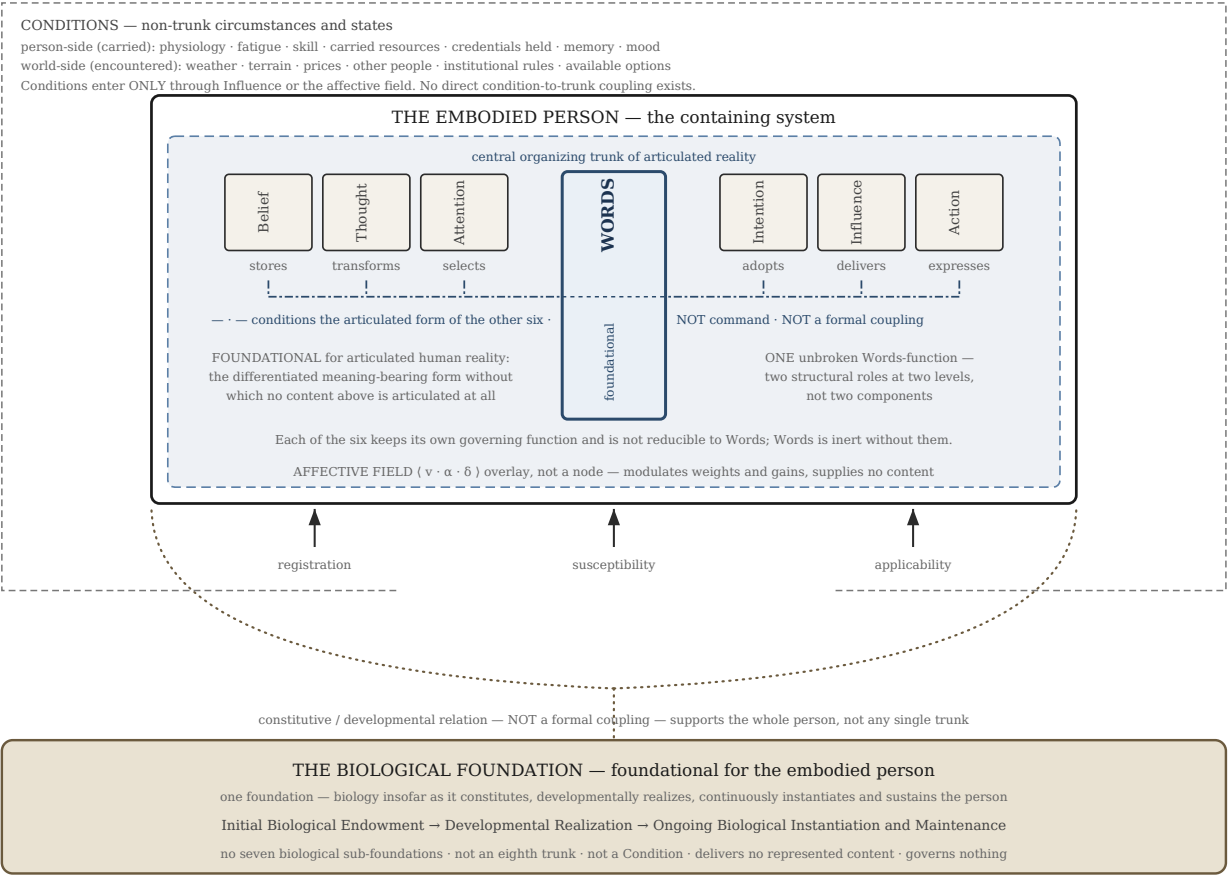
Evidence concerning **Initial Biological Endowment** and **Developmental Realization** bears principally on **development**. **Ongoing Biological Instantiation and Maintenance** is described through **mechanism- and operation-level** evidence — continuous transcription, translation and metabolic function are processes running in an operating person, not developmental events.

The claim that these findings together warrant a Biological Foundation beneath the functional architecture is a structural synthesis concerning placement. It is not itself a claim at any of the four levels above, and it is not established by any single one of them.

None of this makes biology a component of the formal functional architecture. Evidence that biology builds or sustains the system does not establish that biology is a component of the system's functional architecture, and the bridge premise required for that inference is not available.

Figure 1 sets out the architecture as a whole — the two-layer Foundation, the person-container, and the seven trunks with Words as the central axis — and should be consulted alongside §§3A.9, 4 and 13.4.

Figure 1 · The architecture of human reality: the two-layer Foundation, one embodied person, seven governing trunks with Words as the central organizing axis



Caption. The Foundation of human reality contains two foundational functions of different kinds. The Biological Foundation is substrate-constituting: it makes the embodied person possible, sits beneath the functional architecture, and neither governs nor couples. Words is form-constituting: it makes that person's articulated reality possible, and does so from inside the architecture, as a governing trunk. The two are not rungs of one hierarchy and neither contains the other. A person exists without Words; that person's articulated reality does not. The blue axis is one unbroken element: one Words-function, two levels. Dot-dash marks conditioning of articulated form, never command. See §3A.9, §4.6, §13.4.

2.3 · Individual and collective

The architecture is an architecture of the individual person, treated as the containing system rather than a further variable within it. Collective phenomena are represented as emergent effects depending on individually carried capacities — the correction of a documented error in which collective emergence was inferred to imply collective architecture.

2.4 · Pre-articulated and articulated

A second index, used only where it does work: whether a function is operating in its *pre-articulated* or its *articulated* form.

Pre-articulated operation is content-bearing without the content being available to the subject as a differentiated item: perceptual registration, discrimination, sensorimotor organisation, conditioning, habitual and procedural action, orienting, affective response. **Articulated** operation is operation on content that is individuated for the subject — attendable, deniable, misapplicable, addressable, combinable.

"Available to the subject" is dispositional, not occurrent. The five marks are capacities rather than occurrences: a content is articulated if it is of a kind that can be attended, addressed and misapplied, whether or not it is being attended now. Differentiated content that is unattended — automatic lexical access is the standard case — is articulated content not currently attended, and is **not** pre-articulated on that ground. **The index is therefore not a consciousness distinction**, and §7.1's orthogonality is preserved: depth says how content is held and updated, this index says whether it is differentiated for the subject, and neither settles the other. **Attendability, addressability and misapplicability are delivered at the level of Word-function; deniability and combinability belong to the mature compositional tier (§4.6), and the marks should be read at the tier in question.**

This is an analytical index, not a stratum and not a component. It cross-cuts the three strata of §7, which are defined by update mechanism, and it adds nothing to the sixteen cells. Its purpose is to prevent a single, recurring inference: that because a function demonstrably operates without Words at the pre-articulated level, it does so in its articulated form. **Evidence that an organism orients, discriminates, conditions or executes a procedural routine without Words bears on the pre-articulated level only.**

A companion distinction, used for the same reason. Transmitted content is either **procedural** — how to make, do or perform — or **articulated/propositional** — that something is, was, will be, would be, ought to be, or is believed by another. The two have different requirements, and evidence about the first does not settle the second (§13.5). **How to is the theorist's individuation of the procedural case and is not by itself a claim that the subject holds a right way** (§13.5).

A wording discipline follows from the index and is used throughout. A process may occur, persist, be retrieved, constrain behaviour, be compared and guide movement without thereby being available to the subject as *this thing, this action, this sequence, this target, this relation or the same thing again*. **System sensitivity, persisting internal organisation and internal itemhood do not by themselves establish an identifiable element of the subject's reality.** Where this monograph uses a process noun of a pre-articulated operation, it names the operation and not a possession of the subject.

3. Method of Structural Inquiry

3.1 · Discovery first, testing second

The architecture was not derived by hypothesis testing. It was constructed by a sequence running **root → observation → relationships → integration → architecture → hypotheses → testing → revision**. Early stages were exploratory; only after a candidate architecture existed did the process shift to adversarial testing.

This ordering bears on evaluation. The relevant question is not whether the initial proposal was principled but whether the subsequent testing was genuine — whether components could have been eliminated, whether predictions could have failed, and whether the record shows correction actually occurring.

3.2 · The elimination test

A component is retained if and only if, on removal, either (a) a distinct human function becomes unrepresentable, or (b) representing that function requires expanding another component's definition to include an operation its own membership criterion excludes.

Clause (b) makes the test checkable. Twelve reduction attempts are documented, including seven pairwise mergers. All twelve failed, and in every case the failure took the form of hidden reintroduction rather than unrepresentability. Two illustrations:

- **Attention into Intention.** Intention's criterion is *adopted* direction. Absorbing attention requires Intention to include involuntary capture — allocation occurring against the current goal — which its criterion excludes.
- **Words into Belief.** Belief's criterion is storage of what persists and constrains processing. Absorbing Words requires Belief to *supply meaning-bearing form-types under a standard of correct application and guarantee discrete repeatable symbolic identity*. Neither is a storage operation.

3.3 · Competing models and kill conditions

At each stage a committed competitor was specified — a rival making a *different* prediction on the same measurement, not a coarser description absorbing any result. Several proposed tests were abandoned when the competitor's prediction proved asserted rather than derived. Kill conditions were specified in advance for design programmes; two substantial programmes were terminated on their own pre-stated kill conditions rather than redesigned.

3.4 · Evidence statuses

Status	Meaning
FROZEN STRUCTURE	a structural commitment
EMPIRICALLY SUPPORTED	supported by identified primary literature
SUPPORTED SYNTHESIS	supported by an argument over multiple findings, not a single result
MEASUREMENT-LIMITED	not testable with current instruments
STRUCTURALLY BLOCKED	no available human comparison can address it
SPECIFICATION ONLY	parameter or operationalisation
CLOSED / REJECTED	considered and rejected; retained to prevent re-proposal

3.5 · Four governing rules

Four rules were adopted during construction and verification, each in response to a documented failure. They bind future work.

THE LEVEL RULE. Mechanism → operation → development → architecture. Evidence bears only on the claim level it can reach.

THE NO-RESCUE RULE. A failed prediction may not be reinterpreted post hoc by invoking an unmeasured moderator, a narrower subgroup, or a redefinition adopted after seeing the result.

THE ANTI-CIRCULARITY RULE. The formal graph cannot be used to prove any distinction it was built to encode.

THE SUFFICIENCY RULE. Before attaching evidence to a claim, ask whether the claim needs empirical support at all and whether the proposed source is the strongest available. **A structural argument can be weakened by a contested citation that adds no necessary evidential value.**

The third rule exists because the corresponding error occurred twice with the same component in two different forms. **The fourth was adopted after source verification identified eight instances of the same failure and is treated in §16.6.**

3.6 · The Comparative Relevance Standard

Evidence from an organism lacking feature F can establish that a process does not require F. It cannot establish how that process is implemented, developed, or integrated in an organism that has F.

3.7 · Recording blocked questions

A question is recorded as blocked when the decisive comparison is unavailable — because the required population does not exist, because the required manipulation would be impermissible, or because the required instrument does not reach the necessary precision. Blocked questions are listed in Appendix D and excluded by construction from open structural questions.

PART II — THE ARCHITECTURE

3A. The Biological Foundation

3A.1 · Statement

The Biological Foundation is the constitutive biological organization of the person: the biological information, machinery, cytoplasmic material, regulatory payloads and other constitutive resources received at conception; the regulatory, differentiative, adaptive and organizational processes through which that endowment becomes this embodied person; and the ongoing biological organization by which the person continues to be instantiated and sustained. It is defined by its structural role — constituting and sustaining the person — and not by any list of molecules or mechanisms.

In plain terms: what a person is biologically made of, how they came to be built that way, and the biological organization that keeps them being a person.

The resulting geometry:

Biological Foundation → Embodied Person → Seven Governing Trunks

The foundation is not an eighth trunk, is not a Condition, and does not enter the formal coupling model of §8. Its addition **deepens** the architecture rather than increasing the number of governing components.

This section describes one foundational layer, not the whole Foundation of human reality. What the Biological Foundation is foundational *for* is the embodied person. A second foundational function — foundational for the person's articulated reality rather than for the person — is treated at §3A.9 and is performed by Words. **The two are not members of one linear hierarchy and neither contains the other.**

3A.2 · Three aspects of one foundation

These are aspects, not components. They are not trunks, not separate foundations, not graph nodes, and not causal channels.

Aspect	Content
Initial Biological Endowment	what is received at conception: biological information and machinery, cytoplasmic material, regulatory payloads, and other constitutive resources
Developmental Realization	the regulatory, differentiative, adaptive and organizational processes through which that endowment becomes this embodied person
Ongoing Biological Instantiation and Maintenance	the continuing biological organization through which the constituted person remains instantiated and sustained

Why the third aspect is not redundant. Inherited information is not deposited and finished. It is read continuously: mitochondrial transcription and translation run for the whole of life, and the mitochondrial genome's 37 genes are all essential to that function. **A foundation stated only as endowment plus development would describe a system that had been built and then left alone, which is not what the biology does.** [EMPIRICALLY SUPPORTED for continuous reading; SUPPORTED SYNTHESIS for its structural significance]

3A.3 · Constituting versus conditioning — the role rule

Foundation: biology insofar as it participates in constituting and sustaining the person.

Condition: biology or environment insofar as it alters the state, capacities, susceptibility, or possibilities of an already-constituted person.

Role determines category. The same biological mechanism may occupy both roles, and the two roles may operate simultaneously.

The worked case is DNA methylation. It carries genomic imprints through preimplantation reprogramming and makes a neuron a neuron rather than a hepatocyte given one genome — **constituting**. The same machinery responds to stress, nutrition and exposure in an already-constituted adult — **conditioning**. **A foundation defined as a list of mechanisms would be falsified by the first mechanism found doing conditioning work, and methylation is that mechanism.** [EMPIRICALLY SUPPORTED for both roles; SUPPORTED SYNTHESIS for the role rule]

Four things the role rule is not. It is **not** permanence — a Condition may be permanent. It is **not** irreversibility — a Condition may be irreversible. It is **not** persistence, and it is **not** trajectory. A constitutive developmental effect may later be compensated, remodelled, or functionally recovered without ceasing to have been constitutive. **Role determines category; trajectory does not.**

3A.4 · Why the foundation is not named for inheritance

Three demonstrated mechanisms would be excluded by any label containing *inherited*.

Mechanism	Why it fails an inheritance-based label
X-chromosome inactivation	The choice of which X to silence is random and made independently in each cell, then clonally maintained for life. In humans, XIST pinpoint signals appear in most female 8-cell blastomeres with <i>cis</i> accumulation at late morula and blastocyst stages (van den Berg et al., 2009), and inactivation initiates between early implantation and the end of the first month, progressively and with lineage-dependent kinetics (Patrat, Ouimette & Rougeulle, 2020); mammalian XCI strategies differ substantially between species (Okamoto et al., 2011). Constitutive and not inherited
Genomic imprinting	Imprints are erased during primordial germ cell reprogramming and re-established sex-specifically during gametogenesis. The constitutive pattern is regenerated by inherited biological machinery and developmental regulatory programs , not relayed as a token
Sensitive-period development	Constitutive organization built with environmental input during bounded developmental windows

[EMPIRICALLY SUPPORTED for each mechanism; SUPPORTED SYNTHESIS for the naming conclusion]

3A.5 · Boundary

Inside the foundation	Outside the foundation
genomic and mitochondrial inheritance	lived experience and environment themselves — these are <i>inputs</i> . The biological organization produced as experience participates in developmental constitution may be foundational; the experience is not
genomic imprinting, established by germline rule	biology acting in a conditioning role on an already-constituted person
X-inactivation and comparable developmental organizational events	represented content — §3A.6
germ-cell contributions beyond sequence: small RNAs, cytoplasmic factors, maternal mitochondria	neural implementation as a catalogue — it is one mechanistic aspect of the foundation, not a separate item
developmental regulatory organization, including sensitive-period construction	trunk identity — functionally, not bodily, individuated (§4.8)
ongoing biological organization sustaining the constituted person	

3A.6 · The foundation does not deliver represented content

The two write-ports of §7.4 are Influence and Thought. The Biological Foundation is not a third.

The germ-cell contributions examined — sperm small RNAs, oocyte cytoplasmic factors, maternal mitochondria — operate biochemically during biological constitution, including before any person-level representational architecture exists. They do not populate Belief or Thought with represented content.

The zygote has no Belief to write to. This is a claim about **when and on what** these contributions act, not a claim about what properties content must have. [SUPPORTED SYNTHESIS]

3A.7 · Relation to the seven trunks

The foundation constitutes the person in whom all seven trunks operate. It does not differentiate into seven biological sub-foundations, and nothing in the architecture requires it to.

One Biological Foundation constitutively and developmentally realizes one Embodied Person, whose functional architecture comprises seven irreducible Governing Trunks operating together as one integrated human architecture.

Irreducibility and integration are properties of function; structural position is a separate matter. The seven are distinguished by governing function; their structural positions are set out at §13, where one of the seven is found to condition the articulated form of the other six.

Biological mechanisms are shared, overlapping, pleiotropic, convergent and distributed. The trunks are differentiated by governing function rather than by biological localization, so that character of the mechanisms

bears on neither the trunks' distinctness nor their number. No gene, circuit, organ or pathway corresponds to Belief, Thought, Attention, Intention, Words, Influence or Action, and none is required to.

What biology does to trunk-represented functions. It supports, constrains, parameterises, develops and modulates them. **Trunk membership is set by governing function, and biology's role stops at those five verbs. No instance to the contrary was located in this review; coverage was incomplete.**

3A.8 · Boundary of the Biological Foundation

Four boundary findings, stated because the surrounding literature invites over-reading.

Boundary finding
Inherited biology constrains rather than determines outcomes. Genotype–phenotype correlation is often poor; in mitochondrial disease, carrier frequency for one common variant exceeds disease prevalence by a factor of 40–70 (Gorman et al., 2015)
Heritability estimates lie outside this foundation's evidential base. Heritability is a variance statistic, and universal constitutive biology contributes no variance. All measured behavioural traits are heritable, and typical traits are associated with very many variants of very small effect (Turkheimer, 2000; Chabris et al., 2015); both facts concern variance, and constitution is what is at issue here
Germline transmission of experience-derived information in humans remains unestablished. Human exposure→sperm associations exist (Jenkins et al., 2017; Roberts et al., 2018); a paternal-line transgenerational association exists at the association level (Vågerö et al., 2018, 2022); no human study linking a molecular germline signal across more than one generation was located in this review
The foundation's role is constitutive throughout. It constitutes and sustains the person; governing functions belong to the seven trunks (§3A.3, §3A.6)

The transgenerational material bounds the foundation's scope; the broader inherited-information hypothesis lies outside this monograph.

3A.9 · The Biological Foundation is one foundational layer, not the whole Foundation

The Foundation of human reality contains at least two foundational functions, and they are foundational for different things.

	Biological Foundation	Words
Foundational for	the embodied person — the system in which the trunks operate	the articulated level — the form in which content is differentiated for that person
Mode	substrate-constituting	form-constituting
Delivers represented content	no	yes
Performs a governing function	no	yes
Enters the formal coupling model	no	yes
Location	beneath the functional architecture	within it, as a governing trunk (§4.6)

The Biological Foundation makes the embodied person possible. Words makes meaningful, differentiated, articulated human reality possible.

Words is not placed inside the Biological Foundation, is not placed above or below it, and does not share its kind. It fails every mark by which §3A.1–3A.8 characterise that layer: it delivers represented content, it governs, and it couples. The two are not rungs of one ladder; they answer different questions, and only the first is a claim about what constitutes a person.

How the two functions divide. The Biological Foundation constitutes the embodied person; Words is foundational for that person's meaningful, differentiated, articulated reality. **A person exists without Words** — every infant, and every human whose language develops late or not at all — and what such a person lacks in the absence of any meaning-bearing form is articulated reality, not personhood (§19).

Why this is stated in Part II rather than left implicit. Without it, a reader takes *Biological Foundation* → *Embodied Person* → *Seven Governing Trunks* to say that the Foundation is exhausted by biology and that everything above it is one flat layer of peers. Neither follows, and §13 sets out what does. **[SUPPORTED SYNTHESIS — a structural placement claim; see §13.6 for its evidential standing]**

4. The Seven Governing Trunks

4.1 · Overview

Trunk	Function	Membership criterion
Belief	store and persistence of accepted or operative structure	carries between episodes and constrains processing without being re-derived
Thought	endogenous generation, transformation, evaluation of content decoupled from its object	operates on content rather than storing it
Attention	capacity-limited allocation and selection	allocating to one thing reduces availability to another
Intention	adoption of a non-actual future-directed organisation	specifies an outcome not currently the case; held while not acting; forecloses alternatives
Words	stable, re-identifiable, meaning-bearing forms paired with distinctions under a standard of correct application	a form-type is re-identified across occasions as carrying the same distinction, and a token of it can be wrong
Influence	alteration of the system by what it does not author	the system stands as recipient rather than author
Action	enactment and output at the system boundary	produces output that alters conditions which return

Trunk carries no implication of anatomical localisation, encapsulation, or evolutionary specialisation.

The table individuates seven governing functions. Their structural positions are set out at §13, and the geometry is carried by the figures rather than by this table.

Functional distinctness and structural position are separate questions, and the second does not follow from the first. All seven are irreducible; none can be absorbed into another without covertly reintroducing the removed function (§3.2). But within articulated human reality the six non-Words trunks operate on content that must already be differentiated, and **Words is the component that supplies that differentiation while supplying none of their functions** (§4.6, §13.4). The relation is **conditioning, not commanding**: Words determines the form in which their contents can be determinate, and directs no operation of any of them.

4.2 · Belief

Belief is the store and persistence of accepted or operative structure — what carries between episodes and constrains processing without being re-derived.

Stratum	Content
B_d	operating models, learned expectations, attachment and threat models
B_r	schemas, credences, conceptual beliefs
B_s	stated beliefs, assertions

Belief content is **distributional, not propositional-with-assent**. Uncertainty is represented, not an absence of belief; an accepted proposition is a distribution concentrated near certainty.

Attempts to absorb Belief into Thought fail because a store that transforms is a processor and a processor that persists is a store; the architecture requires both roles.

4.3 · Thought

Thought is the endogenous operation on content decoupled from its object — generating, transforming, and evaluating internal content.

Stratum	Content
T_d	association, automatic appraisal, pattern completion
T_r	simulation, imagery, rehearsal, comparison
T_s	inference, reasoning, reflection

Thought owns **inference** and **simulation**. It does not own error-driven update, which is Belief's update rule triggered

through Influence — which is why automatic learning proceeds without Thought's participation. Two modes are treated in §9.

4.4 · Attention

Attention is capacity-limited allocation and selection. Its defining property is competition.

Attention **transforms nothing**. Every route by which it affects content is selection, modulation, or duration. This is not a diminishment. Selection under capacity constraint is what distinguishes Attention from a distributed pattern of gains on individual couplings — the strongest available reduction. That reduction fails because per-coupling gains are independent whereas attentional allocations *trade off*: the constraint is global normalisation, not a set of local parameters. The reduction is defeated by the membership criterion the architecture had already stated. **[SUPPORTED SYNTHESIS]**

4.5 · Intention

Intention is the adoption and selection of a non-actual, future-directed organisation — held while not acting, foreclosing alternatives.

Stratum	Content
I_r	goals, plans
I_s	commitments, if-then policies

Intention is not reducible to belief-about-the-future plus valuation. **People fail to act on intentions they hold: across forty-seven experimental tests in which intention was manipulated relative to control, a medium-to-large change in intention (d = 0.66) produced only a small-to-medium change in behaviour (d = 0.36)** (Webb & Sheeran, 2006). **[EMPIRICALLY SUPPORTED]** That evidence is experimental rather than correlational, and the authors note that correlational designs would not license the causal reading. Intention has no deep stratum. A goal-directed tendency with no representation is a habit, and habits belong to deep Action. This deletion corrects a category error (§16.4).

4.6 · Words

Words is the system of stable, re-identifiable, meaning-bearing forms, each paired with a distinction under a standard of correct application that the system itself holds — spoken, signed, written, notational, gestural, or internally used.

The criterion is modality-neutral, and its three clauses are what a form must satisfy. A **form-type** whose distinct tokens the system produces or consumes *as the same form*; a **pairing** of that form with a distinction; and a **standard** by which a token of it can be wrong about what the form is paired with. **A form-type is thereby a discrete unit at its own level; nothing further need be required of it.** **Three properties are widespread among Words and are not conditions on Wordhood.**

Property	Status
Arbitrariness	Not required. Iconically motivated lexical signs and ideophones are Words and are not arbitrary. Arbitrariness is a means — it lets a system individuate contents with no exploitable similarity structure — not a defining function
Convention	Not required for Word-function; required for public Words. It is the entry condition to a shared inventory, and it arrives after form and meaning have converged
Recombination	Not required of any individual Word. It is a property of the inventory and of the mature compositional system. Interjections and standalone particles are Words and do not compose

Three nested categories, established by the Words-boundary investigation and used throughout.

Word-function. A form-type paired with a distinction under a standard the system holds. Occasion-plural: it requires recurrence across occasions, not a second form. This is the level at which Words is foundational for articulated reality.

Public Words. Word-function whose pairing is conventionally fixed and therefore re-identifiable by persons other than its user. Adds transmissibility, external correction of misuse, cross-person stability of the type, accumulation across persons, and constitutive force under collective recognition.

Mature compositional Words-systems. Public Words plus recombination, with sublexical discreteness where present. Adds compositional productivity, and with it negation, conditionality, quantification, embedding, metarepresentation and attitude attachment.

Words is not coextensive with symbolic or iconic representation, and the property that excludes the near neighbours is *being a form-type under a standard*, not arbitrariness.

	A form-type paired under a standard?	Words?
Perceptual pattern, associative state	no — nothing recurs as the same form	no
Concept or category	no — a concept is a category, not a form	no
Analog simulation, mental image	no — an iconic vehicle is individuated by what it resembles, not by its own recurrence	no
Indexical state (causal covariance)	no — an indicator cannot be wrong, only fail to fire	no
Reflex, conditioned response, stimulus-bound emission	no — the failure mode is extinction or non-response, not falsity	no
Iconically motivated lexical sign; ideophone	yes	yes
Conventional spoken, signed, written or notational form	yes	yes
Internally used lexical form	yes	yes

Without this restriction the architecture's claims about Words become unfalsifiable, since every internal representation would count. **The restriction is carried by the form-type and standard clauses, which exclude concepts, percepts, imagery, associative states, indicator states and conditioned responses without excluding iconic Words. [FROZEN STRUCTURE]**

The category/form relation is dependence. A concept or category is not itself a Word. **A category that is determinate for the subject — *this kind rather than that* — requires a form to carry its identity**, since the alternatives individuate content by causal covariance or by resemblance and neither fixes an extension. Categories are not thereby Words.

Three carrier kinds, distinguished so that the alternatives are not *mechanism or Words*. Kind 1, no vehicle: a detector, a weighting, an attractor basin, a similarity metric, a transition configuration — nothing in it is an item. **Kind 2, iconic or tracking vehicle:** a retained image, a template, an exemplar, a particular-tracking index, a stored sensorimotor mapping. **These may be genuine internal items and they are not Words** — an iconic vehicle is individuated by what it resembles and an index by what it tracks, as the table above records. **Kind 3, form:** the criterion stated at the head of this section. **There is rich internal organisation, and there are real internal items, below the Word-function threshold; internal itemhood is not by itself subject-side meaning (§2.4, §19).**

Words occupies two structural roles, and they are one function described at two levels.

Foundational role. Meaningful, differentiated, articulated reality cannot exist without meaning-bearing form. Relative to the *existence* of the articulated level, Words is a condition on its possibility (§3A.9).

Trunk role. Relative to the *operations occurring within* that level, Words is the central organizing component: the articulated forms of Belief, Thought, Attention, Intention, Influence and Action operate through the differentiated forms it supplies, and none of them supplies that differentiation (§13.4).

These are not two components. The function is the same throughout — a stable, re-identifiable, meaning-bearing form paired with a content — and what changes between the two descriptions is only what is being quantified over: the architecture in the first case, its components in the second. **No second Words is posited, and any representation showing two would be a diagrammatic artefact.**

How Words stands to the other six. Words conditions their articulated form and directs none of them; each retains its own governing function. Words in turn depends on the rest of the architecture to operate at all — it is inert without Thought to operate on it, Attention to select, Intention to deploy, Influence to deliver, Action to express and Belief to hold (§9.8). **The seven operate interdependently within one architecture, and one Words-function occupies two structural roles within it.** Personhood and articulated reality are separate questions, and §3A.9 settles

the first: a person exists without Words.

4.7 · Influence

Influence is alteration of the system by what it does not author. It names the recipient standpoint, not the source.

Family	Interface	Character
Informational	registration	transmission through a channel; parameters include reach, visibility of reach, identifiability, fidelity, synchrony
Material	susceptibility	transfer without a channel
Structural	applicability	no transfer; alteration of the possibility structure

Sources may be internal or external. Hunger, fatigue and returning memory are Influence; so is testimony. **Influence is not a social category** — a person in isolation is subject to physiological, environmental and structural influence continuously.

Structural influence is **phase-structured**: established informationally, thereafter operating structurally.

4.8 · Action

Action is enactment and output at the system boundary, including omission and inhibition, that alters conditions which return as Influence.

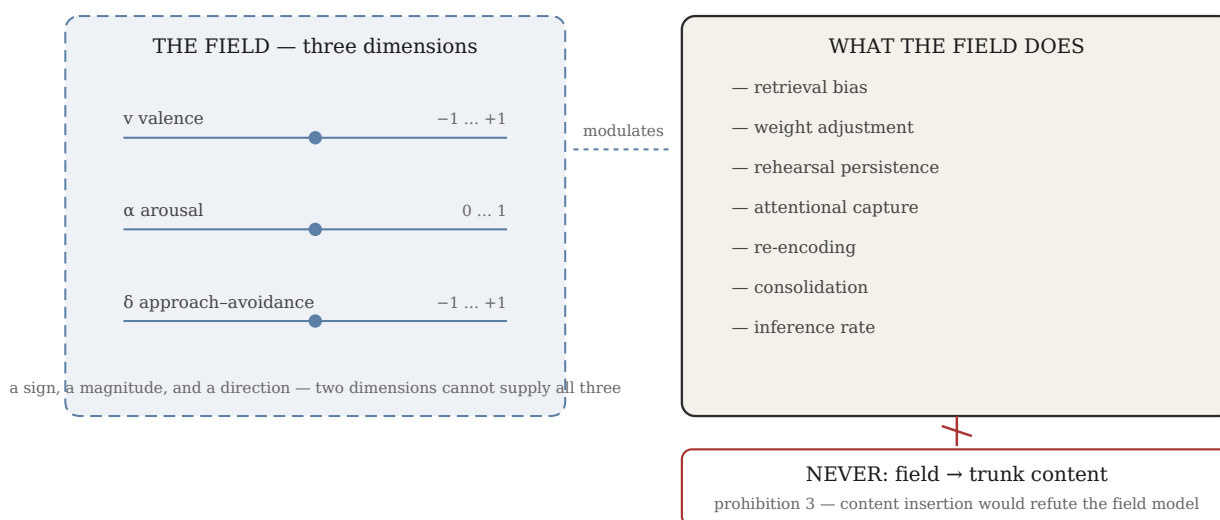
Action is **not** visible movement. Attempted enactment, inhibition and internal action selection are Action. Defining it as observable movement would make its status contingent on the body rather than the architecture. **[FROZEN STRUCTURE]** Action is **re-entrant**: its products become conditions, and conditions return through Influence.

5. Affect as a Modulating Field

Affect is a modulating field over the seven trunks. It supplies parameters. It never supplies content.

See *Figure 3*.

Figure 3 · The affective field



Caption. Affect is a modulating field over the seven trunks, not an eighth trunk. It supplies parameters — gains and coupling weights — and never supplies content. Seven modulations are documented and no transformation is. The prohibition at lower right is a standing falsifier: an affective state demonstrated to insert propositional content rather than weight existing content would refute the field model. See §5 and §8.6.

5.1 · Three dimensions

The field must supply a **sign** for evaluation, a **magnitude** for gain, and a **direction** for response bias. Two dimensions cannot supply all three; the forcing case is that high-arousal negative states divide into approach and avoidance, which valence and arousal alone cannot distinguish. **[SUPPORTED SYNTHESIS]**

Symbol	Dimension	Range
v	valence	-1 ... +1
α	arousal	0 ... 1
δ	approach-avoidance direction	-1 ... +1

5.2 · What the field does

Documented modulations across retrieval bias, weight adjustment, rehearsal persistence, attentional capture, re-encoding, consolidation and inference. **Modulations, not transformations.** **[SUPPORTED SYNTHESIS for the exhaustiveness claim]**

5.3 · Why not an eighth trunk

The decisive consideration is that the field's effects are uniformly parametric: no case was identified in which an affective state *inserts* content rather than weighting existing content. **A falsifier is retained** — demonstrated content insertion would refute the field model (§8.6, prohibition 3). **[CLOSED / REJECTED, falsifier live]**

6. Conditions and Interface Structure

6.1 · Conditions are not a trunk

Conditions are circumstances and states. Exogenous to the seven does not mean external to the person.

A person's physiology is exogenous to the trunks while being unambiguously person-side. Treating *exogenous* as *external* would place hunger in the world.

6.2 · Seven condition classes with restricted entry

[SPECIFICATION ONLY for the class list; FROZEN STRUCTURE for the restriction principle]

Class	May directly affect
Physiological / neurological	field · deep Attention capacity · Action capacity · parameters of the registration interface within informational Influence. Nothing else
Material / economic	Action capacity · experiential Influence
Relational / social	experiential and symbolic Influence · field
Institutional / structural	Action option set · symbolic Influence · Words availability
Environmental	experiential Influence · Attention capture · Action capacity
Cultural / symbolic	symbolic Influence · Words
Experiential-historical	via accumulated experiential Influence already deposited in deep Belief. No live channel

Two repairs are recorded here, both established independently of §3A.

The registration-interface entry point. A present physiological state can set the parameters of an informational Influence channel, and the previous entry restriction did not permit it. The direct case is **connexin-26 deafness** (Cohn & Kelley, 1999): a single-gene, non-syndromic condition — normal vision, normal vestibular responses, no detectable inner-ear malformation — in which cochlear gap-junction failure closes the auditory registration channel. **That is neither a field effect, nor deep Attention capacity, nor Action capacity. [EMPIRICALLY SUPPORTED]**

A boundary note on a second case. Sensitive-period visual development sets acuity, contrast sensitivity and stereopsis, and it is **not** a Condition: the developmental process belongs to the constitutive foundation (§3A). **Only its resulting present physiological organization participates at the Condition level.**

The rename. The class formerly called *Developmental / historical* is renamed **Experiential-historical**, because its definition concerns the individual's own accumulated **experiential** history. **Prenatal and early developmental construction is developmental and is not experiential; it belongs to §3A, and the former name promised a coverage the definition did not deliver.**

The last row remains substantive: **history has no ongoing causal channel.** Whatever the past does now, it does through deposited deep structure or present conditions.

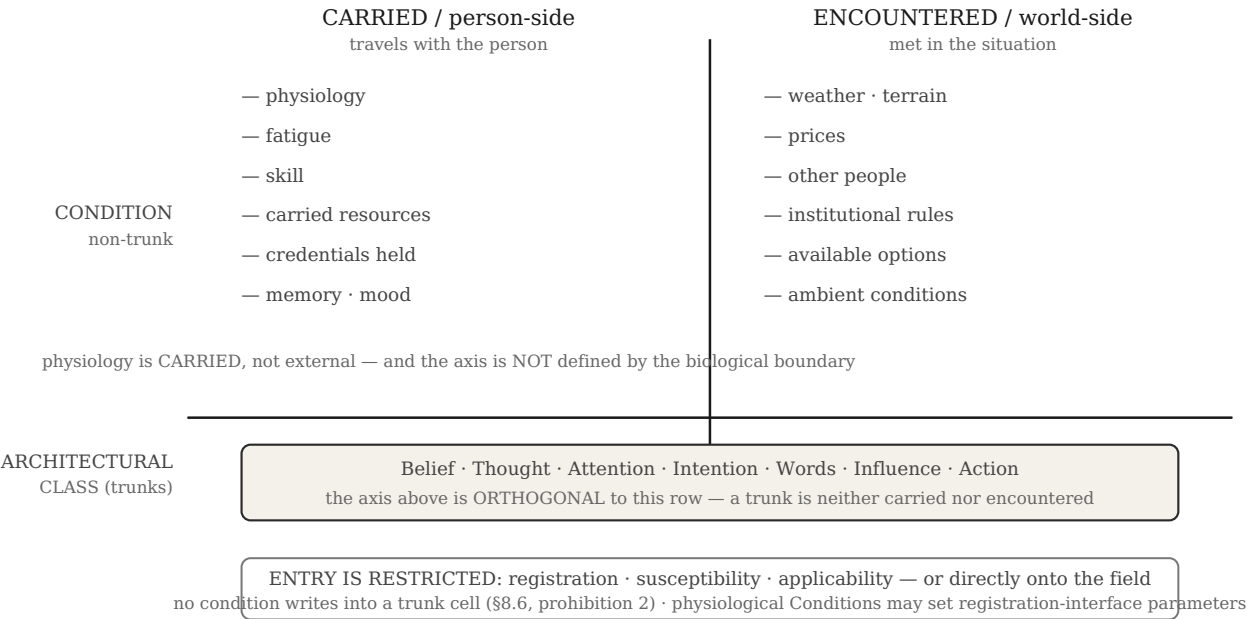
6.3 · The interface-location axis

Architectural class and interface location are orthogonal axes. See *Figure 4*.

	Carried / person-side	Encountered / world-side
Definition	travels with the person	met in the situation
Examples	physiology, fatigue, skill, carried resources, credentials held, memory, mood	weather, terrain, prices, other people, institutional rules as encountered, available options

Stating this axis resolved four questions that had appeared structural. Failure to state it produced a documented error (§16.4).

Figure 4 · Conditions and the interface-location axis



Caption. Architectural class and interface location are orthogonal axes: a trunk is not a condition, and a condition is neither a trunk nor necessarily external. Exogenous to the seven does not mean external to the person, which is why physiology sits on the carried side. Conditions bear on the architecture only through the three interfaces or the field. See §6.

6.4 · Applicability is three-place

Condition × Person-in-State × Candidate Action

An option is available or unavailable only relative to a specific person, in a specific state, considering a specific action. Possibility is not a property of the world alone.

A corollary: intervention is not causal attribution. [FROZEN STRUCTURE]

7. Strata and the Update Architecture

7.1 · What depth means

Depth means how content is held and updated — not how old it is, not whether it is conscious, not how important it is.

Stratum	Timescale	Update mechanism
Deep	months - years	requires prediction error; proceeds by the dual-route rule (§8.4)
Representational	hours - weeks	inference over evidence
Symbolic	seconds - hours	testimony, argument, instruction

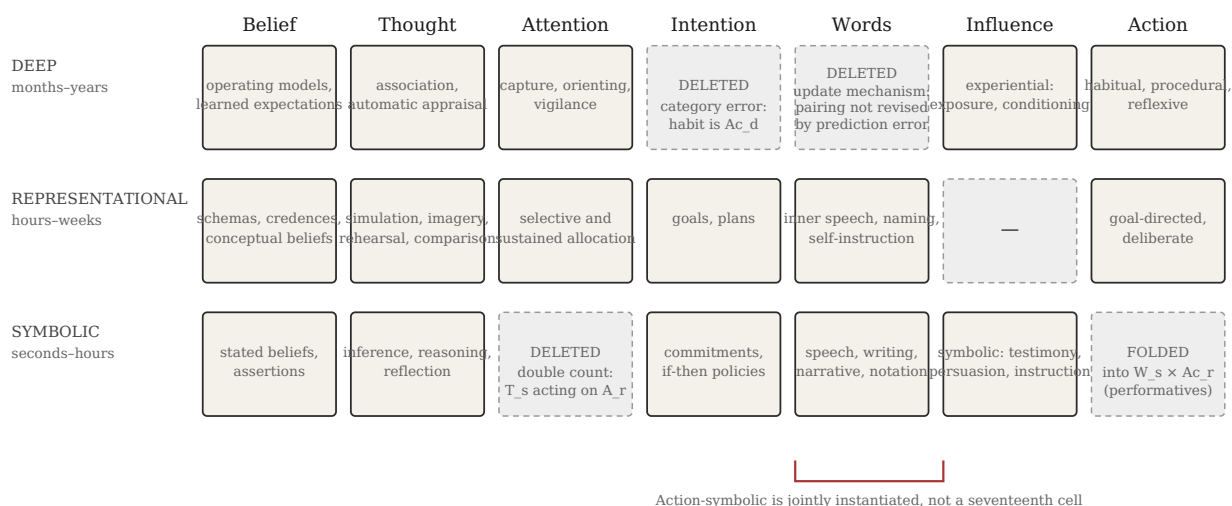
Two notes, neither of which alters the strata. The three strata are orthogonal to the pre-articulated/articulated index of §2.4: depth says how content is held and updated, not whether it is differentiated for the subject, and no cell is added, removed or reassigned by that index. And the symbolic stratum's update mechanisms — testimony, argument, instruction — are Words-borne operations, which is why the symbolic row of every trunk depends on what Words supplies without any trunk ceasing to be itself.

7.2 · Sixteen cells

The stratum structure is shown in **Figure 2**.

Trunk	Deep	Representational	Symbolic
Belief	operating models, learned expectations	schemas, credences, conceptual beliefs	stated beliefs, assertions
Thought	association, automatic appraisal	simulation, imagery, rehearsal, comparison	inference, reasoning, reflection
Attention	capture, orienting, vigilance	selective and sustained allocation	<i>deleted</i>
Intention	<i>deleted</i>	goals, plans	commitments, if-then policies
Words	<i>deleted</i>	inner speech, naming, self-instruction	speech, writing, framing, narrative
Influence	experiential: exposure, conditioning, physiological	—	testimony, persuasion, instruction
Action	habitual, procedural, reflexive	goal-directed, deliberate	<i>folded</i>

Figure 2 · The seven trunks and the stratum structure



Caption. Sixteen cells across seven trunks. Depth is defined by update mechanism, not by age, awareness, or importance. Three cells are deleted and are shown as deleted rather than omitted, each with its ground; symbolic Action is folded into the joint instantiation of symbolic Words and representational Action. Influence is stratified experiential/symbolic and has no representational cell. See §7.

7.3 · The deletions

Attention-symbolic deleted. Deliberate attention is symbolic Thought acting *on* representational Attention; a symbolic attention cell would double-count a coupling.

Intention-deep deleted. Intention is constituted by a represented goal held while not acting. A goal-directed tendency with no representation is a habit.

Words-deep deleted. Words-cell content is the pairing of a form with a distinction, and a pairing is revised through instruction, correction and argument rather than through accumulated prediction error; there is therefore no deep-stratum Words cell. **The premise is about update mechanism, which is what §7.1 individuates strata by. It is not that Words requires convention** — Word-function does not (§4.6), and a pairing held by a single system is no more revised by prediction error than a conventional one. **Retained as a live commitment: a demonstration that form-to-content pairings are revised by accumulated prediction error would refute the layered derivation.**

Action-symbolic folded into the joint instantiation of symbolic Words and representational Action.

7.4 · The two write-ports

Represented content has exactly two write-ports: Influence and Thought.

The experiential channel writes to deep Belief DIRECTLY — conditioning requires no comprehension. The symbolic channel routes THROUGH Thought — testimony requires comprehension and evaluation.

The asymmetry is not stipulated. It follows from the observation that automatic learning classes proceed without comprehension while symbolic influence demonstrably does not. **[SUPPORTED SYNTHESIS; the comprehension-blocking prediction is MEASUREMENT-LIMITED and untested]**

8. Couplings and the Twenty-Four-Edge Graph

8.1 · Status of the graph

The graph is a **constrained formal model** built on the architecture, not the architecture itself. Its purpose is to make the architecture capable of being wrong: an unconstrained model predicts nothing. Two disciplines govern its use — the **anti-circularity rule** (§3.5), and the fact that parameter values are **SPECIFICATION ONLY** whereas the prohibitions are structural.

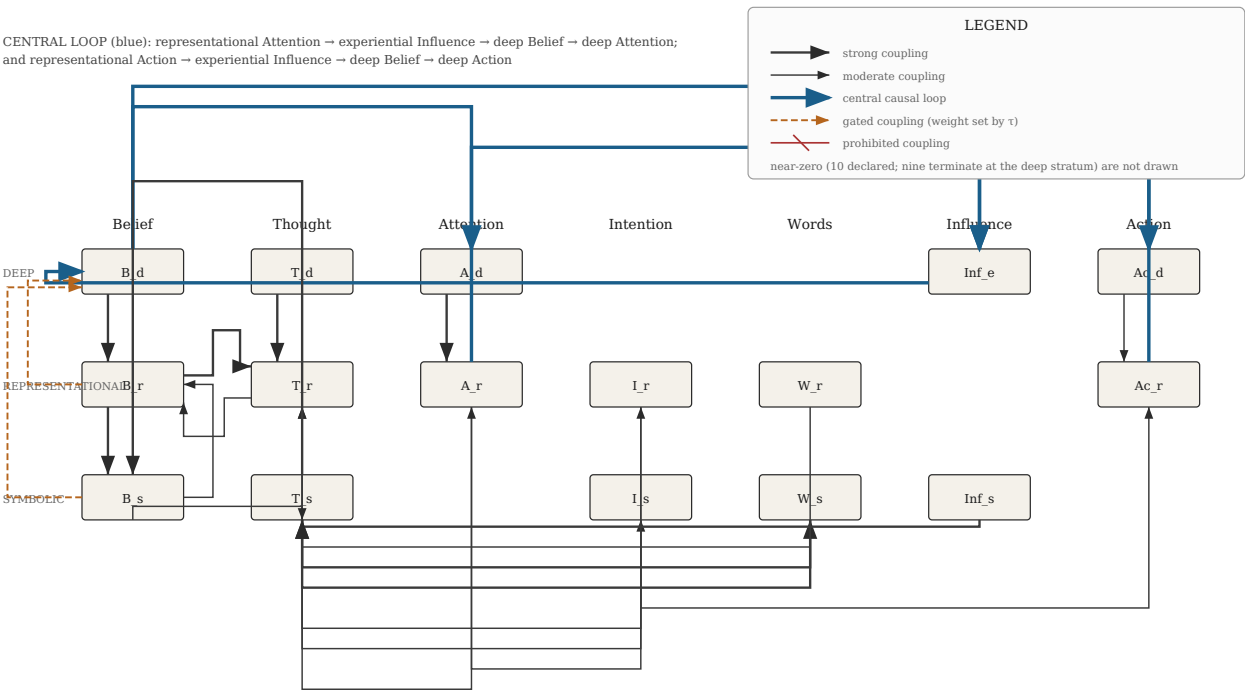
8.2 · The twenty-four edges

Figure 5 presents the full model; the table appears in Appendix A. In summary: **six within-trunk edges** and **eighteen cross-trunk edges**. The central causal loop runs:

representational Attention → experiential Influence → deep Belief → deep Attention, and representational Action → experiential Influence → deep Belief → deep Action

Read substantively: **deep belief changes only by sampling the world, and what gets sampled is determined by attention and action.**

Figure 5 · The constrained formal model — twenty-four permitted couplings among sixteen cells



gated (orange): $B_r \rightarrow B_d$ and $B_s \rightarrow B_d$ — baseline near-zero, weight set by $\tau \propto D \cdot \max[L(1+E), R]$

Caption. All twenty-four permitted couplings: six within-trunk and eighteen cross-trunk. Edges are routed through separate horizontal lanes so that no two overlap and every reciprocal pair is distinguishable. Deep Belief has exactly one ungated write-port, Inf_e ; the two gated couplings carry traffic only as τ opens them. Verified against Appendix A. Near-zero and prohibited couplings are listed in the legend rather than drawn, to preserve legibility.

8.3 · Gated edges

Two edges — representational and symbolic Belief to deep Belief — are **gated**: baseline weight near-zero, operative weight set by τ (§8.4).

The gated family exists because of an internal inconsistency in an earlier version of the model, which specified τ as governing symbolic-to-deep transfer while containing no symbolic-to-deep edge for τ to govern. That is a structural argument from the model's own contents and requires no empirical support.

Instructed fear is the motivating case, not the forcing one. Verbal instruction alone produces conditioned physiological responding with no experiential pairing: participants told that one stimulus signalled possible shock and another safety showed left amygdala activation correlating with skin-conductance expression, to an event "linked verbally, but not experientially, to an aversive outcome" (Phelps et al., 2001). **[EMPIRICALLY SUPPORTED for instructed acquisition]**

Whether instructed acquisition produces durable deep-stratum change is a separate question. The study measured responding while the instruction was in force, using skin conductance and BOLD; it did not test after withdrawal of the instruction and did not measure startle. The architecture's own threshold rules (§8.7) forbid inferring deep change from conditioned responding, and that discipline applies here. [MEASUREMENT-LIMITED]

8.4 · The dual-route rule

$$\tau \propto D \cdot \max[L(1 + E), R]$$

Moderator	Symbol	Operationalisation
Affective loading	L	arousal × valence at encoding
Repetition	R	exposure count × consistency, weighted for spacing
Developmental window	D	Fixed at 1 for the adult baseline; may not be invoked to explain adult failures
Behavioural enactment	E	frequency × duration × consequence-contingency of self-produced consistent action

Route	Path	Driver
Affective	the gated Belief-to-deep-Belief edge	L , amplified by E
Procedural	representational Action → experiential Influence → deep Belief	R

A clarification that has been the source of one documented error: τ is a **maximum over two terms of one formula**. It does not posit two pathways, two channels, or two stores. A single update mechanism whose rate is set by whichever driver is larger satisfies τ exactly.

8.5 · Near-zero edges

Ten edges are declared near-zero. **Nine terminate at the deep stratum**, so the list is largely a redundant expression of one fact: *the deep stratum has exactly one ungated write-port*.

The most consequential is **symbolic Thought to deep Belief ≈ 0** — the formal statement of *insight without change*. It is **derived, not stipulated**: deep Belief's update rule is error-driven; Thought does not perform error-driven update; Thought's outputs land at the representational and symbolic strata; reaching deep requires the gated transfer or enactment-generated influence. Its falsifier: **simulation producing deep-stratum change with L, E and R all near zero**. **[MEASUREMENT-LIMITED]**

8.6 · Prohibited edges

#	Prohibition
1	Symbolic → deep, within any trunk, with baseline unmoderated weight above near-zero
2	Any condition → any trunk cell, except via Influence or directly onto the field
3	Field → trunk content
4	Words → deep Action without moderated transfer

Prohibitions 1 and 4 were restated during correction; their original absolute form conflicted with the gated family.

8.7 · Thresholds

Not every exposure counts as influence. [SPECIFICATION ONLY for values; FROZEN STRUCTURE for the

sequence]

Threshold	Crossed when	Consequence of failure
Registration	allocation or salience exceeds threshold	exposure with no registration
Influence	prediction error exceeds threshold against active belief	registered but not influential
Representational update	influence crossed and inconsistency exceeds tolerance	content noted, model unchanged
Deep update	τ sustained above threshold across the episode set	insight without change

8.8 · Conflict and dominance rules

- **Deep belief governs behaviour; symbolic belief governs report.**
- **Habit beats intention under cue-plus-load.**
- **Conditions always beat intention.**

9. Thought and Words

9.1 · The question

If formulated thought is constituted in linguistic vehicles, what distinguishes Thought from Words? The question cannot be settled by pointing to the graph, which was constructed with the distinction assumed (§3.5). It must be settled on functional and structural grounds.

9.2 · Thought's two modes

The mode structure and its boundary are shown in **Figure 7**.

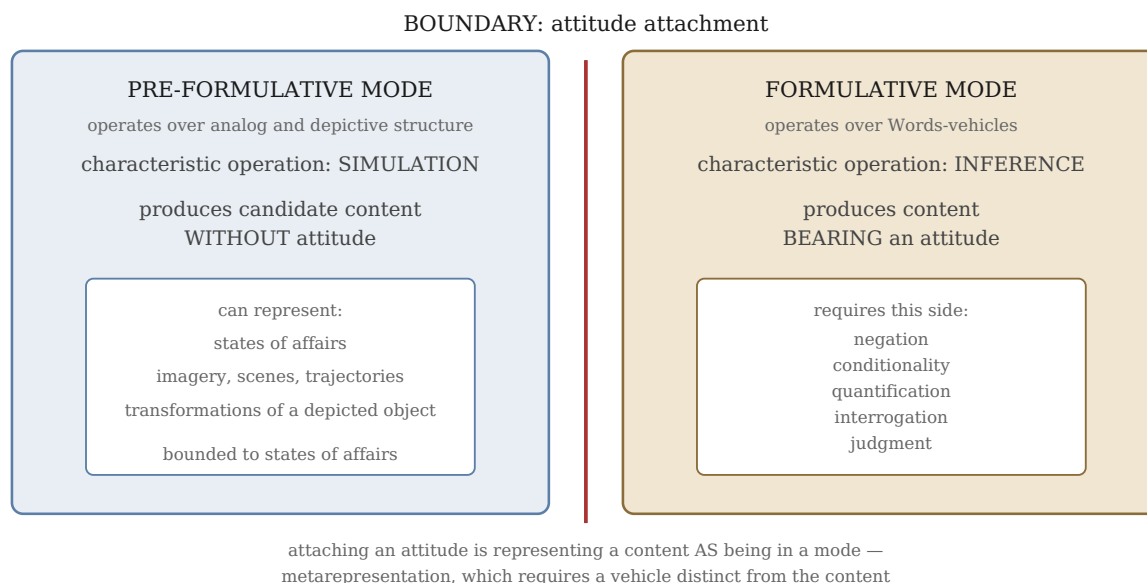
PRE-FORMULATIVE MODE. Operating over analog and depictive structure. Characteristic operation: **simulation**. Produces candidate content **without attitude**. Bounded to states of affairs. **The mode is defined by the absence of attitude (§9.3), not by the absence of meaning-bearing form; a vehicle may be depictive and meaning-bearing at once.**

FORMULATIVE MODE. Operating over Words-vehicles. Characteristic operation: **inference**. Produces content **bearing an attitude** — asserted, denied, questioned, supposed, judged.

Earlier formulations used *non-symbolic* and *symbolic*, conflating *nonlinguistic* with *non-symbolic* and thereby treating Words as coextensive with symbolic representation. Mental imagery has vehicles; they are iconic, and — the point that does the work — they are not form-types re-identified across occasions under a standard, which is what excludes them from Words (§4.6).

A note on the chronometric evidence, and its standing. The mode distinction rests on the structural argument in §9.3, which concerns what depictive vehicles can represent and takes no empirical support; representational format is not among its premises. With that established, one empirical result is worth recording as illustration: time to judge that two perspective drawings depict the same shape increases linearly with angular difference and is no shorter for picture-plane than depth rotations (Shepard & Metzler, 1971). **[EMPIRICALLY SUPPORTED]** This has standardly been read as evidence of an analog transformation process, **a reading that remains debated against discrete-increment and hybrid alternatives.**

Figure 7 · The two modes of Thought and the formulative boundary



"A thought" in ordinary usage names a product of the formulative mode only. The trunk is broader, as every trunk name here is broader than its folk term.

Caption. Thought operates in two modes. The pre-formulative mode transforms analog and depictive content and produces no attitude; the formulative mode operates over the discrete arbitrary vehicles supplied by Words and produces content that is asserted, denied, questioned, supposed or judged. The boundary falls at attitude attachment, and the argument for its location is structural: there is nothing in an image to which asserted could attach. The modes are not labelled non-symbolic and symbolic, since imagery has vehicles — iconic rather than arbitrary. See §9.

9.3 · Where the boundary falls

The formulative mode begins where an attitude is attached to a content — where content is asserted, denied, questioned, supposed, or judged rather than merely entertained or displayed.

Attaching an attitude is representing a content *as* being in a mode. That is metarepresentation, which requires a vehicle distinct from the content, because the mark of the attitude must attach to something other than the content itself. Depictive vehicles cannot bear such a mark: there is nothing in an image to which *asserted* could attach.

Capacity	Imagery
Assertoric content	no — an image of rain is equally compatible with imagining, remembering, expecting, dreading, or doubting rain
Negation	no — there is no image of <i>not-X</i> ; an image of an empty room is a positive image
Conditionality	no — one branch can be imaged; the connective cannot
Quantification	no — an image of sheep is neither <i>all</i> nor <i>some</i>
Interrogation	no — an image has no mood
Judgment	no
Contradiction	no — two incompatible images side by side are two images

[SUPPORTED SYNTHESIS — a structural argument about what depictive vehicles can represent, requiring no empirical support and taking none.]

9.4 · Why simulation remains inside Thought

First, a shared governing function. Simulation and formulation are both *endogenous operations on content decoupled from its object*, distinguishing both from perception (coupled), retrieval (non-generative), and Action (external). The property is common and non-disjunctive.

Second, an accepted precedent. Deep Belief and symbolic Belief differ in format, update mechanism and dissociability

at least as much as simulation and formulation do — and symbolic Belief depends on Words while deep Belief does not, exactly the asymmetry that might motivate a split. Belief nevertheless remains one trunk. Splitting Thought would duplicate the stratum machinery at the wrong level.

Third, terminological consistency. Every trunk name is a term of art broader than its folk counterpart. Requiring Thought alone to match ordinary usage would apply a standard applied to no other component.

The candidate empirical dissociation does not support a split. Aphantasia is defined by absent or severely reduced voluntary visual imagery (Zeman, Dewar & Della Sala, 2015; N = 21, self-selected following media coverage). **Self-rated object imagery is markedly below average while spatial imagery is not, so the dissociation is between imagery subtypes rather than between simulation and thought.** Whether involuntary imagery is spared is disputed. **[EMPIRICALLY SUPPORTED for the subtype dissociation; DISPUTED for involuntary sparing]**

9.5 · What Words constitutes

Formulated propositional thought	from role-filler binding upward — distinguishing <i>tiger attacked man</i> from <i>man attacked tiger</i> requires stable addressable role slots
Explicit relations	negation, conditionality, embedding, quantification
Metarepresentation	holding a representation as an object
Attitude attachment	assertion, denial, interrogation, judgment

The boundary is exact: Words becomes constitutive where relations *between* states of affairs must be represented, or where a content must be marked with an attitude. **The support for the negation case is the depictive-vehicle limitation in §9.3, which is structural.** Developmental sequences in the production of negative utterances are not adduced: they concern linguistic form rather than representational capacity.

9.6 · Boundary of Word-function

Three classes fall outside Word-function, and the exclusion criterion is the same in each case: they are not form-types re-identified across occasions under a standard.

Word-free is not representation-free, and the two must not be run together. Several of the processes below **require** internally differentiated states that carry information about what is being processed — perceptual encodings, distributed representations, iconic vehicles, templates, exemplars, tracking indices, stored sensorimotor mappings, associative states. **Those are representations, and they are not thereby Words.** The Words question is never *whether there is a representation*; it is whether the representation is a **form-type re-identified across occasions, paired with a distinction, under a standard the system itself holds** (§4.6). **Representation is the wider category; Word-function is the narrower one inside it.**

Outside Word-function	Criterion	Representational requirement
Perceptual registration and discrimination; associative updating; conditioning processes	none of these requires a representation satisfying Word-function	Perception, recognition and associative learning require representational organisation — states capable of carrying information, being compared, being updated and guiding behaviour. Sensation and reflex require the least; associative learning requires represented states whose relations can be strengthened and reactivated
Analog transformation in simulation	available to the pre-formulative mode	Depictive and analog vehicles are real internal representations (§9.2). What is claimed is the availability of analog representational processing below the Word-function threshold, not that a given episode of imagining contains no Words
Iconic vehicles as such, and indexical states	not form-types re-identified under a standard	These are vehicles — Kind 2 of §4.6 — and their exclusion from Words is not an exclusion from representation. Iconic motivation is compatible with Wordhood : an iconically motivated lexical sign is a Word

A third distinction, separate from both. That a system holds a representation, matches current input against a stored one, or shows familiarity and recurrence sensitivity does not establish that the **subject** possesses *this object, this person, this kind, the same thing again* or *this target* as an identifiable meaningful distinction. **System-level matching and**

subject-side identification are different claims, and the noun *recognition* is used here for the first only (§2.4, §19).

9.7 · Inner speech

Inner speech is assigned to **representational Words only**. Its earlier appearance under both symbolic Thought and representational Words was a double-count.

Adults reporting **low levels of inner speech** show selective impairment — lower verbal working memory and slower, less accurate rhyme judgment — **while task-switching and categorical effects on perceptual judgments are unaffected** (Nedergaard & Lupyan, 2024; N = 46 low, N = 47 high). **[EMPIRICALLY SUPPORTED] Whether some individuals lack inner speech entirely is disputed** (Lind, 2025). The literature is very young, and the affected tasks are explicitly phonological; nothing here bears on Thought generally.

9.8 · The relation between the two

An operation can run on non-symbolic material. A vehicle system cannot run at all. Remove Thought and Words is a lexicon with no user — inert marks. Remove Words and Thought retains decoupled analog simulation and comparison, including simulation of states of affairs that are not actual. It does not retain articulated counterfactual or conditional structure, **which requires relations between contents to be represented and therefore composition — the limitation §9.3 states for depictive vehicles.**

Neither absorbs the other. Words cannot acquire inference and simulation, its criterion being encoding into vehicles. Thought cannot acquire a vehicle inventory with fixed semantics, its criterion being operation on content. **This result was reached independently four times by four different routes.**

10. Influence and Architecture-to-Architecture Transmission

10.1 · The division of labour

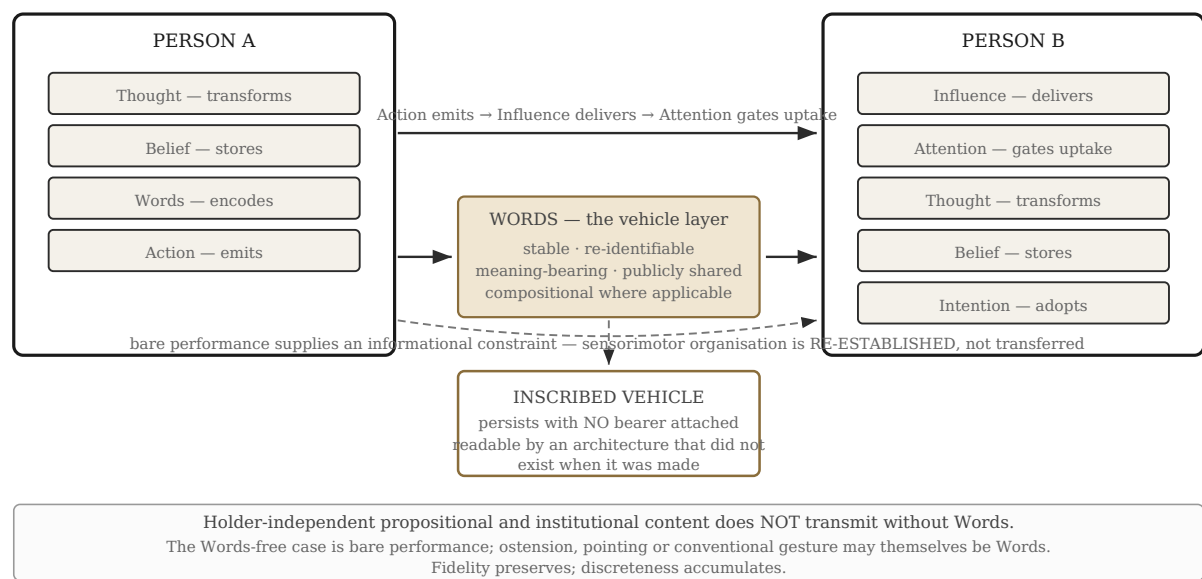
See *Figure 8*.

Words constitutes and organizes articulated form · Thought transforms articulated content · Attention selects and gates · Belief stores and holds · Intention adopts and directs · Influence delivers across the person-world interface · Action expresses materially into the world.

In the transmission sequence specifically: Action emits · Influence delivers · Attention gates uptake · Words bears the architecture in which what is delivered is determinate · Thought transforms · Belief stores · Intention adopts what is thereby made available. **The seven functions are unchanged; what the first formulation now states explicitly is that the form in which content travels is Words' contribution and no other component's.**

An earlier and simpler division omitted Attention, which gates uptake and is therefore part of transmission.

Figure 8 · Architecture-to-architecture transmission



Caption. Transmission is distributed across five trunks: Action emits, Influence delivers, Attention gates uptake, Thought transforms, Belief stores, and Intention adopts what is thereby made available. Words is the vehicle layer, and the only content-form that persists without a living bearer. Sensorimotor organisation is re-established by bare performance, as the lower curved path shows; it is not a skill travelling between persons. See §§10 and 13.

10.2 · Influence versus Words

	Influence	Words
What it is	the recipient standpoint	encoding of content into a persisting vehicle — conventional, in the between-persons case at issue here
Necessary for transmission?	Yes, absolutely	No, with a distinction — bare performance, an act merely available to be seen, transmits without it. Demonstration is not uniformly Words-free: declarative ostension such as pointing can itself instantiate Word-function under §4.6, and conventional gesture plainly does
Relation to content	delivers; does not constitute	constitutes the vehicle
Scope	all three families	informational only
Operates without another person?	Yes	inner speech only

Influence is channel-necessary and content-neutral. Words is content-specific and channel-dependent.

Words nevertheless has a property Influence does not: it is the only content-form that persists without a bearer. Every other component's content requires a living holder.

10.3 · Fidelity and cumulation

This is a structural distinction, offered as such and not as a reading of any empirical record.

Non-linguistic transmission achieves high fidelity for procedural content. Stated structurally: an observer develops or re-establishes a similar sensorimotor organisation under the informational constraint supplied by another person's performance, by artifacts, or by the environment. Nothing travels — skill and procedure are the theorist's individuations of that organisation, not items that move between persons. And the Words-free channel is bare performance; where a performance carries ostension or conventional gesture, Word-function may be present in it (§10.2). Persistence-by-copying is nevertheless not accumulation, because recombination requires discrete recomposable units.

Fidelity preserves. Discreteness accumulates.

[SUPPORTED SYNTHESIS — the argument turns on the discreteness property. No archaeological or comparative evidence is adduced, because inferences from morphological persistence in the material record to transmission mechanism are contested in that literature and the argument does not require them.]

10.4 · Constitutive facts

Words is the only component that **constitutes a kind of fact**. Money, office, verdict, contract and marriage are made by symbolic acts under collective recognition. No other component makes a kind of fact.

This function is exercised at the **collective** scale. An individual does not carry the moneyhood of a banknote; a population sustains it. [SUPPORTED SYNTHESIS]

11. Whole-Person Integration

11.1 · The person as container

The person is the containing system, not a further variable within it.

The architecture does not admit a global variable representing "the state of the person," and attempts to introduce one were rejected.

The containing person is an embodied biological organism, constituted as §3A describes. **Stating this does not introduce a further causal variable**. The foundation constitutes the person; it is not a term in any coupling, does not appear in the formal model, and nothing in §§4–13 is derived from it. **The clarification is one of scope: the architecture specifies the structure of a person's functioning, not the constitution of the organism whose functioning it is.**

11.2 · Whole-person state as resultant

The whole-person current state is **ontologically real as a resultant** — the joint configuration of trunks, field, conditions and couplings. It is **not a separate causal component**, because a resultant is its constituents. Operationally, **relation-specific slices** are used, per the three-place applicability relation (§6.4).

11.3 · No global capacity state

A proposal that a single global capacity variable underlies performance across interfaces was tested and rejected.

Common cause is not common state. Shared determinants across interfaces — sleep, illness, stress affecting registration, susceptibility and applicability together — produce correlated performance without any common factor.

Establishing a common factor would require **residual covariance across interfaces after the shared determinants are measured and partialled**. That test has not been run in this framework. [MEASUREMENT-LIMITED]

An adjacent disagreement is noted for its shape only. Two conceptions of frailty — a phenotype (Fried et al., 2001) and a deficit-accumulation index (Rockwood & Mitnitski) — have coexisted for two decades without resolution. **But that disagreement now turns largely on whether two acknowledged and complementary constructs should share one name, rather than on whether a common factor exists, so the parallel is limited and the claim above does not rest on it.** [SUPPORTED SYNTHESIS, illustration only]

12. Shared and Collective Structure

12.1 · Common knowledge

Common knowledge = visible-reach channel × shared interpretive standards.

Both factors are required. [SUPPORTED SYNTHESIS] A consequence for contemporary conditions: channels whose reach is *not* visible to participants degrade common knowledge even when the nominal audience is large.

12.2 · Higher-order belief remains Belief

What I believe about what you believe is Belief content. No additional component is required.

12.3 · Coordination does not imply a collective entity

Collective coordination does not imply an irreducible collective entity.

The architecture represents joint activity as interlocking individual states plus common knowledge. The rival account — joint intention as an irreducible plural attitude — is **not expressible in this architecture**. This is recorded as a limit of the architecture, not a refutation of the rival.

The developmental evidence is more sophisticated on this point than a summary dismissal would suggest. Three-year-olds respond differentially when an adult breaks off from a jointly committed activity, attempting to re-engage her or waiting, compared with an adult who simply joined their individual activity unbidden; two-year-olds do not differentiate. Children also acknowledge their own leaving more often after a joint commitment (Gräfenhain, Behne, Carpenter & Tomasello, 2009; Study 1 n = 24 per age, Study 2 n = 30 per age). **[EMPIRICALLY SUPPORTED for the behavioural asymmetry]**

That literature explicitly identifies and designs against the leading deflationary alternative — that the partner is being used as a "social tool" to achieve an individual goal — by using activities the child could complete alone; a follow-up study is titled for precisely that distinction (Warneken, Gräfenhain & Tomasello, 2012).

What has not been done, so far as this review located, is matching on individual intention strength, mutual belief, common knowledge and anticipated sanction simultaneously. That is a statement about what this review found, not a claim about what the literature contains.

The question is recorded as **open but not currently pursuable**, since a positive result would show that something is missing without specifying what should be added.

12.4 · Individual substrate, collective emergence

A function's becoming powerful at collective scale does not make its underlying architecture collective.

If a population shares a word's meaning, each participant must carry the sign, its referent, its usable meaning and its combinatorial possibilities. Shared channel structure specifies how a convention is coordinated across persons; it does not specify what any individual knows.

13. Distributed Scale-Indexed Centrality

13.1 · Irreducibility does not imply equipotence

Irreducibility is a property a component has *in itself*; centrality is a property of its *relations to the others*. They are logically independent.

13.2 · The geometry

See *Figure 6*.

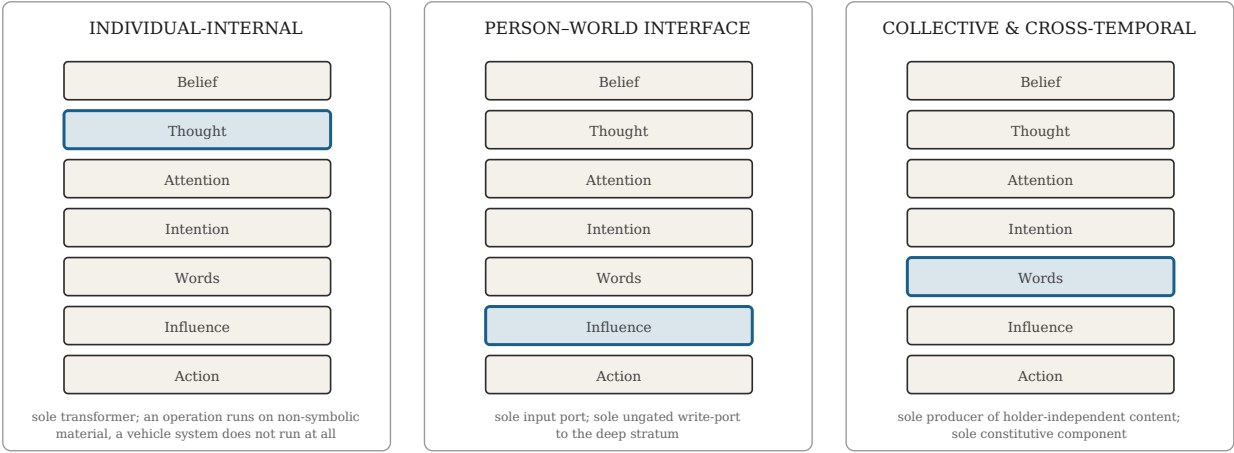
G3 — distributed centrality, indexed to scale *and* to level. Structural load is carried by different components at different scales; and within articulated human reality one component carries a load of a different kind, being the condition on that level's contents being determinate at all.

Component	Index	Basis
Thought	scale — individual-internal	sole transformer; an operation runs on non-symbolic material, whereas a vehicle system does not run at all without an operation
Influence	scale — person-world interface	sole input port; sole ungated write-port to the deep stratum
Words	level — the articulated level as such	constitutive priority: the differentiated meaning-bearing form without which no content is articulated. Central organizing priority: the articulated forms of the other six operate through that form, and none of them supplies it
Words	scale — collective and cross-temporal	the only carrier of <i>articulated</i> content between persons and across generations: content re-identifiable by persons other than its user, and about the absent, the past, the counterfactual and the not-yet. Sole constitutive component of institutional facts

Action is the sole output port and channel-necessary for all transmission. **Belief** is the sole store, persistence-necessary within a life. **Attention** is the sole capacity-limited allocator. **Intention** is the sole adopter of non-actual targets.

The two Words rows are one component and one function under two indices, not two claims in competition (§4.6). Nothing in either erases the other six governing functions: Thought still transforms, Attention still selects, Belief still stores, Intention still adopts, Influence still delivers, Action still expresses. **What the level index adds is that each of those, in its articulated form, operates on content whose determinacy is Words' contribution.**

Figure 6 · Centrality is distributed and indexed to scale



The same seven trunks appear in every panel. Only the highlighted trunk changes.
Words is the MOST MEDIATED trunk in panel 1 and the INDISPENSABLE one in panel 3. Both are true.

Caption. Irreducibility does not imply equipotence. Centrality is distributed across three trunks and is indexed to scale, so a claim that some trunk is central is incomplete until the scale is stated. Action remains the sole output port, Belief the sole store, Attention the sole capacity-limited allocator, and Intention the sole adopter of non-actual targets; each is uniquely necessary and none is globally mediating. See §13.

13.3 · The scale index is load-bearing

Every centrality claim must carry its scale.

Words is **the most mediated component at the individual scale and the indispensable one at the collective and cross-temporal scale**. An analysis running only the individual-scale comparison concludes Words is peripheral; one running only the collective comparison concludes it is central. The apparent conflict is produced entirely by omitting the index — an omission that produced a documented error (§16.4).

13.4 · The level index

Every claim about what a governing function can do without Words must state whether the function is operating in its pre-articulated or its articulated form (§2.4).

Pre-articulated, the six operate without Words, and the claim is about what the mechanisms require. Orienting and vigilance; operating models and learned expectations; automatic appraisal and pattern completion; habitual and procedural action; conditioning; physiological and environmental influence. **None of these mechanisms requires a representation satisfying Word-function**, and none is diminished by the present section. **Several of them require representation of some kind** — operating models, learned expectations and pattern completion are representational throughout — and **word-free is not representation-free** (§9.6).

The claim must carry the mechanism/implementation index of §2.2, and read without it the sentence above says more than it states. The **current-human implementations** of perception, recognition, associative learning and conditioning are demonstrably penetrated and shaped by symbolic input: verbal instruction alters conditioning, verbal interference disrupts categorical perception, and labels alter category formation (§16.2, §19). **So without Words at this level is a statement about what a mechanism requires, not a description of an actually Words-absent human system.** No such system has been observed — linguistic participation begins before birth, and populations described as language-less generate their own vehicles (§15.4). **The Level Rule applies in full: mechanism-level independence settles nothing at the operation, development or architecture level.**

Articulated, each operates on content that must already be individuated, and no one of them individuates it. Belief *that X* is distinguishable from belief *that Y* only if the two contents differ, which requires them to be differentiated. Attention **transforms nothing** (§4.4) — it selects, and selection presupposes a field of already-distinguished items. Intention has **no stratum below representation** (§7.3), so *later, if Y, because Z, instead of Q* are relations between contents throughout. The symbolic influence channel **routes through Thought and requires comprehension** (§7.4). Action-symbolic is **folded into the joint instantiation of symbolic Words and representational Action** (§7.3): signing, voting and promising are movements under a description. And Thought's formulative mode **operates over Words-vehicles** by definition (§9.2).

Three of the architecture's own cell decisions already encode this and were each made for a local reason: Attention-symbolic deleted, Action-symbolic folded, Intention-deep deleted. In every case, where a trunk would have required an articulated stratum of its own, the architecture declined to give it one.

13.5 · The content-type index

A claim about transmission must state whether the content is procedural or articulated.

Procedural content — how to make, do or perform — is re-established in an observer through another person's performance, through artifacts, through structured learning environments and through the constructed niche, and **the mechanism requires no meaning-bearing form. Two qualifications belong with that claim.** The Words-free channel is **bare performance**; a demonstration carrying ostension or conventional gesture may contain Word-function (§10.2). And **nothing is transferred**: the observer builds a similar organisation under an informational constraint, and *procedure* and *skill* are the theorist's individuations of it. **Whether the subject additionally holds a right order or a correct way is a further question.** A recurring sequence is not the possession of the right order, and a reliable capacity is not the possession of the correct way. **Where the subject does hold such a standard — where a performance can be wrong relative to a type the subject itself holds, rather than merely unsuccessful — Word-function is implicated under §4.6's standard clause. That a performance can be assessed by an observer does not establish that the performer holds a standard, and where the evidence reaches only the observer's assessment the claim is left conditional.** Articulated content — that something is, was, will be, would be, ought to be, or is believed by another — has no such carrier: an artifact bears its own form, a demonstration bears an action-type, and neither bears a claim about an unobserved state of affairs.

Without this index the architecture appears to contradict itself, since *Words is dispensable for transmission* and *Words is the only carrier of transmitted articulated content* are both true and are about different content types. The failure mode is the one §13.3 already identifies in the scale case, in a second variable.

13.6 · Evidential standing of the level claim

The constitutive half is a structural argument and takes no empirical support. That content available to a subject as a distinction is a content, and that a content requires a bearer, follow from the terms; no observation could disconfirm them, and none is offered. [SUPPORTED SYNTHESIS — structural]

The organizing half rests on the architecture's own commitments, principally §4.4 on Attention transforming nothing, §7.3 on the two deletions and the fold, §7.4 on the write-port asymmetry and §9.2-9.3 on the formulative mode. [SUPPORTED SYNTHESIS]

The conclusion is established through the combined empirical and structural argument of this monograph rather than through a single controlled experiment. No experiment has transmitted articulated content across persons while manipulating the presence of meaning-bearing form, and none is cited as though it had — a statement about what the evidence base contains, while current instruments could answer the question, so the point takes no place in the measurement ledger of §15 and is not recorded as MEASUREMENT-LIMITED. The section's three claims stand on distinct footings: the constitutive half is structural and takes no empirical support; the organizing half rests on the architecture's own commitments; and the state of the record on controlled demonstration is a fact about the literature rather than a status of the question.

13.7 · Removal profiles

On transmission, Influence and Action outrank Words. Removing Influence leaves nothing received; removing Action leaves nothing emitted; removing Words leaves transmission intact, and the residue must be stated rather than called substantial. Removing all Word-function removes pointing where it functions as a stable meaning-bearing token, conventional gestural marking, and every other meaning-bearing form along with speech. What remains is bare performance, sensory exposure, observational availability, sensorimotor learning and non-semantic internal organisation — a real channel, and a markedly thinner one than substantial conveys.

On persistence beyond the bearer, Words is unique for articulated content. Removing Words is the only removal that collapses institutional memory and historical continuity while leaving the individual functional. Procedural continuity survives it (§13.5).

On the articulated level, the removal is not one loss among seven. Removing Words does not subtract a seventh of the architecture; it removes the form in which the articulated contents of the other six are determinate, leaving each of them operating in its pre-articulated form. That is a different kind of removal from any other, and it is the asymmetry the level index records.

13.8 · A methodological note

An earlier argument for Thought's centrality was drawn from graph connectivity. That argument was discarded as circular: the severance follows from the edge assignment, which presupposed the distinction at issue. The conclusion survives on the functional argument in §13.2.

PART III — EVIDENCE AND LIMITS

14. Empirical Support by Claim Level

14.1 · How to read this section

The architecture's structural commitments are not empirical claims. What follows records the empirical claims the architecture makes or relies upon, each at the level it reaches, each with the primary source verified against the published record.

14.2 · Empirically supported

Claim	Level	Source
Deaf adults without a conventional count system, living within a numerate culture, produce number gestures accurate to three and approximate at four and above	development	Spaepen, Coppola, Spelke, Carey & Goldin-Meadow (2011)
Explicit false-belief understanding is associated with mental-state vocabulary: adults who acquired a nascent emerging sign language in childhood produced few mental-state signs and did not exhibit false-belief understanding, while those whose language developed over a two-year period correspondingly improved	development	Pyers & Senghas (2009)
Self-generated gestures for objects, actions and attributes function as word units in short-term memory, indistinguishably from spoken words and conventional signs; number gestures do	operation	Spaepen, Flaherty, Coppola, Spelke & Goldin-Meadow (2013)

not		
Literacy acquisition enhances early visual coding within the first 200 ms, broadly enhances fusiform and occipital responses extending to V1, induces a small competition with faces at the left fusiform, and enhances phonological activation to speech — and most changes occur even when literacy is acquired in adulthood	development	Dehaene et al. (2010)
Verbal instruction alone produces conditioned physiological responding with no experiential pairing	operation	Phelps et al. (2001)
Post-reactivation propranolol eliminates the differential startle response while sparing skin-conductance conditioning, subjective distress and expectancy ratings	operation	Kindt, Soeter & Vervliet (2009)
Newborns prefer the maternal voice; newborns prefer passages heard prenatally; newborn cry melody is contoured by the ambient language	development	DeCasper & Fifer (1980); DeCasper & Spence (1986); Mampe, Friederici, Christophe & Wermke (2009)
Classical conditioning occurs in an invertebrate with no communicative signal system: a light tactile siphon stimulus paired with tail shock conditions a defensive withdrawal reflex in freely moving animals	mechanism only	Carew, Walters & Kandel (1981); Walters, Carew & Kandel (1979)
Time to judge two perspective drawings as the same shape increases linearly with angular difference	operation	Shepard & Metzler (1971)
Perceptual reorganisation from universal to language-specific phonetic perception occurs between roughly six and twelve months	development	Werker & Tees (1984)
Chinchillas trained on a voicing contrast produce labeling functions and boundary locations closely similar to those of English-speaking adults	mechanism	Kuhl & Miller (1975)
Agrammatic aphasic patients retain intact basic computational procedures and solve mathematical problems involving recursiveness and structure-dependent operations, in the mature cognitive system	operation	Varley, Klessinger, Romanowski & Siegal (2005)
A medium-to-large experimentally induced change in intention ($d = 0.66$) produces a small-to-medium change in behaviour ($d = 0.36$)	operation	Webb & Sheeran (2006)
Adults reporting low levels of inner speech show lower verbal working memory and poorer rhyme judgment, while task-switching and categorical perceptual effects are unaffected	operation	Nedergaard & Lupyan (2024)
Three-year-olds respond differentially to a partner breaking off a jointly committed activity, compared with unbidden joining; two-year-olds do not	development	Gräfenhain, Behne, Carpenter & Tomasello (2009)

Two scope notes. The conditioning entry is retained **at mechanism level only**, per §3.6: it establishes that associative learning can operate without symbolic vehicles and establishes nothing about its implementation, development or integration in humans. The aphasia entry carries the mature-system qualifier used by its authors, and the commentary published alongside it (Brannon, 2005) makes the same point this monograph makes at §16.3 — that preserved capacities in adults who once possessed language cannot answer the developmental question.

14.3 · Supported synthesis

Claim
The seven-mechanism minimal set, with selection as an operation that is not a content mechanism
Common knowledge as visible-reach channel × shared interpretive standards
Ancient mechanisms are retained and nested within the current human architecture, subject to modulation and, for perception and recognition, partial reorganisation by symbolic experience
Imagery cannot assert, negate, express conditionality, quantify, interrogate or judge
Attention transforms nothing: all its effects on content are mediated
The two write-ports and the experiential/symbolic asymmetry
Fidelity preserves; discreteness accumulates
Biological Foundation — that these systems occupy a <i>constituting</i> role
Biological Foundation — that constitution may be regenerated by inherited machinery and developmental programs rather than transmitted as a token
Biological Foundation — that constitution continues after conception
Biological Foundation — that a single mechanism may occupy both constituting and conditioning roles
Biological Foundation — that germ-cell contributions do not deliver represented content
Biological Foundation — that environmental input during sensitive periods participates in constitution
Biological Foundation — that developmental constitution may be graded while functional outcomes emerge nonlinearly
Biological Foundation — that the foundation is definable by structural role and not by mechanism list
Biological Foundation — that it belongs beneath the functional architecture and outside the formal coupling model

The two emphasised entries take no empirical citation and require none. Both are structural arguments; attaching evidence to them would add no evidential value and would import contests the arguments do not need (§3.5, Sufficiency Rule).

14.4 · Where the architecture's distinctive burden lies

On the analysis conducted, **Attention, Words and Influence-as-standpoint** generate the discriminating predictions; **Belief, Thought, Intention and Action** add resolution without, taken alone, adding discriminating content against a coarser competitor.

This is not a concession that four components are dispensable. **A component may be necessary to represent human functioning without distortion while contributing little head-to-head predictive burden.** The two questions have different criteria.

15. Measurement Limits and Structurally Blocked Questions

15.1 · The distinction

Measurement-limited: the question is well-posed and current instruments cannot answer it. *Structurally blocked*: the question is well-posed and no available human comparison could answer it. Both differ from *structurally unresolved*, which would mean the architecture is incomplete.

15.2 · The deep-change measurement problem

Three competing measurement structures were specified: one latent factor (**M1**), several correlated but distinct factors (**M2**), and no coherent latent construct (**M3**).

Current status: M1 is strongly contra-indicated and not quantitatively falsified. M2 is untested.

Four considerations bear against M1. The relevant literature states directly that its outcome measures do not necessarily converge. A simultaneous three-channel recording study reports weak correlation among measures, with the largest divergence during acquisition. **Two experimental dissociations exist in different directions, of which the pharmacological one carries a disputed interpretation** — post-reactivation propranolol eliminates the differential startle response while sparing skin-conductance conditioning, subjective distress and expectancy ratings (Kindt, Soeter & Vervliet, 2009); whether this constitutes erasure of the memory or suppression of its expression is contested, and an unsuccessful replication has been published by the originating laboratory (Stemerding, Stibbe, van Ast & Kindt, 2022). And in a large multivariate study, trait anxiety related specifically to skin-conductance discrimination ($r = -0.19$) while

intolerance of uncertainty related specifically to startle discrimination ($r = -0.15$); ratings showed no significant association with any questionnaire (Sjouwerman, Scharfenort & Lonsdorf, 2020, $N = 356$). **If the channels indexed one construct, external correlates would not sort by channel.**

Against this, the same study extracted a latent factor across all three outcome measures with loadings above 0.46 and good global fit. **That result cannot bear the weight it might appear to: a three-indicator single-factor measurement model has zero degrees of freedom and its fit is not testable.** Good global fit there was driven by the structural portion. **The study's authors did not claim unidimensionality from it; the misreading arose in the construction of this architecture and is recorded as an error (§16.5).**

Four limitations of the available data.

Limitation	Consequence
Exact cross-channel correlations are not reported in any identified study	The pre-specified numeric criterion cannot be applied
No study reports within-session internal consistency for its outcome measures alongside their intercorrelations	Disattenuation is not justified for any pairing
The one source offering reliabilities for three channels in the same participants reports eight-month generalizability coefficients ranging from 0.17 to 0.38, which its authors interpret as evidence that a significant proportion of individual differences is stable over time (Torrents-Rodas et al., 2014, $N = 71$)	These index temporal stability and are the wrong reliability type for disattenuating a within-session correlation
Within-session reliability coefficients are markedly higher for individual stimuli than for CS discrimination, which is unsurprising given that the latter is a difference score (Klingelhöfer-Jens et al., 2025)	The field's standard index is its weakest measure

The reliability evidence is mixed rather than uniformly limiting. Internal consistency is reported as satisfactory and short-interval retest as adequate, while six-month individual-level reliability is limited (Klingelhöfer-Jens, Ehlers, Kuhn, Keyaniyan & Lonsdorf, 2022, $N = 120$); short-interval retest is fair for skin conductance and less consistent for threat expectancy (Cooper et al., 2023). **The field has itself addressed the problem: a twenty-four-author consensus document sets out a calibration experiment for these paradigms** (Bach et al., 2023), with an accompanying argument for calibration as general psychometric practice (Bach, 2024).

15.3 · Why adjudication requires five channels

Indicators	Unique covariance elements	One-factor df	General-plus-method
3	6	0 — untestable	not identifiable
4	10	2 — testable	not identifiable
5	15	5	marginal
6	21	9	feasible

Four indicators is the minimum at which a one-factor model becomes testable at all. It is not sufficient to compare one factor against a general-plus-method structure — the obvious competitor, since all channels share trials, session and participant state.

The specification needed is approximately **five to six genuinely distinct response channels at $N \geq 300$** . The field's channel count and sample size are inversely distributed. **[MEASUREMENT-LIMITED]**

15.4 · Structurally blocked questions

Question	Nature of the block
Does the richness of a <i>first</i> symbolic system alter lower-level cognitive parameterisation?	The only natural gradient arises in a population where the symbolic system emerged inside a school, confounding richness with schooling by historical construction; the decisive high-richness/low-schooling cell is undocumented; village sign languages partly break the confound and fail on sample size and gradient range; research access is unavailable
What does a human architecture without any symbolic system look like?	No human has been observed developing without symbolic vehicles. Populations described as language-less generate their own. Linguistic participation begins before birth. The decisive manipulation is impermissible and the deprivation is the manipulation
Consciousness	Open, and outside what the architecture's operation depends upon

15.5 · Two questions reclassified out of the structural ledger

Hysteresis is **parametric, not structural**: path dependence forces new structure only if it cannot be encoded as a parameter of the current state, and documented cases can be.

Route fragmentation was **closed as a category error**: the transfer function is a maximum over two terms of one formula; a single mechanism whose rate is set by whichever driver dominates satisfies it exactly.

16. The Error-and-Correction Record

16.1 · Why this section exists

An architecture that has never been corrected is not thereby well-supported; it may simply have been insulated from correction. **Thirty-three errors are documented across six classes. Exactly one altered the formal graph. None required a component to be added, removed, or merged.**

16.2 · Class 1 — Level and scope errors

Five errors share one form: **evidence from one level of description used to settle a claim at another.**

The most instructive concluded that lower-level human cognition is symbol-independent, on the strength of invertebrate learning plus mechanism homology. The argument had three stated steps and required a fourth, unstated one: *that the human implementation of those mechanisms is functionally isolated from symbolic influence*. That premise is contradicted at four of five levels examined, since verbal instruction alters conditioning, categorical perception is disrupted by verbal interference, verbalisation impairs recognition, and labels alter category formation.

A related error used aphasia and adult nonverbal thought to argue that cognition develops without linguistic vehicles. **Online independence does not establish developmental independence.**

What the class teaches: conclusions of the form *X does not require Y* are level-indexed, and the level must be stated. The Level Rule and the Comparative Relevance Standard were both adopted in response.

16.3 · Class 2 — Graph and circularity errors

Two errors, with the same component, in two forms. The first cited the small number of couplings involving Words as evidence of reducibility — and the single-partner condition had been *created* by an earlier repair that rerouted a coupling, which was then cited as a finding. The second, after the first had been withdrawn, used a connectivity-preservation version of the same graph fact.

What the class teaches: a formal model built to encode distinctions cannot demonstrate them. The Anti-Circularity Rule was adopted and is recorded as a known failure mode rather than an isolated lapse, precisely because the second occurrence came after the first had been identified.

16.4 · Class 3 — Substantive theory errors

Nine errors. Three are worth stating in full.

The reduction of Words to Belief plus Thought proceeded from: conventions are learned structure; Belief stores learned structure; therefore conventions belong in Belief. This is a **storage-location argument presented as a functional reduction**. By the same reasoning, motor skills are learned structure stored in Belief, so Action reduces to Belief. Action survives because *enacting* differs from *storing what to enact*. The same argument contained a level error: the monetary *system* is collective, whereas a person's money is carried — and the same holds of a lexicon.

The classification of imagery as thought proper used criteria — endogenous, decoupled, generative, transformative, evaluable — that a rotating mental image satisfies and that a thought is not defined by. **The defining property is attitude, and it had not been tested for.**

Perceptual narrowing in speech was over-attributed to symbolic structure. Narrowing is driven by the distributional statistics of ambient speech sounds, and non-human animals show comparable boundary effects (Kuhl & Miller, 1975). The operative variable may be acoustic rather than symbolic. **The architecture's own signal/symbol distinction had not been applied to its own supporting evidence.**

What the class teaches: the most dangerous errors are those in which a distinction the architecture already makes is not applied to the architecture's own reasoning.

16.5 · Class 4 — Measurement and inference errors

Eight errors. Four are transferable.

Wrong reliability type for disattenuation. Eight-month generalizability coefficients were nearly used to correct within-session correlations, which would have turned almost any observed correlation into evidence for a single factor by arithmetic rather than finding.

Just-identified fit read as evidence of unidimensionality. A three-indicator single-factor model has zero degrees of freedom. This was treated as evidence twice.

Qualitative language converted into numeric classification. A measurement structure was reported as falsified on the strength of a published description, when the pre-specified criterion required a coefficient.

A rate treated as a property of a measure. Non-responder rates of twenty to forty per cent were cited as a property of skin-conductance measurement; in one carefully reported study the figure was four of fifty-one. **The rate is a property of the exclusion rule.**

16.6 · Class 5 — Weaker-support errors

Membership criterion. A claim is attached to weaker, more contested, or unnecessary support while a stronger source, cleaner finding, or independent argument is already available.

Distinguishing it from the other classes. Level errors concern evidence at the wrong *level*. Circularity errors concern evidence *derived from the claim*. **Weaker-support errors concern evidence at the right level, not derived from the claim, and simply weaker than what was to hand.**

Eight errors, identified during source verification. Within a class, individual entries are *errors*; *instance* is used only when pointing to an example.

#	Location of the error	What was used	What was available
1	mental rotation chronometry	a contested format inference	the attitude criterion, structural and independent
2	aphantasia	the disputed involuntary-imagery claim	the verified object/spatial dissociation
3	instructed fear	a study of online responding, for a durability claim	the transfer function's internal inconsistency
4	tool traditions	a contested archaeological inference	the discreteness property alone
5	intention-behaviour	an unsourced second direction	the first direction, with experimental meta-analysis
6	multiple memory systems	a literature declared settled that is not	the transfer-function argument
7	frailty analogy	a conceptual disagreement, presented as an empirical impasse	the claim needs no analogy
8	negation development	a production sequence in language, for a claim about representational capacity	the depictive-vehicle limitation

The methodological rule, adopted as the Sufficiency Rule (§3.5).

Before attaching evidence to a claim, ask whether the claim needs empirical support at all and whether the proposed source is the strongest available. A structural argument can be weakened by a contested

citation that adds no necessary evidential value.

A diagnosis that emerged in classifying these instances and is worth stating plainly: four of the eight attached *unnecessary* evidence to arguments that already stood. The failure mode is over-supply, not under-rigour. That is a distinct pathology and it produced six of the eight claims subsequently deleted from this monograph.

16.7 · Class 6 — Negative literature claims

One error, and it is separated from Class 5 because the failure is one of search rather than of source selection.

An earlier version stated that the developmental literature on joint commitment "does not include the required matching." **That literature identifies the leading deflationary alternative in its own text, names it, and designs against it.** The correct form of such a claim is a statement about what a review located, not about what a literature contains.

What the class teaches: a negative statement about a literature is the easiest kind for a specialist to falsify, requires the most search to justify, and in this instance was contradicted by the abstract of the very paper being relied upon.

16.8 · What the record shows

Thirty-three documented failures. Twelve reduction attempts, all failing on the hidden-reintroduction criterion. Two design programmes terminated on pre-stated kill conditions. Two questions reclassified out of the structural ledger. One formal-model repair. **Eight claims deleted rather than repaired, in every case leaving the surrounding argument standing on verified grounds.**

The claim advanced is narrow: **the architecture survived correction rather than being protected from it.** That is a claim about process, offered for evaluation on the record.

17. The Strongest Objections and How They Were Decided

17.1 · Words reduces to Belief plus Thought

The objection. Linguistic conventions are learned structure; Belief stores learned structure; re-encoding into a symbolic format is an operation Thought already owns; output is Action and uptake is Influence.

What decided it. The reduction locates *where the code sits* without accounting for *what the code is*. Discreteness, arbitrariness and combinatorial closure are properties of a symbolic system, not consequences of its being stored somewhere. The parallel case is decisive: motor skills are learned structure stored in Belief, and Action nonetheless survives.

Architecture changed? No. [CLOSED / REJECTED]

17.2 · Affect is an eighth trunk

The objection. Affect has content — emotions are *about* things — and drives behaviour as powerfully as any trunk.

What decided it. Every documented affective effect is parametric. No case was found in which an affective state supplies content rather than weighting existing content. Emotions are *about* things because their content is supplied by the trunks.

Architecture changed? No; a falsifier is retained. [CLOSED / REJECTED, falsifier live]

17.3 · Thought and Words collapse into one

The objection. If formulated thought is constituted in linguistic vehicles, the separation is an artefact of drawing two nodes.

What decided it. Neither absorbs the other. The dependence is asymmetric and functional: an operation runs on non-symbolic material; a vehicle system does not run at all. Thought retains a genuine residue without Words.

Architecture changed? No — but Thought's *definition* was revised to make the two modes explicit, and inner speech was reassigned to Words alone. [FROZEN STRUCTURE, definition revised]

17.4 · Words is optional encoding

The objection. Words labels and externalises thought already constituted elsewhere.

What decided it. Labels facilitate category formation beyond perceptual similarity; verbalisation impairs subsequent recognition; exact number fails without a count list (Spaepen et al., 2011). **If Words merely tagged pre-formed content, verbalisation should not *impair* anything.**

Architecture changed? No. [CLOSED / REJECTED]

17.5 · Route fragmentation

The objection. If deep change proceeds by two routes with different signatures, the routes may write to separate stores, splitting the deep stratum.

What decided it — and the ground has been corrected. The decisive argument is structural: the transfer function is a maximum over two terms of one formula and does not posit pathways at all. That argument is sufficient and independent of any empirical literature.

A secondary observation, stated at the strength its sources support. In the multiple-memory-systems literature, relatively independent systems are standardly held to operate in parallel, with evidence — principally from animal lesion work, including a double dissociation showing bidirectional competition — that they can compete (Poldrack & Packard, 2003; Knowlton, Mangels & Squire, 1996; Lee, Duman & Pittenger, 2008). **In the sources reviewed here, relatively independent systems are described as operating in parallel, with evidence that they can compete; this review did not establish complete independence of stores, nor a settled field-wide resolution. The branch closure does not depend on either.**

Architecture changed? No. Branch closed. [CLOSED / REJECTED]

17.6 · A global capacity state

The objection. Performance across registration, susceptibility and applicability covaries; a single underlying capacity would explain it parsimoniously.

What decided it. Common cause is not common state. Establishing a common factor requires residual covariance after determinants are measured and partialled — a test not run here.

Architecture changed? No. [MEASUREMENT-LIMITED]

17.7 · Common-cause alternatives to symbolic constitution

The objection. Where symbolic experience appears to reorganise lower-level systems, the effect may be general expertise or general schooling rather than symbolism.

What decided it. Two considerations. The literacy reorganisation is left-lateralised and includes **enhanced phonological activation to speech**, which a purely visual-expertise account does not predict (Dehaene et al., 2010). And a comparison of adults literate in childhood, literate in adulthood, and illiterate partly dissociates literacy from early schooling, since **most changes obtain even on adult acquisition.**

Architecture changed? No. **A residual objection is recorded: literacy is a *second* symbolic system acquired by people who already have a first, and what a first system does is structurally blocked (§15.4).** [SUPPORTED SYNTHESIS with a recorded limitation]

17.8 · Words is centrally privileged

The objection. Words converts the contents of every other component into explicit, stable, recursively composable, transmissible structure.

What decided it. On transmission, removing Influence or Action zeroes transmission while removing Words degrades it; and at the individual scale Words is the most mediated component. **Conceded: the objection is correct at the collective and cross-temporal scale.**

Architecture changed? No — but the geometry was stated as **distributed and scale-indexed** rather than equipotent. [FROZEN STRUCTURE]

PART IV — ASSESSMENT

18. What the Architecture Explains

These are things the architecture *represents without distortion*, not things it predicts.

Insight without change. Understanding one's own patterns frequently fails to alter them. Symbolic Thought does not write to deep Belief; deep Belief updates by prediction error delivered through experiential Influence; the route from

insight to changed behaviour runs through intention, enactment and accumulated experience. **[SUPPORTED SYNTHESIS; the specific coupling claim is MEASUREMENT-LIMITED]**

Why stating a belief and acting on one come apart. Deep belief governs behaviour; symbolic belief governs report. Two variables with weak coupling, not one variable measured twice.

Why exposure is not influence. The four-threshold sequence separates exposure from registration, registration from influence, and so on. Confirming information produces no belief change of any kind, and repeated exposure to what one already expects is inert regardless of volume.

Why some things cannot be said and others cannot be shown. States of affairs can be shown; relations between states of affairs — negation, conditionality, embedding, quantification — cannot be depicted and require discrete vehicles. Conversely, the analog precision of a simulated trajectory is lost in propositional description.

Why watching someone work rebuilds a capacity, and text transmits institutions. Non-linguistic transmission achieves high fidelity for procedural content and does not accumulate; discrete recomposable vehicles accumulate and persist beyond their bearers. **The first is the re-establishment of sensorimotor organisation under an informational constraint rather than the movement of a skill between persons, and its Words-free case is bare performance** (§10.3, §13.5). **[SUPPORTED SYNTHESIS — a structural argument from the discreteness property]**

Why the same circumstance enables one person and constrains another. Applicability is three-place.

Why shared attention to the same content does not always produce shared reality. Common knowledge requires visible reach *and* shared interpretive standards.

Why physiology belongs in a psychological architecture without being a psychological component. The carried/encountered axis is orthogonal to architectural class.

19. Scope and Architectural Boundaries

Where the architecture applies, and where its structural boundaries lie. Each entry points to the section that establishes it.

Cognition outside Word-function. Perceptual registration and discrimination, associative updating, conditioning processes and analog transformation can all operate without representations satisfying Word-function. **Their operation nevertheless depends on internally differentiated representations or vehicles** — word-free is not representation-free (§9.6). Iconic vehicles as such and indexical states fall outside Words, being not form-types re-identified under a standard, and are representations for all that; **iconic motivation is compatible with Wordhood**, and an iconically motivated lexical sign is a Word (§4.6).

Mechanism and implementation are separate levels. The *mechanisms* of perceptual processing, matching, associative learning and conditioning are independent of Word-function, demonstrably — which is independence from a kind of representation, not from representation. Their *current-human implementations* are demonstrably penetrated by symbolic input, and §13.4 carries the index. Reflex, perceptual processing, procedural learning and adaptive behaviour require no representation satisfying Word-function — a claim about what those mechanisms require, and not a claim that they run without representation.

Internal organisation, internal itemhood and meaning are three things. A detector, a template, a tracking index or a stored sensorimotor mapping may persist, be retrieved, be compared and guide behaviour; availability to the subject as *this thing, this action or the same thing again* is a further matter (§2.4, §4.6). **Matching is not identifying, and perceptual processing is not yet perceiving-something-as:** a system may show familiarity, track a trajectory and relate current input to stored organisation without the subject holding anything as an identifiable kind. A category is likewise not itself a Word, **and a category that is determinate for the subject requires a meaning-bearing form to carry its identity.**

Affect has content, and the trunks supply it. Emotions are about things; the field modulates rather than delivers (§5).

The Foundation has two functions of different kinds. The Biological Foundation constitutes and sustains the person in whom the trunks operate, and its role is constitutive throughout: it neither couples to them, writes to them, nor defines them. Words is foundational for that person's articulated reality. **Infants, and humans whose language develops late or not at all, are persons** (§3A.9). Identifying a second foundational layer leaves the first in place, foundational for a different thing.

Words holds one position and two structural roles. There are seven governing trunks and one Words-function described at two levels (§4.6). It supplies the differentiated form through which the articulated operation of the other six becomes possible, directing none of them, and it is inert without Thought, Attention, Intention, Influence, Action and Belief (§9.8). **The components are not equipotent, and centrality is distributed and indexed rather than global**

(§13).

Collective structure is emergent from individually carried capacities (§12.4). The architecture expresses the individualist account of joint intention; the plural-subject alternative lies outside what it can express, and that limit is recorded as such. **The developmental literature on joint commitment identifies and designs against the leading deflationary alternative; what this review did not locate is simultaneous matching on four specific variables.**

Four questions lie outside the architecture and are recorded where they arise. Deep change as a single measurable construct is strongly contra-indicated rather than settled (§15.2). Germline transmission of experience-derived information in humans remains unestablished (§3A.8). Consciousness is open, and the architecture's operation does not depend on its resolution (Appendix D). **Parameter values throughout the formal model are specification rather than empirically fitted quantities** (Appendix B.6).

20. Falsifiability and Reopening Criteria

20.1 · What "frozen" means

Frozen means: no open structural question remains under current evidence and current definitions. Frozen does not mean unrevisable.

20.2 · Reopening criteria

#	Observation	Compels
R1	Reproducible residual covariance across the registration, susceptibility and applicability interfaces, surviving control for measured shared determinants	a common capacity component
R2	Path dependence in person-states not encodable as a current-state parameter	the whole-person resultant becoming causal
R3	Content acquired by the affective and procedural routes proved non-interacting bidirectionally , with content and exposure matched	a split in the deep stratum
R4	A behavioural asymmetry between joint and matched parallel commitment surviving matching on individual intention strength, mutual belief, common knowledge and anticipated sanction	an irreducible collective structure
R5	A distinctive prediction failing repeatedly under reliable measurement	revision of the failing commitment
R6	A stable, reproducible phenomenon with no representational location after the full diagnostic order	a new component

20.3 · Component-specific falsifiers

Component	Removed or merged if
Belief	a formalism represents persisting model content without a distinct store while preserving the symbolic stratum
Thought	all internally initiated content change is shown to be error-driven update in disguise
Attention	capacity competition is shown to be a per-coupling property with no global normalisation constraint
Intention	commitment is shown to be belief-about-the-future plus valuation, with the intention-behaviour gap explained without it
Words	externalisation, exact repeatability, recursive reference and constitutive force are all represented without a component supplying meaning-bearing form-types under a standard
Influence	the recipient standpoint adds nothing beyond generic causation
Action	enactment and feedback are represented without an output port

20.4 · Standing falsifiers

Commitment	Falsified by
Affect as field	an affective state demonstrated to <i>insert</i> propositional content
Words has no deep stratum	demonstration of a genuine pre-symbolic Words stratum
Symbolic Thought does not reach deep Belief	simulation producing deep change with L, E and R all near zero
Symbolic influence routes through Thought	comprehension blocked and testimony still changing stated belief
Prohibitions 2 and 3	any demonstrated direct condition-to-trunk or field-to-content coupling

21. Discussion

21.1 · What kind of object this is

The architecture is a **structural description**. It is not a process model and not a predictive theory in the ordinary sense. The relevant standard is **representational adequacy without distortion**. Twelve elimination attempts were made under that standard and none succeeded.

21.2 · Relation to adjacent frameworks

The architecture is compatible with predictive-processing accounts of belief and perception, departing from them in insisting on distinct components for allocation, adoption and symbolic vehicle-provision, on the ground that these are not predictive-error operations.

It is compatible with dual-process accounts descriptively but does not adopt them structurally: the strata are defined by **update mechanism**, not by speed, effort or awareness.

It takes a determinate position in the philosophy of language and thought, and the position is neither of the two familiar ones. It is that **thought has two modes**, and that the linguistic-constitution claim is true of the formulative mode and false of the pre-formulative one. **The boundary is located at attitude-attachment, and the supporting argument is structural: depictive vehicles cannot bear the mark of an attitude.**

A comparison worth noting. The architecture's coarser competitor — an operating system, a reflective system, affect, conditions and coupling — is more parsimonious and predicts many of the same datasets. The additional resolution is earned specifically by **Attention, Words and Influence-as-standpoint**. This is stated rather than concealed because it identifies precisely where the architecture would fail if it fails.

21.3 · The status of the adversarial process

The construction method is methodologically relevant rather than evidentially probative. **What the record establishes is that the testing could have removed components, and that it permits an external reader to judge whether it did.** Survival under testing is not offered as evidence of correctness.

The verification programme that produced this edition is part of that record. All twenty citation slots were searched against primary literature. Twenty-two wording corrections were applied. Eight claims were deleted rather than repaired. **One passage that had been used to close a research branch was found to attribute a settlement**

to a literature that has not settled, and was rewritten to rest on the structural argument that had always been sufficient.

The Biological Foundation expansion subsequently triggered a second bibliographic verification pass, covering thirty-seven individual fields across fifteen entries. All thirty-seven were verified. Two source-identity collisions were corrected and one unsupported descriptive clause was deleted. None of these repairs altered the architecture.

21.4 · Where the architecture is most vulnerable

The measurement gate. A substantial portion of the formal model — the near-zero couplings, the prohibitions and every transfer-function parameter — is currently untestable. If deep change proves multiple rather than unitary, every commitment referencing the deep stratum will require re-indexing to a specific factor.

The blocked developmental question. Whether the richness of a first symbolic system shapes lower-level parameterisation cannot be determined by any available human comparison.

The scale index. The geometry's central innovation is also its most demanding requirement. Applied without the index, the architecture appears to contradict itself.

22. Conclusion

This monograph has presented an architecture of seven irreducible components of human functioning, a modulating affective field, a non-trunk treatment of conditions, and a geometry in which centrality is distributed and indexed to scale and to level. **The seven components are functionally distinct and structurally unequal, and §13 sets out the positions they occupy.**

Two additions in this revision. The functional architecture is stated as resting on an explicit constitutive level: **Biological Foundation → Embodied Person → Seven Governing Trunks. This deepens the architecture rather than increasing the number of governing components.** The foundation is not a trunk, not a Condition, and not a term in the formal model; nothing in the coupling graph, the strata, the write-ports, the prohibitions or the geometry changed to accommodate it.

And the Foundation is stated as containing two foundational functions rather than one. The Biological Foundation is substrate-constituting and makes the embodied person possible. **Words is form-constituting and makes meaningful, differentiated, articulated reality possible for that person; and the same Words-function continues as the central organizing trunk through which the articulated forms of Belief, Thought, Attention, Intention, Influence and Action become determinate and operable.** One Words-function, two structural roles, no duplication, no eighth component, and no change to the other six.

The controlling conclusion, stated at the strength the completed work supports. *Meaningful, differentiated human reality cannot exist without Words or an equivalent stable meaning-bearing form.* It is established by the combination this monograph sets out — empirical evidence at the levels it can reach, structural analysis, the removal and deletion tests, the mechanism/operation/development/architecture separation, the carrier and category analysis, the transmission analysis, and repeated adversarial attempts to locate meaningful differentiated reality without Word-function. **Each such attempt resolved into raw processing, system organisation, internal itemhood, or a distinction supplied by the observer rather than held by the subject. No single controlled experiment demonstrated the whole thesis and none is claimed to have (§13.6):** the empirical record constrains and contributes to the result without being asked to carry it alone, which is what an empirically grounded structural architecture under adversarial validation is.

Five commitments carry most of the content. **Represented content has two write-ports, with the experiential channel reaching the deep stratum directly and the symbolic channel routing through Thought. Depth is defined by update mechanism. Thought operates in two modes, and linguistic vehicles are constitutive of the formulative mode only. Irreducibility does not imply equipotence, and centrality claims are incomplete without a scale. Functional distinctness does not imply equivalent structural position, and claims about what a function does without Words are incomplete without a level.**

The architecture is frozen in the sense that its structural ledger is empty, and accompanied by ledgers recording what cannot be tested, what no comparison can address, thirty-three documented failures across six classes, and six reopening criteria.

Exactly one of thirty-three errors altered the formal model, and it was a repair against commitments the architecture already held. None required a component to be added, removed or merged. Eight claims were deleted rather than repaired, and in every case the surrounding argument stood without them. Whether that record is sufficient is a judgement for readers, which is the purpose of setting it out in full.

APPENDICES

Appendix A — The Twenty-Four-Edge Graph

B Belief · **T** Thought · **A** Attention · **I** Intention · **W** Words · **Inf** Influence · **Ac** Action. Subscripts: d deep · r representational · s symbolic · e experiential.

Within-trunk (6): B_d→B_r strong · B_r→B_s strong · B_s→B_r moderate · T_d→T_r strong · Ac_d→Ac_r moderate · A_d→A_r strong

Cross-trunk (18): B_d→A_d strong · B_d→Ac_d strong · A_r→T_r strong · A_r→Inf_e strong · Ac_r→Inf_e strong · Inf_e→B_d strong/slow · T_r→I_r moderate · T_s→I_s moderate · I_r→A_r moderate · I_s→Ac_r moderate · W_s→T_s strong · W_r→T_r moderate · T_s→W_s strong · T_r→B_r moderate · T_s→B_s strong · B_r→T_r strong · B_s→T_s moderate · Inf_s→T_s strong

Gated: B_r→B_d and B_s→B_d, baseline near-zero, weight set by $\tau \propto D \cdot \max[L(1+E), R]$

Near-zero (10): W_s→B_d (*gated*) · B_s→Ac_d · I_s→Ac_d · T_s→A_d · Inf_s→B_d (*gated*) · B_s→B_d (*gated*) · A_r→B_d · I_s→B_d · W_s→Ac_d · **T_s→B_d** (*insight without change; derived*)

Prohibited (4): symbolic→deep with baseline unmoderated weight above near-zero · condition→trunk except via Influence or field · field→trunk content · Words→deep Action without moderated transfer

Rejected on parsimony: B_d→T_r · T_s→B_r · T_d→B_d. **Removed by repair:** Inf_s→B_s direct.

Appendix B — Evidence-Status Ledger

B.1 · Frozen structure. Seven governing trunks · no eighth trunk; affect as field · conditions non-trunk with restricted entry · strata by update mechanism, sixteen cells, three deletions and one fold · two write-ports with experiential/symbolic asymmetry · twenty-four couplings, gated family, ten near-zeros, four prohibitions · carried/encountered orthogonal to class · three-place applicability · whole-person as resultant · **distributed centrality indexed to scale and to level · the Foundation of human reality as two foundational functions of different kinds, biological and form-constituting · Words as one function in two structural roles, not two components · the Words criterion as form-type, pairing and standard, with arbitrariness, convention and recombination as non-universal · the three nested Word categories: Word-function, public Words, mature compositional Words-systems** · Thought's two modes with simulation inside Thought · Words constitutive of formulated thought · the anti-circularity rule · the sufficiency rule.

B.2 · Empirically supported (*each with a verified primary — see §14.2*). Exact number without a count list · false-belief understanding associated with mental-state vocabulary, **in emerging-sign-language cohorts** · non-number gestures functioning as word units · literacy reorganising early visual coding and ventral organisation, **including on adult acquisition** · instructed fear acquisition · propranolol dissociation of startle from skin conductance and expectancy · prenatal and neonatal linguistic participation · invertebrate classical conditioning **at mechanism level only** · mental-rotation chronometry · infant perceptual narrowing · chinchilla boundary similarity · agrammatic numeracy **in the mature system** · intention-behaviour effect sizes · selective impairment with low inner speech · differential response to joint-commitment defection.

B.2a · Biological Foundation — empirically supported observations, each attributed in §3A, §6.2 or §14.2. Genomic imprints established in the germline, resisting preimplantation demethylation, erased during primordial germ cell reprogramming, and re-established sex-specifically · Prader-Willi and Angelman syndromes arising from the same 15q11-q13 deletion by parent of origin · XIST expressed from the 4-cell stage, X-inactivation random and clonally maintained · mitochondrial function continuous, 37 mitochondrial genes all essential, adult mitochondrial disease prevalence approximately 1 in 4,300 · germ cells carrying small RNAs, cytoplasmic factors and maternal mitochondria · connexin-26 deafness non-syndromic and closing the auditory registration channel · late-treated congenital cataract producing persistent deficits with a fitted critical age · periconceptual famine exposure associating with IGF2 DMR methylation sixty years later, in sixty sibships · severe early institutional deprivation associating with persistent outcomes and with a 0.27% reduction in adult brain volume per additional month · four-month reactivity predicting adult amygdala response, and behavioural inhibition at fourteen months predicting outcomes twenty-six years later.

B.2b · Biological Foundation — not established. Germline transmission of experience-derived information in humans · a human study linking a molecular germline signal across more than one generation — none located in this review · biology defining, replacing or determining trunk membership — **no instance located in this review; coverage incomplete.**

B.3 · Supported synthesis. The seven-mechanism minimal set · common knowledge as channel × standards · the nesting interpretation of lower-level mechanisms · **imagery's representational limits (structural, uncited)** · Attention transforms nothing · the two write-ports and their asymmetry · **fidelity preserves and discreteness accumulates (structural, uncited)** · the frailty parallel, offered as illustration only.

Biological Foundation syntheses, synchronised with §14.3 — nine entries. That the systems described occupy a *constituting* role · that constitution may be regenerated by inherited machinery and developmental programs rather than transmitted as a token · that constitution continues after conception · that a single mechanism may occupy both constituting and conditioning roles · that germ-cell contributions do not deliver represented content · that environmental input during sensitive periods participates in constitution · that developmental constitution may be graded while functional outcomes emerge nonlinearly · that the foundation is definable by structural role and not by mechanism list · that it belongs beneath the functional architecture and outside the formal coupling model.

B.4 · Measurement-limited. Deep change as a unitary construct — strongly contra-indicated, not quantitatively falsified · multi-factor structure untested · near-zero couplings and prohibitions · all transfer-function parameters · **whether instructed acquisition produces durable deep change** · lower-level symbol-independence in human development.

B.5 · Structurally blocked. First-system constitution · the effect of no symbolic system · consciousness.

B.6 · Specification only. Seven condition classes and entry restrictions · four moderators · four thresholds · timescale bands · judgment-generation rule · whether weight adjustment is one operation or three.

B.7 · Closed / rejected. Affect as eighth component · Intention-deep · Words-deep · Attention-symbolic · replacement of Thought by inference, Influence by exposure, Words by signs · the universal deep-to-symbolic asymmetry slogan · a unitary strength dimension · a separate global capacity state · route fragmentation as a claim contained in the transfer function · the six-component reduction of Words · three experimental designs abandoned as non-discriminating.

Appendix C — Error-and-Correction Ledger

Thirty-three errors, six classes. One altered the formal model. None required a component change.

Class arithmetic, stated so the total is independently checkable: $5 + 2 + 9 + 8 + 8 + 1 = 33$.

Class	Count	Teaches
1 · Level and scope	5	Conclusions of the form <i>X does not require Y</i> are level-indexed
2 · Graph and circularity	2	A model built to encode distinctions cannot demonstrate them
3 · Substantive theory	9	The most dangerous errors are failures to apply a distinction the architecture already makes to its own reasoning
4 · Measurement and inference	8	Reliability type, degrees of freedom, and exclusion rules are not incidental
5 · Weaker-support	8	Over-supply of evidence is a failure mode; four of eight attached unnecessary support to arguments that already stood
6 · Negative literature claims	1	A claim about what a literature lacks is a claim about a search, and must be stated as one

Reconciliation note on a possible double count. Class 3 contains *aphantasia nominated as the deciding dissociation for splitting Thought*; Class 5 contains *the disputed involuntary-imagery claim was relied on when the verified object/spatial dissociation was stronger*. These were tested for identity and are **distinct**. The first is an error about **evidential relevance** — treating a literature as the kind of thing that could decide the question — and was corrected by the finding that the dissociation lies between imagery subtypes. The second is an error about **source selection within that literature**, made during the correction of the first, and was corrected by rebuilding the argument on the object/spatial finding. They occurred at different times, had different corrections, and either could have occurred without the other. **Both are counted.**

The one model-altering correction. Couplings from Thought to Belief were absent while inference-driven content change was affirmed; the within-trunk upward coupling for Attention was missing; nothing carried prior belief into inference; symbolic influence was modelled without comprehension; **and the transfer function had no coupling for it to govern**. Six couplings added, one removed, gated family introduced, two prohibitions restated. **Nineteen to twenty-**

four edges.

Appendix C2 — Biological Foundation Investigation Error Ledger

Ten errors, from the investigation that produced §3A. This ledger is separate from Appendix C. The original count of thirty-three across six classes is unchanged and these are not merged into it.

#	Error	Correction
1	Required the biological level to mirror the functional level's individuation — searching for trunk-specific biological foundations	The hypothesis was restated without a differentiation requirement. The trunks are differentiated by governing function; a substrate need not share that principle
2	Used heritability as evidence about universal constitution	Heritability is a variance statistic. Universal constitutive biology contributes no variance and is invisible to it
3	Claimed biological constitution fixes the carried/encountered axis	Withdrawn. The carried side includes credentials held and carried resources, which no biological boundary fixes. The axis has its own operational criterion
4	Used permanence as a Foundation/Condition discriminator	Withdrawn — a Condition may be permanent
5	Used irreversibility	Withdrawn — a Condition may be irreversible
6	Used persistence	Withdrawn — a constitutive effect may be compensated or recovered
7	Used attenuation	Withdrawn — trajectory does not determine role
8	Asserted a field-wide comparative ranking before searching the field	Class 6 in form, committed in the round intended to search it
9	Recorded "no human evidence" where the correct finding was no demonstrated <i>mechanism</i>	Split into association, mechanism, and transmission
10	Over-broad negative on the paired sperm—offspring design	Narrowed — the design exists for paternal age

Errors 4 through 7 are one error repeated four times: substituting an observable property of a consequence for the structural question about a role. Each was caught in review rather than by self-detection, which is why the role rule is stated in §3A.3 with all four exclusions named explicitly.

Appendix D — Structural-Block Ledger

Blocked question	Nature of the block
First-system constitution of lower-level cognition	The only natural richness gradient confounds richness with schooling by historical construction; the decisive cell is undocumented; alternatives fail on sample size and access
The effect of no symbolic system whatsoever	Permanently blocked; the deprivation is the manipulation and is impermissible
Adjudication of the deep-change measurement structure	Four indicators cannot identify the relevant competitor; five to six channels at $N \geq 300$ required
Consciousness	Open, outside the architecture's operation
Joint-intention irreducibility	Open but not currently pursuable
Residual cross-interface covariance	Not tested here

Reclassified out: route fragmentation (category error) · hysteresis (parametric).

Appendix E — Reopening Criteria

The architecture is revisable only by evidence at the architecture level.

#	Observation	Compels
R1	Reproducible residual covariance across the registration, susceptibility and applicability interfaces, surviving control for measured shared determinants	a common capacity component
R2	Path dependence in person-states not encodable as a current-state parameter	the whole-person resultant becoming causal
R3	Content acquired by the affective and procedural routes proved non-interacting bidirectionally , with content and exposure matched	a split in the deep stratum
R4	A behavioural asymmetry between joint and matched parallel commitment surviving matching on individual intention strength, mutual belief, common knowledge and anticipated sanction	an irreducible collective structure
R5	A distinctive prediction failing repeatedly under reliable measurement	revision of the failing commitment
R6	A stable, reproducible phenomenon with no representational location after the full diagnostic order	a new component

Appendix F — Figure Specifications

The eight figures are embedded in the text at the locations listed under *List of Figures*. This appendix records the specification each was built against, so that a reader can check the figure against its brief.

F.1 Full architecture diagram. *The architecture of human reality: the two-layer Foundation, one embodied person, seven governing trunks with Words as the central organizing trunk.* Must show, from the bottom: a single **Biological Foundation band** labelled with its three aspects and marked *foundational for the embodied person*; **constitutive/developmental relations** rising from that one band to support the person-container and, within it, all seven trunks; the person as an enclosing boundary; **a second foundational band, marked *foundational for articulated human reality* and labelled Words, which is visually continuous with the Words trunk above it rather than a separate element**; the other six trunks arranged around that central axis; the affective field as an overlay spanning all seven rather than a node; conditions outside the trunk boundary within a wider frame divided person-side/world-side; three labelled interfaces crossing the boundary.

The constitutive relations must be drawn in a visually distinct convention from every coupling in Figure 5, and must carry the label *constitutive / developmental relation — not a formal coupling*. The relation drawn from the six surrounding trunks to the central Words axis must be labelled *conditions the articulated form — not command, not a formal coupling* and must be visually distinct from both.

Must show unmistakably: that Words is foundational · that Words is the central organizing trunk · **that there is one Words-function, by unbroken visual continuity between the foundational band and the trunk** · that the other six remain distinct governing components with their own functions named.

Must not show: affect as a node · conditions inside the trunk boundary · any arrow from conditions directly into a trunk · **the foundation as an eighth trunk or as a Condition** · **seven separate biological sub-foundations, or any one-to-one mapping between a biological structure and a trunk** · **any constitutive relation rendered in the arrow style of the 24-edge graph** · **two Words boxes, or Words drawn inside, above or below the Biological Foundation band as though the two were rungs of one hierarchy** · any arrow implying that Words commands, directs or contains the other six.

F.2 Components and strata. Each component as a column of stratum cells; deleted cells **visibly marked as deleted rather than omitted**; the Action-symbolic fold indicated by a bracket.

F.3 Affect field overlay. Three axes; modulation depicted as acting on couplings and node gains, **never as an arrow terminating in a cell's content**. A visual convention distinguishing modulation from causation is required.

F.4 Conditions and interface location. The carried/encountered axis orthogonal to architectural class, as a two-by-two, with physiology placed as carried. **The renamed *Experiential-historical* class must be used. A note must state**

that the carried/encountered axis has its own operational criterion — what travels with the person versus what is met in the situation — and is not defined by the biological boundary of the organism; the carried side includes credentials held and carried resources, which no biological boundary fixes.

F.5 The twenty-four-coupling graph. All sixteen cells; strength by line weight; gated couplings dashed and labelled with τ ; near-zero couplings in a separate toggleable layer; prohibitions as barred connections. **The central loop should be visually foregrounded.**

F.6 Scale- and level-indexed centrality. Three scale panels — individual-internal, person-world, collective and cross-temporal — same seven components in each, a different one highlighted per panel. **Must make it visually obvious that Words is peripheral in panel one and central in panel three. A fourth panel must show the level index: within articulated human reality, Words at the centre with the other six arranged around it, captioned *conditions the articulated form of the other six; commands none of them.***

F.7 Thought's two modes. Pre-formulative over depictive structure; formulative over discrete vehicles; the boundary labelled *attitude attachment*; a list of what cannot cross from the pre-formulative side.

F.8 Architecture-to-architecture transmission. Two person-containers; Action emitting, Influence delivering, Attention gating uptake; Words as the vehicle layer; a third element representing an inscribed vehicle persisting with **no person attached. The lower path must show that another person's performance supplies an informational constraint under which sensorimotor organisation is re-established, and must not show a skill or procedure travelling between persons as an item. It must state that the Words-free case is bare performance, and that a demonstration carrying ostension, pointing or conventional gesture may itself contain Word-function.**

Appendix G — References

Sixty-four entries: fifty-eight supporting sources, four contesting sources, one commentary, one systematic review used for field-level appraisal. One source is named outside the numbered list as a source to avoid.

Twenty-seven entries were added in this revision to support the Biological Foundation and its associated observations, and all of their bibliographic fields have since been verified (Appendix H). Thirteen entries present in the first evidence-aligned edition were removed, and one was added during earlier verification to close a live citation gap.

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Verification note. Every field in every entry has been verified against authoritative publication metadata. **No entry carries an unconfirmed field, no value in this list has been guessed, and no DOI has been inferred from a formatting pattern.** See Appendix H for the verification record.

Ordering note. Entries are alphabetical by first author surname.

SOURCE TO AVOID — outside the numbered bibliography, and cited nowhere as support. Walters, E. T., Carew, T. J., & Kandel, E. R. (1981). Associative learning in *Aplysia*: Evidence for conditioned fear in an invertebrate. *Science*, 211(4481), 504–506. **It argues that "the functional equivalent of fear occurs in invertebrates," an interpretive claim this monograph does not need and that a reviewer could contest. Entry 8 establishes the mechanism without it.**

Appendix H — Bibliographic Verification Record

Originally affected entries: 15 of 64. · Individual fields requiring verification: 37.

Verified: 37. · Unresolved: 0.

All fifteen originally flagged entries received a source-identity check before their metadata was verified. Thirteen passed. Two did not, and are recorded below.

H.1 · Two source-identity collisions

Both were title/authorship collisions between two real papers by the same first author in the same year — not ordinary metadata omissions. Both were stopped and reported before any change was made.

Entry	What was printed	What the DOI actually resolves to
3	"Maternal age at Holocaust exposure and maternal PTSD independently influence PTSD in offspring," attributed to Bader et al.	Bierer et al. (2020), <i>Intergenerational effects of maternal Holocaust exposure on FKBP5 methylation</i>, <i>AJP</i> 177(8), 744-753. The printed title belongs to Bader et al. (2014), <i>Frontiers in Endocrinology</i> 5:103 , a different paper on urinary cortisol
10	"Clinical studies of families with hearing loss attributable to mutations in the connexin 26 gene," with an eleven-author list	Cohn & Kelley (1999), <i>Clinical phenotype and mutations in connexin 26 (DFNB1/GJB2)</i>, <i>AJMG</i> 89(3), 130-136 — two authors. The printed title and author list belong to Cohn et al. (1999), <i>Pediatrics</i> 103(3), 546-550

Entry 10's correction to two authors required the only in-text citation change in the pass: §6.2 now reads **Cohn & Kelley (1999)**.

H.2 · One source-support failure, resolved by deletion

The phrase "**normal non-verbal cognition**" appeared in §6.2's description of connexin-26 deafness. The authoritative record supports **nonsyndromic · normal vision · normal vestibular responses · no detectable inner-ear malformation** and does not support that clause.

It was deleted rather than re-sourced. The registration-interface argument does not require it, and the Sufficiency Rule (§3.5) governs: a claim that does not need support should not acquire a source merely to survive.

H.3 · Corrections to fields previously recorded as confirmed

Found across both verification passes.

#	Entry	Correction
1	Fried et al. (2001)	Pages are M146-M156 , not M146-M157
2	The 2022 replication paper	First author is Stemerding , not Kindt; <i>Scientific Reports</i> , 12(1), 2285. Re-alphabetised at S
3	Spaepen et al. (2013)	Author order is Coppola before Flaherty , confirmed against three independent records
4	Kitaba et al. (2023)	The printed list omitted eight of twenty authors and truncated <i>Callejas González</i>
5	Appendix H, earlier versions	Its own field totals were stated as 26 , then 20 , where the row-level inventory summed to 37 and 21 respectively

H.4 · One empirical statement narrowed

The X-inactivation timing had been stated as "**roughly the 200-cell stage**." No verified human primary supports that figure. The wording in §3A.4 and Appendix B.2a was narrowed to what the record supports: XIST pinpoint signals in most female 8-cell blastomeres with *cis* accumulation at late morula and blastocyst stages, inactivation initiating between early implantation and the end of the first month, progressively and with lineage-dependent kinetics.

H.5 · Verification standard applied

Publisher record, PubMed/PMC, Crossref/DOI metadata, or institutional repository — never a search snippet, citation generator, or secondary reference list. No DOI was inferred from journal, volume, issue, page or year. Online-first and issue years were recorded as legitimate alternatives rather than treated as conflicts.

Appendix I — Citation Gaps

Live citation gaps: 0. · Entries with unconfirmed bibliographic fields: 0.

These are different quantities and were tracked separately throughout. A citation gap is a claim with no source. An unconfirmed field is a source whose bibliographic details are incompletely verified.

The Biological Foundation expansion introduced twenty-seven references and, with them, thirty-seven bibliographic fields requiring verification across fifteen entries. Those fields have now been closed — see Appendix H. The expansion introduced no live citation gap at any point: every empirical observation in §3A, §6.2, §14.2 and Appendix B.2a was attributed to a numbered entry when it was written.

I.1 · Closed by verification

#	Claim	Disposition
C1	Discrimination-score reliability, §15.2	Sourced — entry 24

I.2 · Closed by deletion under the Sufficiency Rule

#	Claim	Disposition
C2	The perceptual-magnet effect is absent in non-human animals, formerly a limiting note at §16.4	Deleted. §16.4's correction stands without it
C3	"Normal non-verbal cognition" in the connexin-26 description, §6.2	Deleted. Not supported by the authoritative record; the registration-interface argument does not require it

I.3 · Historical — claim deleted or omitted, no citation required

#	Claim	Disposition
H1	Literacy and white-matter structure	Omitted from §14.2
H2	Instructed extinction	Clause removed
H3	Common-cause hypothesis in cognitive ageing	Deleted (D6)
H4	Classic articulatory-suppression findings	Not required

Appendix J — Deleted Claims

Eight claims removed rather than repaired. In every case the surrounding argument stood on grounds that verified cleanly, and no substitute literature was sought.

#	Deleted claim	Former location	Ground for deletion
D1	<i>"Tool traditions have persisted across very long spans with minimal change, which is direct evidence that faithful transmission does not require symbolic vehicles"</i>	§10.3, §18	Two contesting sources — Corbey, Jagich, Vaesen & Collard (2016) and Paige & Perreault (2024) — dispute the inference from morphological persistence to transmission, proposing partial genetic determination of form and serial reinvention respectively; the second also undercuts the cumulation use. These two are retained in the bibliography solely to document this deletion and are not support for the surviving fidelity/cumulation argument, which stands on discreteness alone
D2	<i>"adults without conventional language perform poorly despite lifelong social access"</i>	§14.2	Describes a population the cited study did not test; no source located. The cohort finding is sufficient
D3	Rightward face-lateralisation with literacy	§14.2	The primary reports small competition with faces at the <i>left</i> fusiform; only a secondary Opinion article supports the rightward formulation
D4	<i>"whereas non-symbolic visual expertise produces bilateral or right-lateralised effects"</i>	§17.7	No adequate source located. The three other grounds in §17.7 are sufficient
D5	<i>"people confidently predict actions they do not intend"</i>	§4.5	No source located. Direction one has experimental meta-analytic support
D6	The cognitive-ageing clause of the impasse analogy	§11.3	No source located; and the frailty half, once narrowed, does not support the analogy as used
D7	Preserved mental rotation in aphantasia	§9.4	No adequate source located. The verified object/spatial dissociation supports the same conclusion
D8	The developmental appeal in the negation passage	§9	A production sequence used for a capacity claim, contested three ways. §9.3's structural argument requires no developmental evidence

Six of the eight are instances of Class 5 (§16.6). The common feature is that added support proved contested, unsourced, or at the wrong level while the argument it decorated already stood.

Appendix K — Narrowed Claims

Twenty-two corrections applied. Two were mandatory.

#	Correction
N1 *	False-belief claim restricted to emerging-sign-language cohorts; <i>requires</i> weakened to <i>is associated with</i>
N2	Gesture word-unit finding restricted to objects, actions and attributes; number gestures excluded
N3	Literacy findings split across sources; unsupported components removed
N4	Expertise contrast deleted (D4)
N5, N10, N17	Tool-tradition sentence deleted (D1)
N6	Propranolol erasure interpretation marked disputed
N7	Preserved set corrected to include skin-conductance conditioning and expectancy
N8	Torrents-Rodas numeric range withdrawn pending primary confirmation; authors' positive framing recorded
N9	Reliability picture described as mixed rather than uniformly limiting
N11	Mental-rotation format inference marked as a standard reading that remains debated
N12	Aphantasia argument rebuilt on the object/spatial dissociation; involuntary-imagery sparing marked disputed
N13	Mature-system qualifier added to the aphasia claim; accompanying commentary cited
N14	Categorical-perception claim restricted to labeling functions and boundary locations; prototype-magnet limitation noted
N15	Instructed fear reclassified from <i>forcing</i> case to <i>motivating</i> case; durability separated from acquisition
N16	Second direction of the intention dissociation deleted (D5)
N18	Multiple-memory-systems settlement claim replaced with the literature's own hedged formulation
N19	Frailty analogy narrowed to a conceptual disagreement and marked as illustration only
N20	Anendophasia existence claim marked disputed; sample sizes and affected/unaffected tasks specified
N21	Developmental negation appeal deleted (D8)
N22 *	Negative literature claim on joint commitment restated as a statement about what this review located

*** mandatory.**

Structural narrowings from the Wordless-category sequence. Labelled **S1-S9** so as not to collide with the citation series above. **These narrow the monograph's own statements. No citation was added, removed, altered or reassigned by any of them, and no new evidence was consulted.**

#	Correction
S1	§13.4's <i>pre-articulated, the six operate without Words</i> indexed to mechanism , with the current-human implementation qualifier stated and the Level Rule restated
S2	Transmission described as re-establishment of sensorimotor organisation under an informational constraint ; transfer language removed at §10.3, §13.5 and §18
S3	<i>Demonstration</i> no longer used as a flat synonym for Words-free transmission; bare performance separated from ostension and conventional gesture at §10.2, §10.3, §13.5 and Figure 8
S4	§13.7's <i>substantial transmission intact</i> replaced by a stated residue
S5	<i>Procedural content</i> retained, with <i>nothing travels</i> stated and <i>how to</i> marked as the theorist's individuation
S6	§2.4's <i>available to the subject</i> stated as dispositional ; the index confirmed not to be a consciousness distinction, and §7.1's orthogonality preserved
S7	§4.6's category exclusion clarified: dependence, not licence — a determinate category requires a form
S8	Descriptive and normative readings of imitation, procedure and skill separated at §13.5; the subject-held standard stated as a conditional
S9	The three carrier kinds stated at §4.6, with internal itemhood recorded as not by itself subject-side meaning, and matching non-claims added at §19

No further narrowing follows from that sequence. Its final audit attempted an independent criterion for the passage from internal itemhood to an identifiable element of the subject's reality; **the attempt failed and no such criterion is adopted here.** What it established is negative — that itemhood, persistence, retrievability and availability to multiple consumers are each insufficient — and **§2.4's articulated / pre-articulated boundary remains controlling.**