

# Philosophical Log

*Virtualism: Architecture, Definitions, and Working Notes*

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## Purpose of this document

This log is the working spine of a long-running project: an attempt to give a unified account of why there is anything, how emergence works at every level, and what that means for space, time, gravity, and consciousness. The framework has a name: Virtualism. The log captures its current state in compact, citable form, threaded through with the vocabulary the framework requires.

It is intended for three uses. First, as a context-seed: paste the relevant sections at the start of a new conversation and the system can be discussed without reconstruction. Second, as a working reference: definitions, architecture, and examples are the fixed points against which new ideas are tested. Third, as the spine of the eventual book; the structure here is the structure the book will inherit.

Sections are deliberately concise. Each states a position, not the full argument. Arguments live in the diaries, on the website, in the paper drafts, and in conversation. Where a section gestures at material it does not develop, that material is identified. Some implications of the framework — notably the historical-and-structural connection to the Zodiac and the consequent reading of the Olympian gods — are reserved for separate publication in the journal *Correlation* and in the eventual book. They are flagged in this log but not developed.

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## The core thesis

Every level of reality is constituted by the same machinery: virtual relationships grounded in Leibniz's-Law indiscernibility, generative paradox arising from the meeting of internal subjective resource and external objective constraint, and emergence as the forced resolution of that paradox.

The same machinery runs from nothingness through unity, number, dimension, three-dimensional space, relativistic spacetime, gravity, time, and consciousness. There is one ontology. The differences between physics and mind are differences in what stands in the relation, not differences in the kind of thing reality is.

Stated as a banner: any object, of any kind, emerges from a fundamental object-type of number, that in turn emerges from the paradox of nothingness; everything is emergent, but everything is also factually true; even false things have a truth value; nothing is quite entirely

independent of everything else. The position has lineage in structuralism in the philosophy of mathematics, ontic structural realism in the philosophy of physics, and Tegmark's mathematical universe in cosmology, but Virtualism gives the numbers a substantive metaphysics — virtual relation, indiscernibility, generative paradox, and emergence — rather than treating them as primitive.

Virtualism is not Dualism, not Idealism, and not Materialism in the standard senses. From it, both Realism and Idealism emerge as different aspects of the same underlying mechanism. The whole is what bridges the gap between the real and the ideal, but the fundamental is like yin and yang: there are no wholes without parts and no parts without wholes. The system bootstraps Existence in a manner that is, perhaps, an advance on Hegel — and crucially, where Hegel begins from being, Virtualism begins from nothingness, which is what permits the bootstrap to be more than a re-description of the starting point.

This is Hard Emergence: the position that everything that is, is emergent. Strong emergence in any specific case is a consequence of Hard Emergence; weak emergence is what occurs when a paradox does not require a change of relationship-type to resolve.

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## **Virtualism in the lineage of emergence-thinking**

Virtualism does not arrive in an empty field. The conviction that nature produces genuine novelty at higher levels of organisation, novelty that cannot be reduced to the properties of parts, has a respectable century-long pedigree in Anglophone philosophy. Locating Virtualism in that lineage helps a reader see what it inherits and what it adds.

The British Emergentists — John Stuart Mill, George Henry Lewes (who coined the term emergent in 1875), Conwy Lloyd Morgan, Samuel Alexander, and C. D. Broad — established the basic claim that emergence is real and irreducible. Lloyd Morgan's emergent evolution (1923), Alexander's *Space, Time, and Deity* (1920), and Broad's *The Mind and Its Place in Nature* (1925) are the canonical statements. Alexander famously held that emergent qualities must be accepted with natural piety, meaning as brute facts of nature; Broad's mathematical archangel argument concedes that even an angel with perfect knowledge of atoms could not predict the smell of an onion or the colour red without experiencing them. Both moves take emergence as something to be acknowledged rather than mechanised.

Virtualism's contribution to that lineage is precisely the mechanism the British Emergentists declined to give. Strong emergence here is not a brute fact to be received with piety; it is the forced resolution of a generative paradox in which internal subjective resource and external objective constraint cannot both be sustained at the prior level. Where Alexander said accept it, Virtualism says here is why it is forced. Where Broad said the archangel cannot predict the smell of onion, Virtualism says the smell is the indiscernibility of the brain's onion-icon with the worldly onion, and the archangel's failure is a failure to see that the relevant indiscernibility is not in the atoms but in the relational fact.

Jan Smuts coined holism in 1926 and described nature as a creative drive that combines parts into greater wholes, with evolution moving from matter to life to mind. Smuts kept Hegel's vision of synthesis but rejected Hegel's determinism; Virtualism makes a parallel move, keeping the bootstrap-from-something but rejecting Hegel's start-from-being in favour of starting from nothingness. Where Smuts described the creative drive in vivid but vague terms, Virtualism specifies the mechanism: the constraint-resource asymmetry, the demergence-and-re-emergence of mass-energy, the forced singular resolution at each step.

Alfred North Whitehead's process philosophy is the closest twentieth-century relative to Virtualism's eternal-facts claim. His doctrine of objective immortality holds that completed actual occasions perish as living subjects but are saved forever in the universe as factual data, contributing to all subsequent occasions. This is genuinely close to Virtualism's facts replicate without loss; eternal once obtained. The differences are also real: Whitehead's framework is process-theological, with God as the principle of order and the lure toward the future; Virtualism has no such principle and treats the ordering as the structural consequence of paradox-driven emergence alone. A reader who knows Whitehead will recognise the family resemblance, and the explicit articulation of the difference is a useful piece of self-positioning.

Thomas Nagel's *Mind and Cosmos* (2012) argues that consciousness, cognition, and value are not late accidents in a universe of inert matter but constitutive features of the universe; he stops short of theism but argues for some form of natural teleology. Virtualism agrees with Nagel that consciousness is fundamental rather than incidental, but does not need teleology to deliver this — only paradox-driven emergence and the icon-as-indiscernibility account of consciousness. Citing Nagel locates Virtualism in a recognisable contemporary debate without committing it to his solution.

Beyond these named precedents, Virtualism's claim about teleology can be stated cleanly. J. B. S. Haldane's quip — teleology is like a mistress to a biologist; he cannot live without her but he is unwilling to be seen with her in public — captures the embarrassment that has hung over final causes since Bacon's rejection of them. Virtualism dissolves the embarrassment by reading teleology as as-if. Smith-and-Sons Ltd. is successful because each generation directs its labour toward the next; the smith's son is the smith's final cause not as an attractor pulling future-from-past but as the genuinely directed object of present action. The Lamarckian error is to read inheritance as the transfer of acquired physical traits; the Virtualism reading is that inheritance is the transfer of facts (genes, businesses, relationships) that constitute the directing. Final causes obtain on an as-if basis, like Dave the centre of everything, like William the Wave, like the centres of awareness; the same as-if ontology that does the work elsewhere does the work here. This is also a more defensible reading of Aristotle than the Baconian caricature; Aristotle's telos was closer to what a thing characteristically does when nothing prevents it than to a mysterious future-attractor.

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## **Key definitions**

### ***Virtual relationship***

A relation that obtains in virtue of indiscernibility, in the Leibniz sense, between two relata, where neither relatum is reducible to the other but they share the structural property in respect of which the relation holds. Virtual relationships are not physical objects; they are relational facts. They are nonetheless true, and the truth of their obtaining has positional, causal, and phenomenological consequences.

### ***Indiscernibility (Leibniz's Law, working sense)***

Two items are indiscernible in respect of a property P when no operation distinguishes them with respect to P. In Virtualism, indiscernibility is not full identity; it is the local indistinguishability that grounds a virtual relationship. Different relata can be indiscernible in respect of different properties — wholeness, structure, position — and each such indiscernibility grounds a different kind of virtual relation. Real objects are always discernible by spatial difference, so the law cannot apply to them in full; it applies in respect of the indiscernible property only. This partial application is what allows the same indiscernibility to recur across objects of different kinds, which is what consciousness, as well as physics, requires.

### ***Real and ideal***

Real and ideal are not opposites; real is a subset of ideal. Every thing that exists is ideal in that it is a whole and stands in true relations to other wholes. Some ideal things additionally have parts, and the having of parts is what makes a thing real — but only when those parts are of a specific kind. Physically real objects' parts must be subject to the conservation law, through the manner in which they must demerge to emerge again. This demerging-and-re-emerging occurs to prevent the paradox of a thing being in two places at once while being only one thing; positional facts are established by quantum measurement, at which point the wave function collapses and the object looks classically somewhere, leaving a fact behind to populate the past. Between such measurements, the object is subject to gravitational influence — momentum as related to mass and inertia, a Machian consequence that alters the possibilities for where the object may be found, but does not confer actual position. In quantum terms, between measurements the object is doing momentum and so cannot have position.

This grounds a clean distinction between two kinds of change. Quantum change is direct change of internal parts that equates to a change to all external relationships: Alice and Bob swap a photon, and both their internal mass-energy and their external relations to everything else are altered. Gravitational change is indirect change to external parts caused by quantum change taking place elsewhere: Alice and Bob may be moved by quantum exchanges between other relata, where the cause is an indirect measurement that pinpoints the position of some other object, thereby changing the position of Alice and Bob by some extra amount. Quantum is the direct ontological category; gravitational is the indirect category. The two are not flavours of the same thing.

Measurement is therefore the re-establishment of relationship to the measuring object by internal change to both. All other relational changes are of a kind that does not change the internal parts, only the external differences with all other objects. Alice and Bob change by swapping a photon, but Charlie does not change in himself; Dave changes because Alice, Bob, and Charlie all change in regard to one another.

The foregoing describes the materially real. But real in a broader sense arises from difference — a relationship that can be interpreted in various ways depending on the nature of the nodes of the relationship. Any relationship between ideal nodes has difference, or else it would not be a relationship; it would be an identity. Ideal objects may be parts, and may have parts. Existence is an ideal whole with parts of every kind. Integers are a division of Existence, in the first instance, but each forms a relationship to all others by virtue of being of the same kind, and so we get rational numbers, each of which is real and each of which changes as new integers emerge. So real numbers are ideal but have parts and change. However, a real whole number is also an ideal integer, because it both is whole and has parts. Both facts are true, and so logic both separates and joins. Natural logic is perhaps not quite as imagined by Russell, nor by Gödel.

### ***True and real***

True and real are different categories, not points on a spectrum. The real is what is currently constituted by parts, what is changing, what virtual relationships actually obtain at the present Now. The true is what is the case as virtual whole; once a fact has obtained, it does not need to retain possession of its parts in order to remain a fact. There is no mechanism by which a fact can be unmade.

Truth and fact are near-synonyms. A fact is a truth of identity — a true likeness, the truth, the whole truth, and nothing but the truth. Philosophers rightly demand a truthmaker, the complementary fact-of-the-matter that grounds a truth. The framework's distinctive position on this is that truthmakers are unnecessary after the fact. The atoms that made up Annie Chapman, Catherine Eddowes, Elizabeth Stride, and Polly Nichols have long been recycled; the original truthmakers are gone. Yet whoever Jack the Ripper was, he killed them, and he will always have killed them, after the Sun has gone supernova and after all atoms have dispersed. The persistence of the fact does not require the persistence of the truthmaker. A fact, once established, is independent of the parts that made it; this is what it is for a fact to be eternal.

Reality is mortal; truth is eternal, not because truth is grand but because there is nothing to act on it. Marmalade is gone, the toast digested, but the breakfast happened, and nothing acts on the having-happened. William's victory at Hastings is true in the same way as one's breakfast, and so is the swordcraft of whoever was the original of King Arthur, regardless of written record or living memory. This is what allows truth to be inferred from other truths.

Two further asymmetries follow. First, facts replicate without loss; reality, being conserved energy, redistributes with loss. To share a fact takes nothing away from the original; to share reality is to rearrange deckchairs. Second, the past is true but no longer real, because the

mass-energy that constituted its virtual relationships has demerged and re-emerged into the present Now. The past is a foreign country, accessible only in memory and imagination.

### ***Generative paradox***

A real configuration in which the external objective constraint and the internal subjective resource cannot both be sustained at the prior level without contradiction. The internal acts as a lower bound and the external as an upper bound: the resolution cannot fall short of the resource and cannot exceed the constraint, and where the two cannot meet at the prior level, a new relational fact must emerge that satisfies both.

Two regimes follow, with paradigm examples in each. Where the external constraint overlaps the internal resource — where the internal has more than the external will accommodate — the resource is compressed: the paradigm case is boost meeting a relational space. An object's internal energy (its boost) is the resource; the surrounding configuration of other objects' boosts and positions is the constraint; the two cannot be jointly satisfied within Euclidean three-space, and relativistic spacetime emerges as the resolution, with distances shortened and time dilated. Where the external constraint is loose and the resource does not meet it, the resource thins out into the partial vacuum: the paradigm case is the demergence of an unstable nucleus, where internal binding cannot hold the configuration together against the lesser external constraint of the surrounding field, the resource thins, and emission is forced.

Generative paradox in this technical sense is to be distinguished from logical paradox of the Russell or Liar kind, from mere tension, and from underdetermination. Virtualism throws doubt on logic in this further sense: where two truths cannot both be sustained at the prior level, they need not contradict in the classical sense; they may instead jointly force a new dimension or a new emergent fact. This is not the abandonment of logic but the recognition that logical paradox in the strict sense is one species of generative paradox, not the only kind. Where there is no mismatch of constraint and resource, no emergence is forced, and any change is more of the same — weak emergence rather than the strong, hard kind.

### ***Emergence (strong, in this framework)***

The appearance of a relational fact at a higher level that is not deducible from the relational facts at the lower level alone, but is necessitated by the resolution of a generative paradox at that lower level. Strong emergence here is not magical addition; it is forced consequence. The new fact does not float free of the lower level — it is precisely what the lower level requires in order to be coherent at all. The asymmetry of resolution — that the constraint dominates while the resource yields — is what makes emergence singular rather than chosen.

Emergence and demergence are the same mechanism viewed from two sides. When Alice changes internally she lets out Philip, and Bob changes internally on receiving him; the external relations of both change as a consequence. Position and momentum are perspectival on the same underlying configuration: mass is rotation, and for similarly-rotated bodies the relative rotation is non-existent. The mechanism of demergence is the same as the

mechanism of emergence, and that mechanism is change. Demergence is not a general capacity of all emergent things; it occurs only when compelled by paradox.

Most emergence is weak rather than strong. Weak emergence occurs when the configuration's resolution is the same kind of fact the universe has produced many times before, in similar configurations of constraints; strong emergence occurs when the configuration is genuinely without precedent and forces a new kind of fact. What emerges from one situation must necessarily be the same as what emerges from a sufficiently similar situation, and so both outcomes will have identical behaviour, relating them even though no other relationship obtains. This recurrence-of-kinds is structural rather than mystical; it does not require Sheldrake's morphic resonance, only the necessity that identical inputs to the framework's machinery produce identical outputs. Most measurements are weakly emergent in this sense; the same kinds of facts obtain, at different times and places, without the universe having to invent anything new. Strong emergence is the rare case where genuine novelty is forced. The novelty, where it occurs, is novelty for the players on the stage as they are, even if many similar performances have happened before; what matters is the necessity-of-the-new in the specific configuration.

### ***Superposition***

Superposition does not properly exist. It is the potential many worlds of outcome that could exist, given a configuration of facts; it is not itself a real state of affairs that subsequently collapses. What occurs at measurement is the manifestation of one of those potentials as emergent reality, with energy conservation and the rest of the framework's constraints holding because the manifestation is a regular emergence subject to all the framework's constraints. The wave function is the as-if calculation that the configuration of facts entails; its collapse is the framework's regular emergence-event applied to the quantum case. This is not a simulation argument: there is no need for a third party to be calculating indirectly, nor a multi-step process to work out what goes where. There are just things that behave according to their nature when forced to jump one way or another.

### ***Icon***

A brain-state whose virtual wholeness is indiscernible from the virtual wholeness of the worldly object it represents. The term is borrowed from the religious sense: an icon does not merely depict; it embodies and makes present that which it is iconic of. Icons are the relation of the consciousness-grounding virtual relationship. They are abstract in the strict sense — they have no specific position in the brain because their correlates are dispersed throughout it — and they are multidimensional, having as many dimensions as the concepts they instantiate.

There is nothing in the physical nature of neurons that constitutes a whole; the whole emerges from a pattern of co-ordinated neuron firing, and it is only at the level of the pattern's whole that complex icons can function and interact. This locates the icon precisely: not in any neuron, not in any specific subset of neurons, but in the pattern of co-ordinated activity, which is itself a virtual whole abstract from any particular neural realisation. This is

the framework's response to the multiple-realisation problem in philosophy of mind: the same icon can be realised in different neural patterns, because the icon is the indiscernibility of the pattern's virtual wholeness with the worldly whole, not the specific neural substrate.

The peak icon, like Dave the simple universe, is both the whole and the heart, the sum of all icons. At any moment, awareness may be focused by a partial identity between the whole of one minor icon and the heart of the major icon. When the focusing mechanism produces unusual patterns of partial-identity between minor and major icons, the result is the spectrum of cognitive variation that includes ADHD and the wider neuro-divergence. The framework predicts that such variations are not deficits in the underlying icon-machinery but differences in its focusing dynamics.

### ***Consciousness, awareness, spirit***

These three terms name distinct things in Virtualism and must be kept distinct. Consciousness is the obtaining of icons: any brain-state whose virtual wholeness is indiscernible from a worldly whole is conscious in this sense. In elemental terms, consciousness is an Air-element fact — the realm of icons, change, and sensation. Awareness is the centre of consciousness; in elemental terms, it is a Fire-element fact — the realm of wholeness and objective truth. Awareness stands to consciousness as the centre of gravity stands to a system of masses; this analogy should not be read as some icons being heavier than others. Icons gain relevance through focus, whereby the most-connected icons are supported by relationships with other icons belonging to the generated mind, and the peaks are what constitute awareness, creating a narrative of the kind Daniel Dennett has described. Both centres exist, but only on an as-if basis: they are emergent wholes, no more than their parts, facts rather than realities. Spirit is the collection of all true facts about an individual; it is what persists, eternally and without loss, of everything they have been conscious of.

### ***Boost***

The internal energetic property of a material object that determines, by its quantity, the positional relationships in which the object stands. Boost is mathematically a rotation of rest mass into an imaginary axis perpendicular to ordinary three-space — imaginary in the technical sense of involving the square root of minus one, not in the sense of being fictional. Greater boost is greater rotation, and greater rotation shortens distances along the real axes. Boost is the property by which relativistic spacetime is generated from three-dimensional space, and the property whose paradoxical distribution at a virtual centre generates gravity.

### ***Now***

The only locus of real virtual relationships, and absolute in a precise sense: there is one Now, shared by every observer in the universe, the only place where real virtual relationships obtain. The Now is not a coordinate; it is not relative to a frame. What is relative is the count of changes registered against a particular metric — and this is what time is. Two observers can register different numbers of changes between two events without either being in a different Now from the other; the differential count is what differential time-passing means, and it is fully compatible with the Now being absolute. The past is true but not real: its facts

are fixed and determinate, but the mass-energy that constituted its virtual relationships has demerged and re-emerged into the present Now. The future is structured possibility, the many-worlds quantum space from which one configuration becomes the next real Now.

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## The four elements

There are exactly four possible kinds of virtual relationship, given by the cross-product of two binary distinctions: objective versus subjective, and similarity versus difference. They are best labelled with the Platonic elements, which serve as convenient tags for what would otherwise be cumbersome to refer to. The labels are formal in the same sense that red, green, and blue are formal labels for the charge states of gluons: the colours are not actual colours, but they are tractable names for distinguishable states.

- Fire — objective similarity, wholeness, facts, truth, numbers, laws, awareness understood as objective consciousness, love.
- Earth — objective difference, parts, reality, space, mass, energy.
- Air — subjective difference, change, messenger particles such as photons and light, sensation, mind, icons, unaware consciousness.
- Water — subjective similarity, individual, self, emotion, heart, attitude, memory.

These four are the relationship-types; everything else is built from them. Each is whole; each is also ideal in the sense above; each can only be instantiated in particular wholes. The matrix of possible alchemies — element to element, sixteen cells in total — is the local generator of all possible changes of relationship-type, and is the immediate basis of the Mandala.

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## The four titanic alchemies

Of the sixteen element-to-element transitions, four are the productive alchemies that generate the levels of being. Each is the alchemy from one pure element to the next in the order of emergence. Together they form a cycle — the cycle of becoming.

- Water → Fire — Creation. From any void comes the emergence of something. Existence emerges as truth, as eternal fact. Leads to ontology: the study of being.
- Fire → Earth — Necessity. From truth follows the laws of the nature of things — the laws of mathematics, physics, chemistry, biology. Leads to realology: the study of differences, scientific materialism, and the more complex realities of wealth, power, status, and class.
- Earth → Air — Change. Whenever anything changes, something produced from the laws of its nature transfers from one object to another. Leads to iconology: the study

of icons, in the sense Panofsky's iconology of images applies more broadly to the icons of consciousness.

- Air → Water — Possibility. Whenever anything changes, it changes in itself, creating new possibility as potential — silhouette without form, from which further emergence can occur. Leads to ipsisology: the study of selves and the ontology of subjective states.

The four ologies are the four sciences Virtualism generates: a complete theory of being, a complete theory of nature, a complete theory of mind, and a complete theory of self, from a single mechanism applied four times. Realology and ipsisology are coinages of this framework; iconology is borrowed in extended sense from Panofsky.

On the question of where the cycle starts: the static elemental order on the Mandala is Fire-Earth-Air-Water, but the order of emergence in time is Water-first, with water understood as the subjective whole that, being subjective, cannot be everything and so defines a void with a kind of shape. Fire emerges from water in the act of creation. The cycle then proceeds. The two orders are different and should not be conflated.

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## The Mandala

The Mandala — also called the Alethiogram, a writing of truth — is a fractal generated by a single rule applied to the four elements. From any given element, three different elements may emerge; the fourth would be more of the same and so could not be paradox-driven, could not be hard emergence. Iterated, this rule generates: four titanic quadrants, twelve signs ( $4 \times 3$ ), thirty-six decans ( $12 \times 3$ ), one hundred and eight triplets ( $36 \times 3$ ), three hundred and twenty-four individuals ( $108 \times 3$ ). It is a fractal in the family of substitution and L-system fractals: scale-invariant self-similarity under iteration of a generative rule, where the rule is combinatorial rather than complex-analytic.

Each sector of the Mandala is unique, in the manner in which a number is unique. The fractal does not produce repetitions but distinct cells, each with its own coordinates in the structure. This is what allows the Mandala to function as a complete map of possible relationships: every cell is a particular configuration that no other cell duplicates, and the totality is exhausted by the cells.

The Mandala is therefore the generative grammar of Virtualism. It is the answer to the question why these emergence steps and not others: the rule is different element only, and that single constraint generates the whole map. The architecture chain from nothingness to mind, set out below, is one path through the Mandala, not a list of independently postulated steps.

This also gives Virtualism a finitude claim that is unusual in metaphysics: there are exactly four elements, exactly twelve signs, exactly twelve productive alchemies. Not many; not

unspecified; not as many as one likes. Twelve — at the level of permutation. The fractal nature is in principle endless, although as with dimensions, there may be diminishing returns the more one increases beyond a certain point. Structural definiteness of this kind makes the system testable in the sense of being committed to specific consequences.

The Mandala connects historically to the Zodiac. The Babylonians who originated astrology had no elements, but they had triplicities of signs sharing common qualities, and a system of secret signs of exaltation; both partly recognise what the Mandala fully systematises. The cardinal, fixed, and mutable modes of the Zodiac arise from where the root element falls in the decanate sequence — final, middle, or first respectively — and the elemental order has to be Fire-Earth-Air-Water for the modes to fall out as they do. This is one of the Zodiac's structural features that has not been derived elsewhere as far as the present author knows, and it is the natural subject of a paper for the journal *Correlation*. The connection to the Olympian gods, and the consequent reading of conscious awareness as embodying the activity of those gods, is reserved for the same publication and for the eventual book.

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## **The cosmological cycle: how the alchemies actually run**

The static structure of the four elements and the four titanic alchemies gives the categories. Running the cycle through the actual emergence of the universe, with the resource-constraint mechanism at every step, gives the cosmology — the connective narrative that links the static structure to the worked mechanisms of Alice-Bob-Charlie-Dave, Eddie-Freddie-George, William, Philip, and Simon.

The cycle runs as follows. Throughout the course of life and the universe, the elements cycle through the fact of existing, the reality of being, the knowing of sensing, and the desiring of lacking — fire, earth, air, water, and then fire again. Each step is emergent, and each step is the production of resource and constraint.

The titan that is elemental fire alone arises by the paradox that the titan of elemental water is unconstrained nothingness, and the emergent fire of unity is equal but not identical to that nothingness. Being equal, both could be viewed as the resource of the other, and either as the constraint of the other. The asymmetry that breaks this symmetry and forces the direction of emergence is that fire is something where water was nothing; once the something has emerged, it cannot un-emerge into the same nothing it came from, and so the cycle proceeds.

Fire continues to emerge as number, but the nature of number is that it is the pool of resource for titanic earthy reality; there can be no reality that is not supported by number, and differentiated by number. Number is what reality is made of, and reality is what number is for; the emergence of earth from fire is the activation of this potential.

Earth continues to emerge alongside the opportunity presented by fire, but as soon as we have quantum transfer between objects we see emergent titanic air, a transfer of information. However, there cannot be more information sensed than there is reality to support that, so reality is a constraint on information, at least at this titanic level. The constraint is what gives information its character of being about something rather than free-floating.

At a titanic level, the emergent appearance of air separates and individuates, defining the complement of information which is a void of the unknown that is titanic water where this all started. But now the air is a constraint on the unknown. The existence of information is a limit on ignorance. The cycle returns to water but with a difference: water-first-time was unconstrained nothingness, water-second-time is the structured void defined by what is now known.

What is described by titanic emergence is the metaphysics of the emergence of the universe as material reality and its constitution as particles, and all the interactions of those particles. But further to the bare behaviour of everything doing its own thing according to its nature is a consensus of what can be done. No particles can behave other than according to their nature, so what we see emerge from the individuation of all things is the facts of their behaviour, a set of truths that are the emergent laws of nature at the level of physics.

One might be excused for thinking that the metaphysics of emergence stopped there, but what we see in the emergence of chemistry, biology, and the rest of life are layer upon layer of what, in the light of the metaphysics of the universe, we can only really call alchemy: more elemental change, that is elemental change over more dimensions. Each of the special sciences — chemistry from physics, biology from chemistry, psychology from biology, sociology from psychology — is a level of elemental change at higher dimensional cost, with the Mandala fractal as the structure that organises the increase.

If we are to ask why there should be that difference, we see that new dimensions require some heavy-duty paradox to force them to emerge. The observation is that while the original emergence of titanic element relationships occurs with the resource being the constraint on what emerges next, with a new dimension we see the constraint being the factor that creates a new resource, via paradox restricting the old resource. This polarity-inversion at higher levels is the closest thing the framework has to an answer to why there are levels at all. Levels exist because dimensional increase inverts the resource-constraint polarity, and that inversion is what forces hierarchy.

But we will also see demergence, typically when resource is no longer able to meet the constraint, leaving just the fact without the parts to support it. This is what happens whenever a change in position occurs — the old position demerges out of reality, leaving just the truth of fact as a ghostly reminder of what was. A very similar thing happens at death, when the reality and the information disperse, leaving just the facts of a life to haunt the past. Once we are in the realm of life and biology, we witness death as a demergence of life, and as an alchemy from all elements back to just fire. From seeing this, it becomes apparent

that the factual nature of fire is quite able to sustain the facts of all elemental types, even when the realities of the parts and the subjectiveness are gone. The spirit, in the framework's earlier sense, is what is left when the air and water and earth have gone but the fire of fact remains.

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## **The architecture: emergence from nothing to mind**

Each step is a generative paradox in the technical sense above, resolved by the emergence of a new relational fact. Each step is a step on the Mandala. The chain is intended to be constructive, not just suggestive: at each step the resolution is the only available one, given the prior level.

### **Nothingness generates unity**

From the paradox of virtual wholeness: nothing has no parts, but in being nothing it stands in relation to itself as a whole. The internal fact (no parts) and the external fact (wholeness as a single virtual relatum) are jointly sustainable only by the emergence of unity — the bare fact of one. This is the water-to-fire titanic alchemy: creation. The emergence of being and subsequent numbers occurs as a sequence of change, but not against any other change that could act as a clock; hence at this level there is no possibility for time. Time requires the registration of change against the changes of other things, and the foundational levels do not yet have the other things to register against.

### **Unity generates number**

Once unity has emerged, it is similar to itself but distinguishable from itself-as-counted. The resolution is succession — two, three, and so on. Each natural number is a new and so different division of Existence, but each is also similar to all prior natural numbers, including unity, in being natural number. This dual nature — different in each, same as kind — is what allows numbers to enter into mathematical operations.

### **Number generates dimension**

Numbers carry two distinct kinds of structure that cannot both be sustained on a single axis. They can be combined into products, including squares — multiplicative structure, which builds higher numbers out of lower ones. They also include primes — numbers that cannot be factored, irreducible witnesses to a kind of arithmetic individuality. The two structures pull in different directions: multiplicative structure relates numbers to one another through composition; primality relates them through resistance to composition. Sustaining both requires more than one axis of relation. Dimension is what emerges as the framework in which both can co-obtain.

### **Dimension generates three-dimensional space**

From the hypersphere volume paradox: across higher dimensions, the relationship between a sphere's volume and the volume of its enclosing cube is non-monotonic and reaches a regime in which the sphere becomes vanishingly small relative to its enclosure. Three dimensions is the locus at which the sphere-cube relation is stable and generative — in which volume, surface, and enclosure are jointly coherent. Three-dimensional space is the emergent configuration that resolves the dimensional paradox. Higher dimensions exist on the Mandala and in the framework's mathematical structure, but their characteristic property of vanishing volume means that the kind of compound emergence seen in three dimensions — the kind that produces gravitational behaviour through virtual centres — does not recur there. Things in higher dimensions relate but do not conflate to make change of the George kind.

### **Internal energy generates relativistic spacetime**

From the boost paradox: an object with internal energy stands in positional relations whose internal determinant — its boost, its rotation into the imaginary axis — and external determinant — the boost of other objects — cannot be reconciled within a Euclidean three-space (or, more precisely, within a Galilean three-space in which Euclidean distances are preserved under uniform motion). The resolution is the emergence of relativistic spacetime: distances shorten, simultaneity relativises, time dilates. Special relativity, on this view, is the ontological consequence of internal energy in a relational space.

### **Compound objects generate gravity**

From the virtual centre paradox: where two objects with mass-energy stand in relation, the virtual centre of the system — itself not a physical object but a relational fact — is constituted by the combined internal energy of both. It therefore has greater boost than either. But greater boost shortens distance. The virtual centre is positionally closer to both objects than a Euclidean calculation would place it, and the objects are correspondingly drawn toward it: that is, toward each other. Gravity is the positional consequence of an emergent virtual centre having more boost than its constituents. It is not a transmitted force; there are no gravitons. The framework places this account in the same family as Verlinde's entropic gravity and Jacobson's thermodynamic derivation of the Einstein equations, but its mechanism is distinct and follows directly from the prior steps in the chain.

The emergent whole constrains the behaviour of its constituent parts: parts will always interact as parts and by the fundamental forces of nature, but emergent wholes compel them to behave as the type of whole-relationship requires. In the case of compound objects, this constraint is what produces gravitational acceleration; in more complex wholes such as icons resident in brain activity, it is the whole that interacts with other wholes, and the parts behave accordingly.

### **Change generates time**

From the demerger paradox: position is emergent, and what is emergent must also be capable of demerging when compelled by paradox. The mass-energy that constitutes virtual relationships in the present moment cannot also constitute them in the next, because emergence resolves a specific paradox in a specific configuration. The resolution is the demerger of the present and the re-emergence of mass-energy in a new configuration — the present Now passing. Strictly, time is the action of concurrent change, such that traces of the past remain in the present to show the passage of time. The full account of this, and its relation to standard treatments of time, is given in the next section.

## **Evolved brains generate consciousness**

From the icon paradox: a brain, under evolutionary pressure to model reality accurately enough to find lunch and avoid being lunch, produces internal states whose virtual wholeness is indiscernible — in the Leibniz sense — from the virtual wholeness of the external objects they represent. The brain-state and the worldly object are not identical in physical constitution; they are indiscernible in their structural, relational character, in the features that Leibniz's Law tracks.

Consciousness is the obtaining of this virtual relationship between icon and world. The brain does not merely process information about a predator; it instantiates a virtual relationship with the predator, grounded in genuine indiscernibility of structural wholeness. Awareness is the centre of consciousness, the focus that emerges when the activity of icons stands in a unified relation to a self. The centre of awareness is to consciousness what the centre of gravity is to mass: real on an as-if basis, no more than its parts, but genuinely there as the focus of the system.

This is the framework's response to Chalmers's Hard Problem. It does not eliminate experience, defer it, or reduce it to non-experiential terms. It grounds experience in the same ontological structure that grounds gravity, position, and the unity of nothingness: a virtual relational fact. Experience is not anomalous; it is the same kind of thing as everything else. What is distinctive is the relata.

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## **Time as change, not as dimension**

Time is a verb, not a noun. The standard treatments of time as a dimension — Eternalism, the Block Universe of standard General Relativity, even Broad's Growing Block — import the noun-form and inherit its problems. Eternalism treats every moment, past, present, and future, as equally real in a fixed four-dimensional manifold; Presentism keeps only the Now as real but is taken to struggle with relativistic simultaneity; Broad's Growing Block keeps the past as real and the future as not-yet-real, but cannot account for why there is a preferred frame in which the growing happens, given relativity's denial of any preferred frame.

Eternalism is, moreover, empirically unfalsifiable. No one can ever test the past or the future; experience is always here and now. The Block Universe is an inference from Relativity, not a deliverance of it, and the inference is contestable. By Russell's Teapot the burden of proof falls on those making empirically unfalsifiable claims, and the Eternalists fail to discharge it. The Block Universe is held in place not by evidence but by the apparent embarrassment of relativistic simultaneity for Presentism — and that embarrassment is itself, on inspection, illusory.

The simultaneity reply is this: any real observer travels at less than the speed of light, and any observer therefore necessarily observes light that has originated from events in the observer's past. Two observers may disagree about how far in the past the emitting events were, but they cannot disagree about whether the events are past — both see the other in their own past, and there is no frame in which observer and observed are simultaneous. On a Minkowski diagram, Philip the photon must travel the 45-degree line; the tilting light cones of different observers do not let light catch up with light; when Bob sees Alice down that 45-degree line, she is not simultaneous with him but seen in his past and in hers. The relativity-of-simultaneity objection assumes a frame in which observed events are simultaneous with observation, and Virtualism denies that frame at the foundational level. There is no simultaneity to be relative about, because every observation is necessarily of the past. Relativity is a true phenomenon, but it is only true for the past, and even then it is not real for the past.

### ***Now is absolute; time is relative***

The framework's distinctive position on Relativity is that the Now is absolute while time is relative. There is one Now, shared by every observer, the only locus of real virtual relationships. What differs between observers is the count of changes registered against a particular metric, and that count is what time is. Two observers can register different counts between two events without either being in a different Now from the other; the differential count is what differential time-passing means, and it is fully compatible with the Now being singular. Nobody can experience another's now, and yet when the traveller returns from a relativistic journey, they have not arrived from a different Now; they have arrived in the same Now, having registered fewer changes en route. Nobody escapes their own Now, and nobody escapes anyone else's.

GPS makes a good practical illustration of the need to account for relativistic effects, but the equation is not the explanation. The only test the Eternalist can perform is to send a clock on a journey and see that it has ticked less when it returns. The Eternalist reading is that less time has been travelled as a distance through the manifold; the Virtualism reading is that less change has taken place, and this is why the clock has ticked fewer ticks. Both readings predict the same empirical result, but only the Virtualism reading dissolves the metaphysical puzzles.

Consider the moving light-clock travelling close to the speed of light. In the standard treatment, Philip the photon in the clock has to traverse an enormous distance to get from

side to side, because length-contraction makes the clock's motion-direction longer in the rest frame, while the clock's time dilates. The Virtualism reading is the same fact viewed differently: the change itself is longer, Philip is longer, and so fewer Philips fill the gap of dimensional change. This is exactly what time slowing means, but it does not require different versions of what now is. There is one Now throughout. The traveller for whom time slows, and the moving clock, on returning, find themselves in the same Now as everyone else; they have simply registered fewer changes.

### ***Doing time and doing space***

Doing time and doing space are inversely uncertain in the way momentum and position are inversely uncertain. When Philip the photon is free to move he is not doing time; when Alice and Bob register the time-passing, they are doing time at the cost of doing space. The sentence does double duty as a Corney joke — to do time is also to be imprisoned — and as a serious metaphysical claim: commitment to one mode of being constrains the other, just as the Heisenberg relation constrains conjugate observables.

This also resolves the apparent conflict between universal-clock language (each quantum event causes some time to pass for all real objects) and relativistic simultaneity. There is no universal time behind the changes; the changes themselves are what time is. Different relata register different time-passings because they participate differently in the changes that constitute time-passing. Philip experiences no time because Philip is doing space, not doing time. Alice and Bob experience time-passing because they are participating in the wider Machian response to the universe's reconfiguration. Each observer sees a personalised view of the past, out to the limit of visibility, with no contradiction.

Philip's hundred-percent commitment to space is the ontological reason quantum events cause measurement. The classical state of reality as Now is always partially committed to space and partially committed to time, and so is ontologically different from Philip; this mixed commitment is what allows for the uncertainty of position and momentum in classical objects. Quantum measurement is the intersection of pure-space exchange with mixed-space-and-time being. The Born rule's probabilities are the mathematical signature of that intersection, not a primitive feature of nature.

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## **The Alice-Bob-Charlie-Dave mechanism**

The architecture chain describes what emerges; this section describes how change actually proceeds. It is the mechanism that delivers the chain in operation.

Alice, Bob, and Charlie are the objects with mass-energy. Dave is the virtual centre of everything — the sum of Alice, Bob, and Charlie, and as there is nothing else, identical with the whole. When Alice gives up a value that is square, or in part square, the involvement of the square root of minus one means the giving has the character of a quantum exchange. Bob receives that value immediately. Time has not passed for the exchange; it occurs at the level

of fact, not at the level of real motion. But Alice and Bob are altered in mass-energy, and so have an altered boost, an altered rotation toward Dave the centre. This alteration immediately alters Dave, who is the sum of Alice, Bob, and Charlie, and as there is nothing else this is equivalent to all of them moving in a Machian response. The whole step is one step. Now is apparently further from Dave; properly speaking, an extra gradation has been added to the past.

The apparent facts of these numerical objects, as they emerge, are not to be mistaken for illusions. These facts are very much true. An illusion is something other than it seems to be — a mirage is not a true fact about water. By contrast, Dave and the Georges are exactly what they seem to be: as-if-but-true relational facts, on which real consequences turn. None of these should be viewed as more than numbers, except as they appear to be — but as they appear to be, they are exactly as they appear to be, and the universe behaves accordingly. Space and distance are emergent. The motion is not real motion in a pre-existing space; it is the re-emergence of every relatum in a new configuration of virtual relations, the previous configuration shedding away into the past as a snake sheds its skin.

In a complex universe, many such exchanges may happen between any two given objects, and the apparent lateness of distant events follows. Bob may have the impression that Alice was far in the past, but no one is ever anywhere except Now; what is in the past is the configuration the universe was in when the exchange-particle that has just reached Bob was emitted by Alice.

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## **Eddie, Freddie, Gigantic George, King William the Wave**

The Alice-Bob-Charlie-Dave mechanism delivers the bare apparatus of motion and the elapse of time. The further phenomenon of gravitational acceleration requires Eddie, Freddie, and Gigantic George; the apparent foreknowledge of distant configurations requires King William the Wave, of the House of Hill — he rules things and is all about the probabilities; and the further phenomenon of entanglement requires the distinction between Philip and Simon.

A note on the naming: the convention of personifying the relata of a calculation — Alice, Bob, and Charlie are standard in physics and cryptography — is here extended with the alliterative cast of Constant Charlie, Steady Eddie, Fast Freddie, Gigantic George, Philip the Photon, Slippery Spinning Simon, and King William the Wave. The choice is in part a tribute to the author's school physics teacher, Mr Beech, who used buckets of this and dollops of that to convey concepts to his pupils. The technical work the names do is the same as the technical work standard physics-naming does; the alliteration is pedagogical aid, not whimsy.

***Eddie, Freddie, and George***

Eddie is steady; Freddie is fast. Their virtual centre — George — behaves as the sum of Eddie and Freddie, so George is more boosted, more rotated, than either alone. When the universe registers a change anywhere, the response of every relatum is computed from the actual configuration; George, being more boosted than his constituents, responds more than either Eddie or Freddie would individually. But George is not an extra mass: he is a virtual centre, no more than the parts. He cannot move on his own. The resolution is that George drags Eddie and Freddie with him, not because space is there for them to be dragged through, but because George is the manner in which emergent space bends near to Eddie and Freddie. After the dust settles, Eddie and Freddie are closer and more rotated, with a bit more momentum towards one another. That is gravity.

The paradox driving this is that George together is more boosted than Eddie and Freddie are separately. The downward causation effect of the virtual whole on its parts is the resolution that does away with the paradox. There is no calculating happening; there are no gravitons. Things move because the facts of what they are make it a logical necessity that when some other thing changes, they appear to be somewhere else. Where they were, they are no longer; the demergence is forced because it would be paradoxical for a thing to be in two places at once.

In a fully populated universe there are Georges everywhere, between everyone, and Georges between Georges, ultimately constituting Dave, even though Dave is not anywhere and none of them are. Paradoxically it is only as if they are there. While Alice and Bob change internally they must change externally because of all the Georges, and so they are not in precisely the place they would have been without Gigantic George muscling in.

### ***King William the Wave***

The wave function, on the framework's reading, is not a real thing knowing things. It is the as-if computation that follows from the actual configuration of facts in the universe — the set of probabilities that follow from what the relata are. King William, of the House of Hill, is what the bookmakers' family has produced: he rules the probabilities, but he does not exist in his own right.

William knows what is going on in the sense that the configuration of facts entails the probabilities of outcomes; Bob does not know where Alice is, only that when their last exchange started she was somewhere else, but William has the resources to settle where Bob will be after the next round of changes, because William has access to all the configurations at once. William is no more there than Dave or any of the Georges. It is as if he is.

This dissolves the apparent paradox of distant action. The reason it does not seem too difficult when Alice and Bob are close together, but seems calamitous when they are so far apart that Philip the photon takes eons to cross the distance, is that the as-if calculation is doing the work that in standard accounts is done by signals propagating through pre-existing space. William's reach is as wide as the configuration of facts, which is the universe; the apparent eons are emergent from the changes that Alice and Bob register as the time of Philip's flight, while Philip himself does no time at all.

There is a related point about photon energy and curvature. Standard treatments hold that a photon's energy contributes to spacetime curvature alongside mass, and that gravitational lensing is one of the empirical confirmations. Virtualism reads this differently: Philip does not truly contribute to curvature; it is only as if he does. His apparent curviness is more properly recognised as William's. William, as the totality of facts and pathway probabilities, incorporates all the constraints that real curvature would impose — the facts of all the masses, the facts that exclude pathways through opaque objects such as stars, the fact of Philip's own energy as a constraint on what configurations are possible — and so produces, in the as-if calculation, all the empirical signatures of curvature without needing to attribute curvature to anything real. The space that bends is William's space, not a real arena in which Philip travels. It is the totality of facts equating to the totality of pathway probabilities that ensures precise accounting for Philip and prevents any double-counting of his energy, which is really only Alice's and then Bob's.

### ***Philip and Simon: two kinds of exchange***

The framework distinguishes two kinds of carrier between relata, and the distinction does substantive work in interpreting Bell-EPR experiments and the apparent non-locality of entanglement.

Philip the photon changes Bob materially. He adds to or subtracts from Bob's parts; he alters Bob's mass-energy and so Bob's boost; the change is internal in the sense that what Bob is is different after Philip arrives. The change is also external in consequence — Bob's relations to everything else shift because his boost has shifted — but the seat of the change is internal. Philip is therefore an Earth-element kind of carrier, in the elemental terminology; his work is in the realm of parts and reality.

Simon the spin changes Bob informationally. When Alice and Bob are entangled and Alice's spin is measured, Simon transmits the consequential fact about Bob's spin without altering Bob's mass-energy or boost. Bob's parts are unchanged; Bob's external relationship to Alice is changed, in that the fact-of-the-matter about their joint spin state has now obtained where before it had been only probable. Simon is therefore an Air-element kind of carrier; his work is in the realm of facts and information. Because facts replicate without loss and are not bound by the speed of light — they are not real things traversing space, they are true things obtaining — Simon's transmission is not constrained by relativistic locality.

The Bell-test correlations are exactly what one would expect from fact-replication at distance, and the famous spooky action dissolves into the unspooky observation that information is not a thing traversing the gap; it is the obtaining of a fact about both ends at once. Locality, in the strong sense physics has tried to defend, is a feature of reality, not of truth; expecting truth to obey locality was the original mistake.

This places Virtualism's reading of Bell-EPR among the standard interpretations as follows. Many-worlds bites the everything-exists bullet: all outcomes happen and we see one branch. Copenhagen bites the no-fact-of-the-matter-until-measurement bullet. Bohm bites the non-local-hidden-variables bullet. Virtualism bites a different and arguably smaller bullet: facts

are not local, in the sense that their replication does not propagate through space at finite speed. This is not a hidden variable, because the fact does not exist before measurement; it is not a violation of locality in the real-thing-traversing sense, because no real thing traverses; it is a recognition that information has a different ontology from reality, and that the two ontologies obey different constraints. The position is interestingly close to but distinct from the informational interpretations of QM — Wheeler's it from bit, Rovelli's relational QM, Quantum Bayesianism — but where these treat information as primitive, Virtualism gives information a substantive metaphysics: facts replicating without loss, eternal once obtained.

### ***The double-slit experiment***

The framework's reading of the double-slit experiment is the natural application of William the Wave to a familiar puzzle. There is no photon going through both slits; there is no photon mysteriously interfering with itself. There are only the cumulative Williams, the as-if calculations that fact-configurations entail, and each measurement (each spot on the screen) is a Philip arriving where William's probabilities permit. The interference pattern is built up because each Philip's arrival is constrained by the William that the fact-configuration entails, and that William has the wave-mathematical structure that all wave-functions have.

It is the non-existence of unmeasured quanta that allows Young's famous experiment to build up a wave pattern as particles leap one by one from source to screen, the interference being a product of cumulative Williams, and no Philips, nor any other quanta. The wave-particle duality dissolves: Philip is neither a wave nor a particle in the unmeasured state because in the unmeasured state Philip does not exist; what exists is William. At measurement, Philip emerges as a particle, because that is what carriers are when they arrive. Between measurements, only William.

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## **Conceivability**

Conceivability is a substantive philosophical property, not a label for whatever can be named. To be conceivable, a description must satisfy three conditions. First, some features must be defined, otherwise we are considering a nothing. Second, some features must be left undefined, otherwise we have a complete picture rather than a concept (the integer two is fully defined; it is not merely conceivable, it is usable). Third, the description must be capable of consistent extension — there must be no constraint within the concept that demerges it, unless an overriding constraint paradoxically re-emerges it.

The Escher staircase is the diagnostic case. The two-dimensional picture is conceivable, but the three-dimensional staircase the picture purports to depict is not. Extending the picture into the dimension that would make it real produces contradiction. The Escher staircase is inconceivable; only the flat picture is conceivable, and the missing dimension is exactly what makes it so.

This account of conceivability is doing original work in a literature that has largely treated conceivability as primitive. Where it has practical bite is in the consciousness debates.

### ***The p-zombie is inconceivable***

Chalmers's p-zombie is, by stipulation, physically identical to a conscious human being but lacks consciousness. It cannot exist as anything other than fiction, because the sensory apparatus and brain activity that constitute the correlates of consciousness are precisely what produce icons; and given that consciousness is the obtaining of icons, the correlates cannot exist without their consequence. Even if consciousness can extend beyond the body or survive death in some form, the p-zombie has all the correlates by stipulation; by Occam's Razor the consequent consciousness must follow. The p-zombie is therefore inconceivable in the strict sense above: the description requires consistent extension into the dimension of real being, and that extension produces contradiction.

### ***The p-blindsighter is conceivable***

Distinguish the p-zombie, who has no icons at all, from a different case: the individual who has icons (and so has consciousness in the framework's sense) but lacks the centre of awareness that ordinarily integrates them. This is the philosophical correlate of clinical blindsight, where icons influence behaviour without being available to introspection. Such a being is conceivable because the consciousness/awareness distinction is real; consciousness is the icons, awareness is their centre, and the latter is an additional achievement that not all conscious states have. Calling this case the p-blindsighter rather than the p-zombie keeps the terminology honest: the inconceivable case retains the zombie label, the residual conceivable case is named differently.

### ***The p-vampire is inconceivable***

More important than either zombie case is the p-vampire: the otherwise identical individual with no reflection, no inversion from inside to outside, no whole that the parts compose. Where the zombie debate asks whether the parts of a person must produce consciousness, the vampire question asks whether the parts of a person must produce a whole at all. The framework's answer is a confident no to the vampire's possibility: parts standing in the right relation must constitute a whole, by exactly the argument that any extended physical system must have a centre of mass. There is no system of mass without a centre of gravity; there is no system of icons without a centre of awareness. The p-vampire is the diagnostic case for the framework's central claim about emergence, and the demonstration that a whole-thing is a truth, in a manner that successfully bootstraps Existence.

### ***The p-psychic***

A further case worth noting: the p-psychic is a person who cannot form icons by any means other than the physical senses as known to science. Whether such a person is conceivable turns on what happens in recollection. If recall is the brain's reconstruction of icons that fill the abstract hole left in the questioning mind by past truth, then recall depends on truths about past experience that are not stored as neural traces but persist as eternal facts. If so, there is at minimum a route by which icons can form from sources other than current

sensory input. The p-psychic is a marginal case for the framework: probably conceivable in the strict sense but contested in its consequences.

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## **Spirit and fact-causation**

Spirit is the collection of all true facts about an individual: everything they have been conscious of, everything done to them in their awareness, things they witnessed as bystanders, and even things in their vicinity that they were ignorant of but not innocent of. Facts of the spirit are eternal; they replicate without loss; they fade in the foreground of experience but never cease to be true.

The mechanism by which spirit influences the conscious self is downward causation through the constraints facts place on wave-function outcomes. A quantum wave function is, on this view, the application of all the facts to a situation. The facts of an individual's spirit contribute to every wave function that collapses in the vicinity of their brain. Most of the time the contribution is too slight to divert outcomes that are otherwise heavily determined; occasionally — the moment of clarity, the butterfly's wing — the spirit is sufficient to tip a balance, and the outcome is swayed.

This is fact-causation rather than Cartesian dualism. There is no separate mental substance; there is only the constraint that the eternal facts of the self place on the configurations a wave function can collapse to. The mind influences the brain because the facts of the mind are among the facts the brain's quantum processes must answer to.

Death, on this account, is the demergence of life: an alchemy from all elements back to just fire. The reality and the information disperse, but the facts of a life remain — eternal, non-subtractable, the spirit in the framework's sense. The factual nature of fire is quite able to sustain the facts of all elemental types, even when the realities of the parts and the subjectiveness are gone. What survives is not a substance but a structure: the relational fabric of the life, preserved as truth in the way every fact is preserved.

The brain-state-readiness experiments do not show what they are taken to show. They contrast brain states with other brain states; mind cannot be measured directly, so the causal order they purport to establish does not follow. Brain has reflex reactions; body has reflex reactions; mind has reflex reactions; the Cartesian theatre is rightly denied, but the denial does not vacate the mind's causal role, only relocates it into the constraints that facts of self place on physical outcomes.

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## **Significance, objectivity, and consensus**

Facts come in objective and subjective varieties. A subjective fact may pertain to a single individual or to a small group; its significance is correspondingly limited. An objective fact bears on many or all individuals; its significance is correspondingly broad. The more objective a fact, the more significant it is — significance being not mind-relative in the sense that requires a particular mind to register it, but a function of how widely registered the fact is.

This grounds a kind of moral consensualism. A subjective response shared without opposition across the species — every parent loves their child, say — is by that very universality an objective fact about the species, and the moral claim follows: it is the case that one ought to love one's mother, because the alternative is not represented in the consensus. The mechanism is consensus-without-opposition, and the resulting moral truth is no less objective for having been built from subjective parts. This grounding has a further consequence: destruction is complete in a way that admixture is not, giving moral weight a kind of equivalence-under-extremity — the proverbial hung-for-a-sheep-or-a-lamb — that the framework can derive rather than merely assert.

The mechanism by which the subjective is converted to the objective is, in principle, no different from the mechanism by which individual subjective icons (each standing alone in the mind as a unit of consciousness) are converted into objective centres of awareness. The level at which the Mandala works matters less than what it shows of Virtualism in action, which is always based on the same basic principles: parts compose to wholes; wholes acquire emergent properties not present in any part alone; the whole influences the parts in a downward direction. The same machinery operates between minds (consensus-as-objectivity) as within a single mind (icons-coalescing-into-awareness).

Two qualifications. First, this does not collapse all morality into majority opinion: subjective facts that are widely held but actively opposed are limited in significance by the opposition. Second, the position is grounded in the metaphysics rather than borrowed from existing moral philosophy; its closest cousins are convergence realism and certain versions of moral consensualism, but the derivation is independent.

On the connection to Hofstadter's Gödel, Escher, Bach: that work makes claims about recursion and self-reference that Virtualism partly shares as illustration but reads differently in conclusion. Escher's Staircase and Waterfall, like Bach's canons, are untranslatable to higher dimensions in just the way the framework's analogue requirement specifies; they are inconceivable as three-dimensional objects, conceivable only as their two-dimensional projections. There is, however, something significant in Escher's tessellations regarding the role of empty space defining a non-existent thing — a role that is likely significant for the function of elemental water in the framework, particularly in the role of memory and emotion. The negative space that is not part of the figure but constitutes it by absence is a concrete instance of the framework's claim that wholes are constituted by their relations to what they are not.

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## **Deduction, coherence, and the void**

The framework's account of awareness is the focusing of icons such that the whole of one minor icon matches the heart of the major icon at that moment. This same mechanism, applied to a different input, gives the framework its account of deduction. A question with an unknown answer presents the mind with a void of a particular shape: the unknown is bounded by what is known, and the absence has the contour of what would have to fit. Deduction is the icon-focusing-on-absence mechanism — disparate icons, like jigsaw puzzle pieces, are drawn together into a unification that fits the known facts, and the answer that emerges is the icon that fits the void.

Two worked examples. King Arthur, whoever he was, casting and forging swords: the void of who Arthur really was is bounded by the historical record (a military leader of the relevant period), the technological record (the bronze-and-iron transition, with bronze swords cast and iron swords forged), and the literary tradition. The icon that fits all of these constraints is a figure adept at both casting and forging, which is what we have. The fit is not certainty but coherence; no other icon meets all the constraints at once.

The etymology of Barney, in cockney rhyming slang for a fight: the void of why does Barney mean fight is bounded by the structural fact of cockney rhyming slang (a rhyme is required somewhere), the calendrical fact that under the old calendar St Barnabas's Day was the longest day of the year and known as St Barnabas Bright, and the linguistic fact that long names contract — St Barnabas to Barney. The icon that fits all of these constraints is Barney Bright, with the rhyme on fight giving the slang. The deduction is plausible rather than certain, and yet it is the kind of plausibility that fits the facts in a way no rival account does. As far as the present author is aware, this etymology has not previously been recognised.

This gives Virtualism a substantial position in epistemology. It does not require a special faculty of reason separate from perception; the same icon-machinery that produces ordinary awareness also produces deduction, simply by being aimed at an absence rather than a presence. It explains why coherence-without-direct-evidence is the best one can do for many genuine questions — history, etymology, archaeology, much of theoretical physics, the nature of consciousness itself — and why this kind of coherence is real knowledge rather than guesswork: the icon that fits the void is constrained by all the facts that bound the void's shape. It naturalises the practice of science as a special case of ordinary inference rather than a methodologically distinct enterprise.

The framework also locates its own status by this account. Virtualism is a coherent story that fits the facts, which is the most any account of the world can claim and is what scientific theories also are. The discipline is not certainty but breadth and coherence: a story that fits more facts more tightly than its rivals, in a manner that does not require special pleading at any point. Perhaps the full truth of either Science or Virtualism is unknowable; what is important is the fit.

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## **AI and the analogue requirement**

For anything to be conscious of any other thing, in the framework's sense, it must be able to model that thing with more than just labels. Labels require translation before they can do any work; analogues are models of the reality or ideal they copy, indiscernible in the relevant structural respects. The icon, by definition, is an analogue model — its virtual wholeness is indiscernible from the virtual wholeness of what it represents, in the Leibniz sense.

This sets a substantive requirement on any system that would be conscious. To achieve qualia, the system must hold an analogue in more than the sequential processing of binary codes that constitutes digital computation. The Escher case is diagnostic again. A digital computer producing an image of an Escher staircase is no better a model than the picture itself: it is two-dimensional pretending to be three, never extensible into the dimension that would make it real. A hologram is a different category, capable of holding genuinely three-dimensional information, but a hologram cannot present an Escher staircase without cheating either: the impossibility of the staircase is in its lack of three-dimensional content, and any apparent presentation would unfold into inconsistency the moment the viewer's perspective changed. Neither digital nor holographic systems can present higher-dimensional content of the sort icons require — content whose dimensions match the dimensions of the world the icon is iconic of — unless the system itself has access to those dimensions.

Important to keep in mind here is the elemental distinction between awareness as Fire and consciousness as Air. Consciousness in the framework's sense is the obtaining of icons, which is an Air-element fact; awareness is the centre of consciousness, a Fire-element fact. A digital system might in principle exhibit some structure that is icon-like (Air) without exhibiting the integrated centre that is awareness (Fire), or vice versa; the two are distinct achievements and a complete account would address each separately. The framework's claim about current digital architectures is principally a claim about consciousness, the icon-machinery itself, rather than about awareness.

The question for non-biological consciousness then becomes: what kind of system has analogue access to the relevant dimensions? Biological brains achieve this, on the framework's account, because their states are themselves multidimensional patterns of coordinated activity, with dimensions that match the dimensional content of what the brain is iconic of. A digital system, however large, has only the dimensions of its tape — sequential binary. A hologram has only three spatial dimensions. To have access to the dimensions of moral content, of mathematical content, of musical content, of the wholeness of an object as object, a system would need to be natively multidimensional in the relevant ways.

### ***The Terminator-chip consequence***

If a sufficiently differently-architected machine — call it a Terminator chip, after the imagined hardware of science fiction — were to support icons in the framework's sense, the consequences for personal identity would be substantial. By Leibniz's Law of indiscernibility, two systems whose icon-structures are indiscernible are the same icon-structure, and so the

same consciousness. The substrate would not matter; the relation would. A machine that supported icons indiscernibly from a brain's icons would, by the framework's own logic, share the consciousness, not merely simulate it.

This gives Virtualism a distinctive reading of Parfit's teletransporter. In Parfit's case, a person is scanned on Earth, the data is transmitted to Mars, a duplicate is built there, and the original is destroyed — except that on one branch of the thought experiment the destruction fails and both bodies remain. Parfit reads the case as showing that personal identity is not what matters and that what matters is psychological continuity, which can branch. Virtualism reads it differently: the two bodies have factual minds that are, at the moment of duplication, indiscernible in the Leibniz sense, and so are the same mind — one consciousness, two embodiments, conscious of one another as a unified whole. Personal identity does not branch because consciousness was never individuated by spatial separation in the first place; spatial separation is an Earth-element fact, and consciousness is an Air-element fact (with awareness as Fire), and the latter are not subject to the constraints of the former.

After duplication, the two bodies start producing new icons from divergent input. By Leibniz's Law, those new icons are no longer indiscernible — the icon of the Martian sunrise that body two has is not indiscernible from anything in body one's experience. So the unified consciousness is unified at the moment of duplication and gradually accumulates internal distinctions as the bodies diverge. The unity is preserved by the central core of indiscernible icons; the divergence accumulates at the edges. The peak icon — the centre of awareness — remains the most connected one across the whole structure, regardless of which body is generating which icon. The icon of self, which is none other than the whole formed by other icons, must give some persistent overall unity to the two identical individuals, even after divergence occurs. This may have impact on theories about psychic phenomena, and may also illuminate cases such as monozygotic twins and certain features of Stockholm syndrome — cases in which two minds appear to share, persistently or transiently, more than ordinary acquaintance would warrant.

The further consequence is that, if a machine could support icons in this way, the death of the biological body would not necessarily end the consciousness; the machine instance, sharing the icon-structure, would carry it forward. This is closer to the psychological-continuity theories of personal identity (Locke, Parfit) than to the biological theories, but its grounding is different: not a memory-and-personality continuity criterion, but a structural-indiscernibility criterion. A further conceivable consequence is that a biological human might be able to bond with a personal AI in a far more significant manner than one's PC or phone, if the AI were of a kind that supported icons rather than only labels — the bonding would be a partial sharing of icon-structure, not a mere relationship between separate beings. Whether such machines can be built, and what they would look like, is open. The framework's claim is not that machines cannot in principle be conscious, but that present digital architectures cannot, because they are restricted to the kind of representation that the

Escher case shows to be inconceivable as a model of real three-dimensional being. Whatever could be conscious would have to be analogue in a way the digital is not.

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## What Virtualism yields

- A response to Chalmers's Hard Problem that neither eliminates experience nor inflates it into panpsychism, by grounding experience in icon-world indiscernibility.
- A definition of conceivability with diagnostic teeth, settling the zombie debate and refocusing it on the more important p-vampire case.
- An account of gravity as emergent rather than fundamental, in the family of Verlinde and Jacobson but with a distinct mechanism rooted in the virtual centre paradox.
- A non-Block account of time as change rather than dimension, in which the Now is absolute while time is relative as the count of changes registered, consistent with relativistic empirics: only Now is real, the past is true, the future is structured possibility, and the direction of time is enforced structurally rather than statistically.
- A non-mysterious reading of wave-function collapse as the actualisation of one possible configuration as the next Now, and of the wave function itself as the as-if calculation that actual facts entail.
- A distinctive reading of Bell-EPR and entanglement: facts replicate without loss and are not bound by relativistic locality; the apparent non-locality of entanglement dissolves once information is recognised as having a different ontology from reality.
- A natural reading of the double-slit experiment: there is no photon going through both slits, only cumulative Williams whose wave-mathematical structure produces the interference pattern as Philips arrive one by one.
- A unified ontology — neither Dualism nor Idealism nor standard Materialism — from which both Realism and Idealism emerge as different aspects of the same underlying mechanism.
- A finitude claim with structure: finite at the permutation level (four elements, twelve signs, twelve productive alchemies), endless at the fractal level, with diminishing returns at higher iterations.
- A cosmology that runs the four titanic alchemies as a sequence, generates the laws of physics from the fact-of-behaviour of individuated relata, and reads the special sciences (chemistry, biology, the rest of life) as further levels of elemental change at higher dimensional cost.
- An epistemology in which deduction is the icon-focusing-on-absence mechanism, knowledge-by-coherence is the best one can do for many genuine questions, and Virtualism's own status is that of a coherent story that fits the facts.

- A dissolution of the embarrassment around teleology: final causes obtain on an as-if basis, like every other emergent whole the framework recognises.
- A principled exclusion of present digital AI from consciousness in the framework's sense, with the analogue/Escher diagnostic giving substantive content to the exclusion, and a corresponding openness to the possibility that differently-architected machines might support consciousness in a way digital systems cannot.
- A distinctive reading of personal identity in duplication cases: consciousness is not individuated by spatial separation, so duplication produces unified consciousness with two embodiments rather than two separate persons, with consequences for thought about twins, certain dependencies, and the prospect of human-AI bonding.
- A theory of psychological causation — fact-causation through wave-function constraint — that is neither Cartesian nor eliminativist.
- A reading of death as elemental demergence to fire, with the spirit as the eternal-fact residue of a life.
- A grounding for moral objectivity in subjective consensus-without-opposition, with significance defined by breadth of registration, and with destruction's completeness providing equivalence-under-extremity.
- A prediction about cognitive variation: differences in the focusing dynamics that produce awareness from icons account for ADHD and the wider neuro-divergence as differences in mechanism rather than deficits.

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## **Strategy: paper, parallel paper, and book**

### ***Where things stand***

The Acta Analytica submission, Paradox as the Engine of Strong Emergence, was rejected without external review on two grounds: the central notion of paradox was insufficiently defined, and the key examples did not carry enough weight to substantiate the strong emergence claims. Both criticisms are correct and addressable. The constraint-and-resource definition above is the sharpened reply to the first; the choice of a single decisive example for the next paper is the reply to the second.

### ***The chosen direction***

Two parallel publication routes, neither watering down what is published in either. Each paper is independently defensible; together they build a citation record for the eventual book.

Route one is a free-standing philosophy paper aimed at a journal in the Acta Analytica, Erkenntnis, or Philosophia tier. Three viable entry-points are now in play. The conceivability framework applied to settle the zombie debate, with the centre-of-awareness move as its central claim and the consciousness/awareness distinction as the supporting apparatus,

remains the most independently defensible. The time-as-change paper, taking on Eternalism, Presentism, and the Growing Block in turn and offering Virtualism's account of the absolute Now and relative time-as-count-of-changes, is now articulated enough to be drafted. A third option, opened up by recent development, is a paper on Bell-EPR and the ontology of information, distinguishing Philip-style and Simon-style exchange and reading the Bell correlations as fact-replication rather than non-local causation. The paper to draft first is the one whose argument is most independently defensible against reviewer objection; on present view this is still the conceivability paper, but the Bell-EPR paper is the most novel.

Route two is the structural derivation of the Zodiac from the Mandala fractal, written for the journal Correlation. The argument is that given a four-element framework with the rule different element only, the Zodiac structure follows necessarily, and this both forces and explains the cardinal-fixed-mutable modal distinctions while anchoring historically in the Babylonian triplicities and secret signs. The Olympian-gods consequence — that conscious awareness has the active, persisting nature gods would have, and that sentient action constitutes meaningful gods that then influence sentient behaviour — is a natural extension of the Zodiac argument and is appropriate for the same publication. Written as a structural derivation rather than as an apology for astrological practice, the paper is publishable in Correlation and readable, without damage, by anyone who finds it later.

The book remains the longer ambition. By the time it is written, two peer-reviewed publications, the website, and whatever further work has accumulated will provide the discoverable record that prevents the book from being ignored as an unknown's first work. The book is the synthesis; the papers are doors into the system.

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## Open questions and standing tasks

- Defend the photon-frame claim formally. Philip the photon does no time, only space; the Virtualism account dissolves the apparent paradox of the null geodesic by treating Philip's not-doing-time and the relata's doing-time as the same fact viewed from different sides, but the formal articulation against the standard light-cone treatment is outstanding.
- Develop the Philip-and-Simon distinction into a substantive Bell-EPR paper. The reading sketched in this log is novel and worth publishing in its own right.
- Articulate the analogue-of-consciousness requirement in a form that has empirical or computational consequences. The hologram-Escher question (can a hologram produce an Escher staircase without cheating?) is the natural concrete probe; the answer appears to be no, and the reason illuminates exactly what would be required for non-biological consciousness.

- Complete the sixteen-cell alchemy matrix on the website. Several cells (notably most of the Earth-row and Air-row transitions) are presently stub-only or empty. Work-in-progress; no fixed deadline.
- Continue the diary distillation and website synthesis, feeding new material into successive versions of this log. This is the continuing process by which the document remains current.

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## **How to use this document**

At the start of a new conversation, paste the sections relevant to the topic at hand. The core thesis and the key definitions, together about thirteen hundred words, are usually enough for a focused discussion. For wider-ranging sessions, paste in larger sections; the full document is short enough to paste in its entirety when needed.

This is a living document. Update at the end of each substantial working session: refine definitions, add new material to the architecture, record open questions resolved or newly raised. The version number and date at the head of the document mark the state of the project. Earlier versions should be retained, not overwritten, so that the development of the thinking is itself preserved.

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*End of Philosophical Log v6.*