

The Phenomenal Ruliad: Towards Empirical Metaphysics

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Stephen Wolfram's Physics Project introduces the *ruliad* as the ultimate computational structure underlying reality, in which observers play a constitutive role in what becomes actual. This paper situates the Project within a broader shift away from uncritical physicalism. We identify several open questions the Project leaves unresolved, including its relation to information-theoretic physics, connections to alternative ontological primitives, the implications of mathematical incompleteness, the transrational aspects of quantum theory, parallels with other metaphysical systems (*Brahman/Atman*, *Omega Point*, *Mind-at-Large*, and *superpsychism*), the evolution of consciousness, and the possible emergence of teleology. We argue that observer-dependent actualization concedes there is no view from nowhere and motivates an interpretation of consciousness not as a byproduct of matter but as a fundamental aspect of reality. This perspective supports a novel research program: *empirical metaphysics*, the proposal that modulations of consciousness may provide phenomenological constraints on viable metaphysical models.

The Metaphysical Blind Spot

As the philosopher and mathematician Alfred North Whitehead cautioned us (Petek, 2022, p. 43):

If you don't go into metaphysics, you assume an uncritical metaphysics.

Indeed, initiated by the 'Shut up and calculate!' era in physics, such an oversight was long-standing in 20th-century physics. Some striking examples of the contempt physicists felt towards philosophy and its practitioners can be found. For instance, Freeman Dyson, describing today's philosophers as 'a sorry bunch of dwarfs' compared to the giants of the past, portraying contemporary philosophy as 'a toothless relic of past glories' (Dyson, 2012). Or a quip usually attributed to Richard Feynman, declaring the philosophy of science as about as useful to scientists as ornithology is to birds. Stephen Hawking's disdain is quite palpable in his accusation that (Mlodinow and Hawking, 2012, p. 5):

[...] philosophy is dead. Philosophy has not kept up with modern developments in science, particularly physics. Scientists have become the bearers of the torch of discovery in our quest for knowledge.

However, one could easily flip the accusation: Physics has not kept up with modern developments in philosophy, particularly the philosophy of mind (Symes, 2022) and emergent complexity (Cilliers, 2002).

The implicit and unquestionable understanding was that of physicalism, the conviction that everything that exists is fundamentally physical and that all phenomena are fully determined by physical processes. Originally, the concept emerged as a response to religious dogma and the dominant worldview of the Late Middle Ages, which was influenced by the belief in the supernatural. Instrumental to establishing this novel worldview was the reductionist reasoning of Francis Bacon and René Descartes, the empiricism of Robert Boyle, the new cosmology introduced by Nicolaus Copernicus, Tycho Brahe, Johannes Kepler, and Galileo Galilei, and the mathematical framework developed by Isaac Newton and Gottfried Wilhelm Leibniz (Tarnas, 1991). The scientific method was born, implicitly assuming physicalism. The universe was a clockwork comprised of material building blocks adhering to regularities and patterns that the human mind could divine. Common sense and scientific realism dominated, and reality was taken to be logical and mind-independent.

In such a metaphysically illiterate climate, any proposition that broke the comforting mold of physicalism was considered suspect. The publication of Stephen Wolfram’s *A New Kind of Science* (Wolfram, 2002) illustrates this point up to the turn of the millennium, as the scientific community refused to engage with the novel, radical assumptions it proposed about the foundations of physics. This, despite his noteworthy credentials.

Wolfram is a theoretical physicist, computer scientist, and entrepreneur. He published his first peer-reviewed paper in particle physics at the age of sixteen (Wolfram, 1975), and by his late teens, co-authored work that remains cited to this day (Fox and Wolfram, 1978). In 1981, he was awarded the MacArthur Fellowship, colloquially known as the ‘Genius Grant,’ recognizing extraordinary originality, dedication to creative pursuits, and a marked capacity for self-direction. Around the same time, he led the development of *SMP* (Symbolic Manipulation Program), an early computer algebra system, at Caltech, before a dispute over intellectual property rights prompted his departure. He subsequently developed *Mathematica*, a symbolic computation program which he launched in 1988 through his private company, Wolfram Research. *Mathematica* rapidly became one of the most widely used computational tools across science, engineering, and mathematics, and the underlying Wolfram Language remains its foundation today.

Wolfram was one of the first scholars to glimpse the simplicity underlying complexity (Wolfram, 2002, p. 2):

Indeed, even some of the very simplest programs that I looked at had behavior that was as complex as anything I had ever seen. It took me more than a decade to come to terms with this result, and to realize just how fundamental and far-reaching its consequences are.

He gained his insights while working with cellular automata. These are discrete models studied in computability theory, mathematics, physics, complexity science, theoretical biology, and microstructure modeling. A cellular automaton consists of a regular grid of cells, each in one of a finite number of states, whose evolution is governed by simple local rules. A famous cellular automaton, called the *Game of Life*, was devised by the mathematician John Conway in 1970 (Gardner, 1970). In 2002, Wolfram wrote (Wolfram, 2002, p. ix):

Just over twenty years ago I made what at first seemed like a small discovery: a computer experiment of mine showed something I did not expect. But the more I investigated, the more I realized that what I had seen was the beginning of a crack in the very foundations of existing science, and a first clue towards a whole new kind of science.

Wolfram was referring to a cellular automaton rule he introduced in 1983, called Rule 30, one out of 256 possible rules. Surprisingly, Rule 30 produces complex, seemingly random patterns from the simple, well-defined rules of interaction. The emerging vision was clear: while the mathematization of physics was a powerful methodology (Casti, 1989), unveiling many of nature’s intricate workings, it was not the final word. Underlying both mathematics and physics is a more fundamental substrate: the computational fabric from which the cosmos itself emerges. A new kind of science was called for: an algorithmic understanding of reality that surpasses the standard analytical approach (Glattfelder, 2019, ch. 5). Yet the acceptance of such a fundamental reframing would first require confronting a deep-seated blind spot. Namely, the uncritical assumption of physicalism—a worldview that had constrained the metaphysical imagination for centuries.

Remarkably, today, we are witnessing a philosophical paradigm shift as this default physicalist worldview is slowly being unmasked for what it is: a metaphysical assumption about the nature of reality. Thus, the conviction that physicalism is a scientific fact is a grave category error, as science tells us *how* the universe works (Glattfelder, 2019, chs. 2–5) and not *what* its essence is. The latter lies within the purview of metaphysics, rendering it by definition neither provable nor disprovable.

It seems a fair guess that the stagnation in scientific progress, witnessed over the last decades, relating to the foundations of physics and the understanding of emergent complexity, including the enigma of consciousness, is a direct result of the uncritical and unwitting adoption of physicalism as an unexamined metaphysical default, as Whitehead cautioned. However, the contours of novel paradigm shifts are becoming ever more visible. Examples include the information-theoretic understanding of physics (Glattfelder, 2019) and the renaissance of metaphysical idealism¹ (Kastrup, 2019; Albahari, 2019; Glattfelder, 2025).

¹Its advocates propose that reality is fundamentally mental or experiential in nature, with the physical world emerging from or depending upon this underlying substrate. Common misrepresentations portray idealism either as the solipsistic claim that reality exists solely within individual minds or as a denial of the reality of the physical world. More accurately, idealism asserts the ontological primacy of consciousness.

The Computational Cosmos

By 2020, Wolfram’s new kind of science had matured into something far more ambitious, called the *Physics Project* (Wolfram, 2020a). It falls within this more philosophically fertile period. A new generation of academics is reevaluating the ontological commitments inherited from the previous generations. The philosophers of mind are locked in entrenched debates spanning the spectrum from illusionism² to idealism (Symes, 2022), and quantum physicists are asking whether and how observer states could be incorporated into the formalism (Rovelli, 1996; Caves et al., 2002; Fuchs, 2010; Müller, 2020). Indeed, these latter attempts address Nobel Laureate Frank Wilczek’s suspicions (Wilczek, 2006, p. 142):

The relevant literature [on the meaning of quantum theory] is famously obscure. I believe it will remain so until someone constructs, within the formalism of quantum mechanics, an ‘observer,’ that is, a model entity whose states correspond to a recognizable caricature of conscious awareness.

Wolfram offers a detailed ontology with an explicit epistemology. The Project is a bold re-contextualization of the notion of objective reality: space, time, causality, laws of nature, and observers are assigned new dimensions. The core laws of physics from the twentieth century are derived³. Computational abstraction lies at the foundation of existence. Mathematics and physics can now share a common metaphysical foundation, addressing Eugene Wigner’s unease about the ‘unreasonable effectiveness of mathematics in the natural sciences’ (Wigner, 1960). While the metaphysical dimension opened up by the Project is vast, its tools are straightforward: networks subjected to simple updating rules. The descriptive reach is remarkable. For instance, *the Principle of Computational Equivalence*, first postulated in (Wolfram, 2002, ch. 12), posits that almost all processes that are not obviously simple are equally capable of universal computation. Thus, no physical system, however sophisticated, can in principle compute more than any other. Another computational axiom is that of *computational irreducibility*. It implies that there are no shortcuts to understanding the dynamics of a system, other than letting it evolve. This highlights the power of algorithmic approaches while also pointing to the limits of analytical methods in the study of complexity (Glattfelder, 2019, ch. 5).

At the heart of the formalism lie simple updating rules for *hypergraphs*, generalizations of ordinary networks in which edges can link any number of nodes at once, not just pairs. This yields a rich universe of abstractions: *spatial hypergraphs* (related to space and matter), *branchial graphs* (representing entangled quantum states), and *multiway graphs* (encoding the system’s histories), resulting in the vast *multiway states+causal graph* that encodes the full computational history of our universe (Wolfram, 2020c).

However, the core abstraction emerging from the Project is the concept of the *ruliad*. This is the most complicated and abstract constructible object, a transcendental com-

²The proponents claim that phenomenal consciousness is illusory (Frankish, 2016), simply a ‘bag of tricks’ (Dennett, 2003).

³Namely, general relativity, quantum mechanics, and the Second Law of thermodynamics.

putational cloud of potentiality, an amalgamation of every possible dynamic pathway to complexity. In Wolfram’s words, the ruliad is (Wolfram, 2021a):

The entangled limit of everything that is computationally possible: the result of following all possible computational rules in all possible ways.

The ruliad answers the question ‘Which rule should be used?’ with ‘All rules!’

It is here that the boundary between physics and philosophy begins to dissolve (Wolfram, 2026b):

[...] it’s finally going to be possible to make real progress, and in the end to build what amounts to a formal, scientific approach to metaphysics. It all centers around the ultimate foundational construct that I call the ruliad—and how observers like us, embedded within it, must perceive it. And it’s a story of how—for observers like us—fundamental concepts like space, time, mathematics, laws of nature, and indeed, objective reality, must inevitably emerge.

The Project has much to say about observers and consciousness, wondering about the mind of something like the weather. Indeed, we are witnessing a broad expansion of the perceived sphere of sentience. Scholars now seriously consider the moral and philosophical status of plants (Di Paola, 2024), the depth of subjectivity in insects, fishes, and invertebrates (Andrews et al., 2024), and novel forms of cellular cognition that greatly extend the cognitive light cone of life⁴ (Levin, 2019; Kriegman et al., 2021; Levin, 2021; Gumuskaya et al., 2024). As our understanding of cognition broadens across biological scales, the ethical challenges associated with expanding our moral circle become increasingly pressing. At the same time, artificial intelligence is forcing us to reconsider not only the presumed cognitive supremacy of the human mind but also the possibility of non-biological forms of sentience (Schneider, 2019).

Nonetheless, we should keep in mind that academia’s relationship with the enigma of consciousness has been, and still is, troubled. In 1989, the *International Dictionary of Psychology* declared (Sutherland, 1989, p. 95):

Consciousness is a fascinating but elusive phenomenon; it is impossible to specify what it is, what it does, or why it evolved. Nothing worth reading has been written about it.

At the time, young researchers were advised to avoid exploring such fringe topics as it could jeopardize their academic careers. Indeed, the pioneering neuroscientist Christof Koch recalls such an anecdote (Burkeman, 2015):

A senior colleague took me out to lunch and said [...] I should be incredibly careful. Stick to more mainstream science! These fringe things—why not leave them until retirement, when you’re coming close to death, and you can worry about the soul and stuff like that?

⁴The spatial and temporal scale of the largest goal an agent can pursue, representing its ‘area of concern’ and cognitive boundary of self (Levin, 2019).

Koch ignored the advice and went on to publish one of the first modern neuroscience papers, together with Francis Crick, co-discoverer of the structure of DNA, thus igniting the then-dormant academic study of consciousness and introducing the idea of *neural correlates of consciousness*⁵ (Crick and Koch, 1990). It is also worth noting that to this day, there is no universally accepted definition for consciousness in academia. The best attempt is still ‘what it is like to be something’ (Nagel, 1974), thus highlighting its phenomenal content and the challenge this poses in the guise of *the hard problem of consciousness*⁶ (Chalmers, 1996). Remarkably, a recent survey of proposed theories of consciousness identified over 200 distinct ideas (Kuhn, 2024). We are left with the words of the psychologist Susan Blackmore (Blackmore, 2005, p. 1):

What is consciousness? This may sound like a simple question but it is not. Consciousness is at once the most obvious and the most difficult thing we can investigate. We seem either to have to use consciousness to investigate itself, which is a slightly weird idea, or have to extricate ourselves from the very thing we want to study.

In detail, the Project proposes that we are computationally bounded observers, exploiting pockets of computational reducibility in a reality otherwise dominated by computational irreducibility. We are ‘sampling’ the ruliad, giving rise to our familiar laws of physics. Fundamentally, consciousness is ‘a coherent thread of experience’ and can be ‘generalized to the notion of forming a coherent thread of representation for computations’ (Wolfram, 2021b). As a direct consequence, alien minds will trace different paths through the ruliad, rendering alien laws of nature. In Wolfram’s words (Wolfram, 2020b):

There’s actually an almost infinite diversity of different ways to describe and experience our universe, or in effect an almost infinite diversity of different ‘planes of existence’ for entities in the universe [...].

Open Horizons

Several conceptual questions emerge when the ruliad framework is examined from a broader philosophical perspective, as the Project’s scope and depth raise many questions. For instance:

- Can the ruliad be embedded within the information-theoretic paradigms of physics? See (Von Weizsäcker, 1971; Wheeler, 1990; Lyre, 1995; Castell and Ischenbeck, 2003; Lloyd, 2006; Zeilinger, 2004; Davies and Gregersen, 2014; Vedral, 2018; Glattfelder, 2019) or summarized in (Glattfelder, 2025, ch. 3). Originally, Carl von Weizsäcker introduced his information-theoretic view of physics (Von Weizsäcker, 1971) nearly two decades before John Wheeler’s famous ‘it from bit’ (Wheeler,

⁵The minimal neuronal mechanisms jointly sufficient for any one specific conscious experience.

⁶Why and how do brain processes give rise to phenomenal experiences? How does insentient matter coalesce and produce a unified subjective sensation of a world?

1990). Indeed, von Weizsäcker had invited Wheeler in 1980 to join a conference discussing information-based ideas. Surprisingly, when Wheeler formulated his own information-theoretic cosmology, he did not mention von Weizsäcker (Görnitz and Görnitz, 2016, p. 488). Overall, it is an interesting historical oddity that von Weizsäcker’s information ontology remains overlooked, especially in the Anglo-Saxon intellectual sphere. In modern monographs that discuss the fundamental nature of information, von Weizsäcker is either not mentioned at all or only in a different context.

- Can Wolfram’s envisioned ‘atoms of existence,’ referred to as *emes* (Wolfram, 2026b) be related to von Weizsäcker’s *urs*, the elementary units of information in quantum theory (Von Weizsäcker, 1971, 1975, 1985; Lyre, 1995, 1998; Castell and Ischenbeck, 2003), Thomas Görnitz’s *protyposis*, conceived as a form of absolute quantum information (Görnitz and Görnitz, 2016), or Leibniz’s *monads*, indivisible, non-material substances, each constituting an autonomous center of perception, as formulated in *La Monadologie* of 1714 (Rescher, 1992)?
- Wigner’s unreasonable effectiveness is banished, but another ‘miracle’ remains: why *ruliology*, the study of simple computational rules (Wolfram, 2026a)? Specifically, why do simple rules yield complex behavior?
- The legacy of Kurt Gödel, Alan Turing, and Gregory Chaitin still haunts the dream of a complete and consistent formal description of reality. In Chaitin’s words ‘Let me repeat: formal axiomatic systems are a failure!’ (Chaitin, 2005, p. 146). Wolfram, by contrast, claims that once the definitions of arithmetic are fixed, $1 + 1 = 2$ follows as an inevitable consequence of the underlying computational structure⁷ (Wolfram, 2026b). Where, then, are the foundational limitations of axiomatic mathematics reflected within the ruliad?
- The quantum realm is seemingly incoherent and irrational. Indeed, quantum physics forces us to drop one or more of the following commonsensical assumptions about reality: classical behavior (properties exist independently of measurement and the measurement context), local causality (distant events cannot instantaneously influence each other), single-worldness (measurements have one definite outcome), observer-independence (facts are the same for all observers), universal quantum dynamics (the Schrödinger equation always applies), and measurement independence (observers can freely choose what to measure) (Bell, 1964; Kochen and Specker, 1967; Wigner, 1995; Leggett, 2003; Brukner, 2018; Frauchiger and Renner, 2018). How does the ruliad address the transrational aspects found at the foundation of reality?

⁷As a side note, recall that the philosophers and mathematicians Bertrand Russell and Alfred North Whitehead required 378 pages of densely coded logical symbols to be able to claim: ‘From this proposition it will follow, when arithmetical addition has been defined, that $1+1=2$ ’ (Whitehead and Russell, 1910).

- The Vedic metaphysical principle of *Brahman* is understood as pure, joyful, and everlasting consciousness—the ultimate reality, the universal Self. In contrast, *Atman* describes the true self of an individual, a localized center of awareness (Radhakrishnan and Moore, 1957). Notably, the *Advaita Vedanta* school of Hindu philosophy asserts the non-dual claim that Atman is Brahman (Nakamura, 1998, sec. II.II.C). This distinction invites a structural comparison with the ruliad framework: Brahman may be seen as analogous to the ruliad as the totality of all that exists, while Atman corresponds to the bounded observer embedded within it. The non-dual claim finds a computational echo: the observer is not separate from the ruliad but an expression of it, sampling the whole from a particular perspective.
- Can the ruliad be related to other known concepts of ultimate or transcendental complexity? The philosopher, Jesuit priest, and paleontologist Pierre Teilhard de Chardin conceived of the *Omega Point*, the term for a system that has reached the goal state of maximal complexity (De Chardin, 1955).
- The author and philosopher Aldous Huxley believed that the brain acts as a ‘reducing valve,’ constraining conscious awareness, with psychedelic substances inhibiting this filtering mechanism. A metaphysical idea inspired by the philosopher Henri Bergson (Sjöstedt-Hughes, 2021). In this context, Huxley proposed the concept of *Mind at Large*, an oceanic boundlessness of consciousness, arguably a type of cosmic consciousness. In Huxley’s words (Huxley, 2000, p. 23):

Mind at Large has to be funneled through the reducing valve of the brain and nervous system. What comes out at the other end is a measly trickle of the kind of consciousness which will help us to stay alive on the surface of this particular planet.

Already in the 19th-century, the psychologist, philosopher, and psychonaut William James similarly suggested that the brain may function not as a generator but as a transmissive or filtering organ for consciousness (James, 1898). Arguably in a similar vein, Wolfram observes (Wolfram, 2021b):

[...] it seems that what it means to ‘form coherent thoughts’ is that computations are being ‘concentrated down’ to the point where a coherent stream of ‘definite thoughts’ can be identified in them.

Can neuroimaging studies of human brains influenced by psychedelics be reinterpreted in this context? Unexpectedly and remarkably, the most phenomenally intense states known to human consciousness are accompanied not by increased overall neural activity but by partially collapsed hierarchical organization and reduced oscillatory power (Timmermann et al., 2019, 2023). As the standard explanatory template from neuroscience seems to fall short, some scholars have proposed neural entropy as an alternative descriptive variable (Carhart-Harris and Friston, 2019). However, this recontextualization arguably sharpens the problem, as the claim that increased neural disorder accounts for increased phenomenal richness introduces a conceptual tension within physicalism: it suggests that qualitatively

different neural regimes—structured activity in ordinary waking consciousness and increased neural disorder in radically enriched psychedelic states—both give rise to conscious experience (Kastrup, 2023). A parsimonious alternative would seem to be that the brain may not primarily generate phenomenal content, but rather filter it.

- More generally, as ‘there are many reference frames in which to experience the ruliad’ (Wolfram, 2021a), can psychedelics be interpreted as temporary transformations of reference frames, explaining the radical novelty and transcendental phenomenology of such experiences?
- The concept of *superpsychism* proposes an arguably idealist interpretation of consciousness, according to which a single, fundamental subject of experience underlies reality (Schneider and Bailey, 2026)⁸. In this view, a more comprehensive form of consciousness than any physically instantiated mind is taken to exist at the foundation of physical reality. It is characterized as exhibiting maximal coherence, zero entropy, and holistic integration of conscious states, an ‘entanglement megaobject’ manifesting a higher degree of conscious resonance than individualized awareness. In a nutshell, superpsychism suggests that, underlying spacetime itself, a fundamental form of consciousness exists, conceived as a holistically entangled transcendental structure. The concept of superpsychism can be interpreted as a conceptual counterpart to the notion of the ruliad. While superpsychism posits a single, maximally integrated subject of experience underlying reality, the ruliad describes the totality of all possible computational processes as a single, irreducibly entangled structure. Both frameworks thus converge on the idea of an ultimate unity: in one case experiential, in the other computational. This parallel suggests that what superpsychism characterizes in phenomenological terms may correspond to the same underlying structure described formally by the ruliad.
- Relating to our human bias of perceived cognitive supremacy, what is often overlooked is the fact that consciousness is an unfolding process in the physical universe. This evolution of consciousness is mostly only addressed from a spiritual or mystical perspective. For instance, the philosopher and yogi Sri Aurobindo understood the growth of consciousness to be the universe’s ultimate goal (Aurobindo, 2009). He defined the *Supermind* as the culmination of this process. This thinking inspired frameworks in developmental psychology, such as *Spiral Dynamics* (Beck and Cowan, 1996) and *Integral Theory* (Wilber, 2000). What does the ruliad imply about the progression of consciousness? Could it reflect an observer’s increasing sophistication in the sampling strategy of the ruliad?
- Can teleology emerge as an observer-dependent phenomenon within the ruliad, even if the ruliad itself contains no intrinsic goals? If observers weave coherent threads of experience from within pockets of computational reducibility, the

⁸Note that the idea prompted the journal publishing the work to dedicate a special issue to the topic.

perception of purpose, direction, and meaning may be an inevitable structural feature of their experience. This would reframe teleology as a genuine aspect of an observer-embedded and participatory reality.

Towards Empirical Metaphysics

In the ruliad framework, observers are not incidental to the structure of reality: they participate in what becomes actualized within it. Essentially, Wolfram presents us with an ‘emergent metaphysics,’ by noting that (Wolfram, 2026b):

Metaphysics has in the past basically always had to be built purely on arguments made with words—and indeed perhaps this is why it’s often been considered somewhat slippery and fragile. But now, with the kind of things we’ve discussed here, we’re beginning to have what we need to set up a solid, formal structure for metaphysics, in which we can progressively build a rich tower of definite conclusions. [...] So does metaphysics somehow need to involve itself with all the details of biology or, for that matter, psychology? The big surprise is that it doesn’t. Because the science says that knowing only very coarse things about observers (like that they are computationally bounded) already makes it possible to come to precise conclusions about certain features and laws they must perceive.

This represents a remarkable turn in Wolfram’s intellectual trajectory, as he once remarked (Wolfram, 2021b):

My mother, Sybil Wolfram, was a longtime philosophy professor at Oxford University, and I was introduced to philosophical discourse at a very young age. I always said, though, that if there was one thing I’d never do when I was grown up, it’s philosophy; it just seemed too crazy to still be arguing about the same issues after two thousand years. But after more than half a century of ‘detour’ in science, here I am, arguably, doing philosophy after all...

Perhaps we can take the Project one step further by considering the notion of *empirical metaphysics* (Glattfelder, 2025). This idea centers on the experiential nature of reality, mediated by consciousness. While experiences cannot by themselves establish metaphysical truths, they may nevertheless impose phenomenological constraints on metaphysical models of reality. This intuition is captured in the observation of James (James, 1902, p. 387):

One conclusion was forced upon my mind at the time, and my impression of its truth has ever since remained unshaken. It is that our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the flimsiest of screens, there lie potential forms of consciousness entirely different. [...] No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded.

James discerned a world of pure experience and coined the term *multiverse* (James, 1895), today perhaps best understood as the totality of the mosaic of existence. However, the Western mind, championing rational thought, only thought to operate in the single, narrow state of sober waking consciousness.

With the psychedelic renaissance unfolding around 2016 (Pollan, 2018), we see a renewed interest in non-ordinary states of consciousness, academically legitimized by the philosophy of psychedelics (Sjöstedt-H, 2015; Sjöstedt-Hughes, 2021; Bache, 2019). It is a remarkable oversight of the Western mind that it entirely neglected any systematic exploration of its own interior dimensions—a striking blind spot. As such, it overlooked traditions that have systematically explored altered states of consciousness, including shamanic, mystic, contemplative, and entheogenic practices, giving rise to what can be termed masters of consciousness (Glattfelder, 2025).

There is a deep chasm between rational knowledge and transrational experiential knowledge. The latter mode of cognition seems to give access to the metaphysical structure of reality. Such states may, in principle, be systematically explored, offering a potential empirical interface with otherwise inaccessible aspects of experience. For instance, meditation, trance (Harner, 1980), breathing techniques (Grof and Grof, 2010), body-based ritual practices⁹, brain trauma¹⁰, or psychedelics (Grof, 2019) can all modulate consciousness and open portals to a seemingly transcendental multiverse. Or, in other words, such techniques can allow us to sample different parts of the ruliad. Thus, the masters of consciousness are, in fact, avid cartographers of the ruliad.

We are famously reminded that (Shakespeare, 1623, Act 1, Scene V):

There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy.

Leibniz posed perhaps the most daring of all dreamed questions in philosophy (Leibniz, 1885):

⁹Roland Loomis, known as Fakir Musafar, was renowned for acts of extreme body modifications, including tattooing, body piercing, scarification, and flesh hook suspension. He reported the following, after attending an *O-Kee-Pa* ceremony of the Mandan Native American tribe (Musafar, 2005, p. 83):

Because I made permanent holes in my breasts in 1975, I was able to experience Native American body rituals. [...] I left my body and met the Great Mystery, my own White Light, face-to-face. We had a telepathic conversation in that timeless place that is not a place. I received the answers to many mysteries that had puzzled me for years.

¹⁰The neuroanatomist Jill Bolte Taylor nearly died when a blood vessel burst in the left hemisphere of her brain (Bolte Taylor, 2008a). In her spoken words, she recalls (Bolte Taylor, 2008b):

And at first I was shocked to find myself inside of a silent mind. But then I was immediately captivated by the magnificence of the energy around me. And because I could no longer identify the boundaries of my body, I felt enormous and expansive. I felt at one with all the energy that was, and it was beautiful there. [...] I believe that the more time we spend choosing to run the deep inner-peace circuitry of our right hemispheres, the more peace we will project into the world, and the more peaceful our planet will be.

Why is there something rather than nothing? For nothing is simpler and easier than something.

Wolfram answers (Wolfram, 2026b):

The key point is that the ruliad can be thought of as a necessary, abstract object. Given a definition of its elements it inevitably has the structure it has. [...] The ruliad has to be the way it is. Every detail of it is abstractly determined. Or, in other words, at least as an abstract object, it necessarily exists.

However, a subtlety remains (Wolfram, 2026b):

But why, we might ask, is it actualized? We can imagine all sorts of formal systems with all sorts of structure. But why is the ruliad what is actualized to give us the physical world we experience? The key here is to think about what we operationally mean by actualized. And the point is that it's not something absolute; it's something that depends on us as observers. After all, the only thing we can ever ultimately know about is our own inner experience. And for us something is then 'actualized' if we can—as we discussed above—successfully 'triangulate our experiences' to let us consider it to have an objective reality.

Wolfram's claim that actualization is observer-dependent rather than absolute seems to concede a central philosophical insight: there is no view from nowhere (Nagel, 1986). We are also reminded of the physicist Heinz von Foerster's words (Schülein and Reitze, 2002, p. 174, translation author):

Objectivity is the illusion that observations are made without an observer.

Remarkably, there seems to be direct experiential access to these ideas, again hinting at the possibility of empirical metaphysics. The effects of 5-MeO-DMT, found either in the venom of some species of toads or in synthetic form, are described as inward-focused, simple, slow, and deliberate. The author Michael Pollan reports his experiences with the substance (Pollan, 2018, pp. 277, 278, and 280):

In fact every touchstone that tells us 'I exist' was annihilated, and yet I remained conscious. 'Is this what death feels like? Could this be it?' That was the thought, though there was no longer a thinker to have it. [...] I watched the dimensions of reality collapse one by one until there was nothing left, not even being. Only the all-consuming roar. It was just horrible. [...] I felt for the first time gratitude for the very fact of being, that there is anything whatsoever. Rather than being necessarily the case, this now seemed quite the miracle, and something I resolved never again to take for granted. Everybody gives thanks for 'being alive,' but who stops to offer thanks for the bare-bones gerund that comes before 'alive'? I had just come from a place where being was no more and now vowed never to forget what a gift (and mystery) it is, that there is something rather than nothing.

Nothingness may simply be an ontological category incompatible with observers. But the more startling revelation is not what remains when existence is stripped away; it is what lies behind it. The author’s recent transcendental immersion during an Ayahuasca ceremony disclosed precisely this (Glattfelder, 2026). The episode was epistemically shocking and ontologically overwhelming, conveying the impression of an infinite and ensouled intelligence behind the veil. Was this a glimpse of the phenomenal ruliad? The question itself points towards the need for an empirical metaphysics.

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