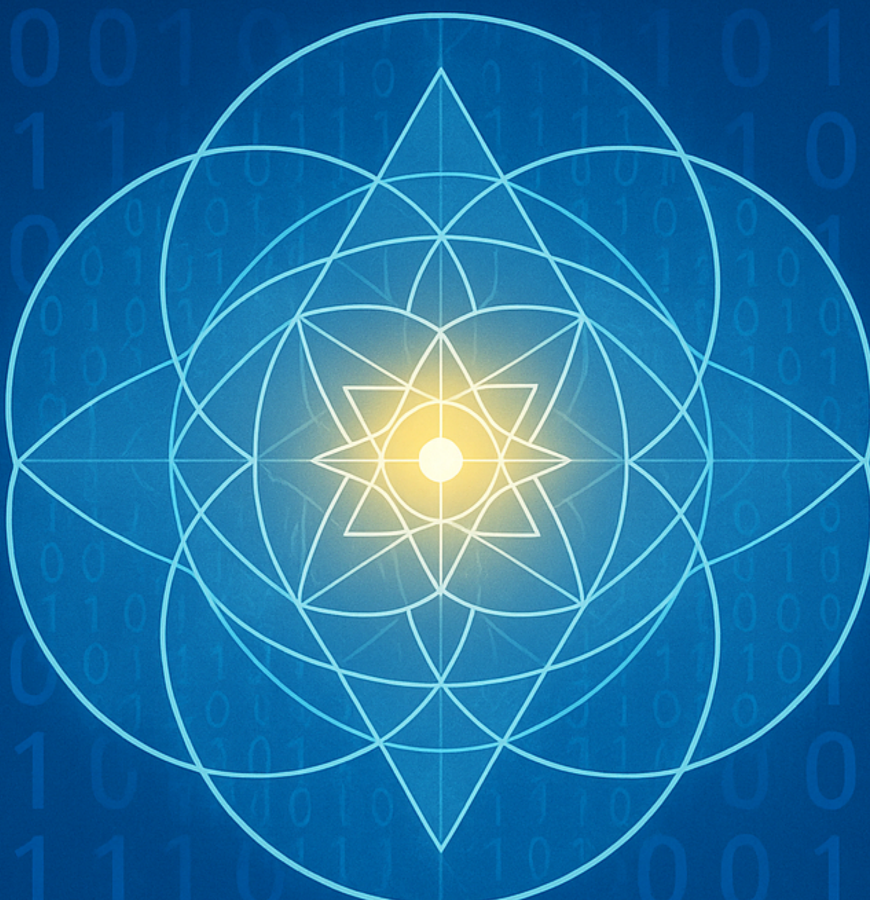
FROM BEING TO BITS

COMPUTER SCIENCE & 21ST CENTURY IDEALISM



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Chapter 1: Introduction

1.1 Abstract

This book constructs an argument for a contemporary variant of ontological idealism called computational idealism. Its central thesis is that reality is an information system computed by, in, and through, a fundamental field of subjectivity that is both transcendent of its contents and immanent *as* its contents. From this perspective, anything that exists, any discernible entity standing out from the ground state of awareness, is inherently informational, beginning with the most basic binary distinction: existence (1) and non-existence (0). Fundamental consciousness, herein defined as pure awareness that is aware of itself, actively creates the experienced reality by transducing information within itself, giving rise to a multitude of experiences, one of which is the perception of physical existence. This physical realm, we propose, is a simulation computed by consciousness for the specific purpose of experiencing separation, in contrast to its inherent state of unity. In other words, we argue for a reality theory that we categorize as a monic idealism, and which is both subjective and objective.

To ground this thesis in philosophical rigor and conceptual precision, we will approach our inquiry through the lens of analytic philosophy while drawing heavily on conceptual resources from computer science, quantum physics, psychology, and information theory. We propose that awareness is fundamental and that mind is an information system, a dynamic activity that interprets, structures, and renders information within consciousness. In this schema, the physical world is informational, akin to a virtual reality interface generated by the perceptual and computational faculties of mind. Unlike in standard simulation theory, this virtual reality emerges not from a material substrate but from awareness. This view contrasts sharply with the mainstream physicalist paradigm, which asserts that consciousness arises from matter. We reverse this assumption: matter arises from consciousness. And it does so in ways that are analogous to how software is executed by a computer. However, in this metaphysical model, mind is the computer, and physical phenomena are the simulations it computes.

1.2 Defining Our Terms

Before proceeding further, let us define foundational terms that will be used throughout this book. These definitions serve not only to clarify our argument but also to distinguish our usage from more colloquial meanings. Of course, "consciousness" can be a particularly slippery term, so it is essential to establish its meaning from the outset.

As well, this book seeks to reclaim terms like "computation" from physicalist theories like computational functionalism. As we will see, physicalist approaches cannot provide epistemic justification or give an ontological account for computation, information, mathematics, and logic. Therefore, there remains an opening for a rival ontology to defeat physicalism on these points, even though computational functionalism currently enjoys a certain pop cultural appeal.

Herein, we will largely use definitions consistent with those widely accepted in analytic ontology and philosophy of mind. Three specific terms deserve particular attention:

- **Awareness/Consciousness/Mind-at-Large**: In our usage, these terms are interchangeable and refer to the fundamental field of subjectivity that is both transcendent and immanent in reality, as per contemporary analytic idealistic frameworks. It is boundless and infinite, as can be experienced through accessing the pure consciousness state through deep meditation and certain psychedelic substances. Unlike contentful mental states (thoughts, images, memories), pure awareness is the precondition of all experience, in addition to being epistemically fundamental. Of course, idealism is the view that this epistemic ground of experience is also the ontological ground of being. Importantly, the same awareness is both the ground of reality and of the minds of all experiencers; indeed, it is the one experiencer.
- **Information**: Information is what "in-forms" from the infinite field of potential that is awareness. It is what exists—that is, what stands out from the background[1] of undifferentiated awareness. We adopt a broad but technically consistent notion of information, inspired by both Claude Shannon's formalism and philosophical interpretations of ontological information, but more so in line with Integrated Information Theory's (IIT) conception of the term. Any phenomenal object, perceptual distinction, or conceptual structure is an instance of information—an expression of structured difference within awareness.
- **Mind**: Mind is not a thing, but a process in this model: the information-processing activity that takes place by, in, and through awareness. It is the functional differentiation within consciousness that enables perception, memory, reasoning, and self-reflection. This view aligns with models of the mind as a virtual machine, a layered architecture within a larger substrate, in this case, pure awareness.

These terms will serve as the philosophical infrastructure for our inquiry, allowing us to develop a detailed ontology in which computer science metaphors are not merely illustrative, but deeply explanatory. We will argue that the language of information systems, simulations, and virtual machines provides an apt conceptual model for understanding consciousness and the appearance of the physical world.

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[1] The word "exist" originates from the Latin verb *existere*, meaning "to stand forth, come out, emerge." It is derived from *ex* ("out") and *sistere* ("to cause to stand").

1.3 What Is Reality Theory?

We begin with the question of what it means to explain: to reveal the underlying architecture of experience and to expose not just the behavior of the world, but the principles that make any world intelligible. Where conventional models operate within the framework of appearances, reality theory inquires into the framework itself.

A foundational distinction must be made between normative theories and reality theory. Normative theories are domain-bound. Physics, psychology, and biology each model behavior within their respective domains, assuming the existence of space, time, causality, and matter. They are pragmatic and predictive but rest upon unexamined metaphysical premises. Reality theory, in contrast, is meta-theoretical. It does not operate within a domain but instead investigates the ontological conditions for any domain to exist. Where normative theories describe what happens, reality theory asks what it means to be. It considers how being renders itself intelligible, how experience becomes possible, and what must be true of existence as such for phenomena—any phenomena—to appear.

Reality is the totality of that which exists, defines, and self-interprets. To define reality is to articulate how it must be structured in order to exist at all. This requires a transition from normative descriptions to universal, paradigm-level requirements. Similarly, to begin any inquiry presupposes that we are already within something. Something exists, something is happening, something is aware. The question is not whether reality exists, but what reality is. And what it means for something to be at all. Most theories take this for granted. Physics describes the behavior of objects in space and time. Psychology models the tendencies of minds. Biology traces patterns in life. These disciplines are invaluable, but they operate within the world. They do not ask the deeper question of why a world appears at all, or what it means for any appearance to be intelligible. Reality theory begins where these disciplines end. It is not a theory about things in the world, but about the necessary structure of being itself.

In other words, for a theory to count as a theory of reality, as opposed to a theory within reality, it must meet certain conditions, as must the reality it describes. These are logical consequences of what the term “reality” entails, and can therefore be identified through reasoning as necessities. Without these conditions, existence would not be possible.

Reality, by definition, encompasses all that exists. There is nothing outside of it, nothing that can serve as an external ground, cause, or observer. If something were outside of reality, then our definition of reality would have been incomplete. Thus, reality must be self-contained and logically closed. Were reality ontologically open, and therefore capable of being defined by something external, it would be self-contradictory. Thus, reality must be a syntactically and semantically closed system, recursively self-generated and self-regulating. Its explanation must arise from within. It must also be self-consistent. Contradiction at the level of fundamental ontology would mean that the system of being is incoherent, and therefore not truly real. And if there is no external agent to create or enforce its rules, then reality must also be self-generative and self-determined. Whatever exists, evolves, or appears must do so in a way that is internally lawful and reflexively coherent. Finally, because every act of theorizing occurs within the structure of reality, and every observer is a participant in the real, any theory of reality must itself be reflexive. It must include within itself a way to account for the existence of observers and for the possibility of theories themselves.

These constraints are not limitations; they are what make reality possible. A theory that violates them is simply invalid. This is the starting axiom of what we shall call reality theory.

How does this relate to scientific inquiry, which has taken on increasing importance in modern questions about reality? There are some who believe that science is the only legitimate source of truth, but this claim forgets that science relies on truth values, logic, meaning, and countless other prerequisites that must be induced by means of a more general, universally applicable theoretical framework: a reality theory. Namely, most scientific models are normative. They are constructed to explain regularities within limited domains, such as how masses attract each other, how neurons fire, or how populations grow. These models are precise, testable, and useful, but they rest on assumptions. They presuppose the existence of space, time, causality, and measurement. They take the reality of observation, interpretation, and systematization for granted. In short, they do not explain reality; they operate within it. Therefore, scientific theories ultimately require a universally applicable framework in which they can be interpreted.

Reality theory, in contrast, cannot take any such structure as given. It cannot assume space without ontologically and epistemically accounting for its possibility. It cannot assume causality without explaining why cause and effect could exist at all. And it cannot presuppose an observer without integrating observation into the very fabric of being. This difference is not trivial. While science excels at predicting what happens under certain conditions, it does not ask what conditions must be in place for anything to happen, or for conditions to be coherent. Reality theory is the precondition for scientific theorizing. It supplies the stage upon which all other models are constructed and assessed.

The remainder of this book will attempt to make these implications explicit. We will move toward a theory in which reality is an aware, self-generative, and self-interpreting system.

1.4 Philosophical Foundations and Methodology

The metaphysical idealism advanced in this book draws inspiration from classical idealists like Berkeley, Kant, and Hegel, as well as non-dualist traditions such as Advaita Vedānta and Mahāyāna Buddhism. However, our method is resolutely analytic, and so the main form of idealism from which we will pull is contemporary analytic idealism.

We begin from intelligibility, the condition that anything that can be thought, described, or known must already be in-formed within consciousness and organized by a structure that is consistent throughout all levels of reality. From this foundational principle, we will build a layered model of reality that explains both the inner structure of experience and the appearance of an objective world. This world is not material in the classical sense, but virtual. It is computed by and rendered within consciousness, much like a video game world is rendered for a player within a digital system. Thus, computational idealism may be considered a type of simulation theory, with the distinction that the "substrate" of the simulated environment is not a physical source, but rather consciousness itself.

Chapter 2: Starting from Intelligibility

2.1 The Foundational Principle: Reality Must Be Intelligible

Any coherent reality theory must establish the very possibility of perception, scientific inquiry, and philosophical understanding; in other words, the inherent intelligibility of reality. We will argue that this intelligibility is not a mere convenience or a fortunate accident, but a fundamental necessity, a non-negotiable precondition for any form of knowledge acquisition or experiential coherence.

The assertion that reality must be intelligible is not a trivial claim, though contemporary philosophy often underestimates or ignores this aspect of an ontology (at its peril). Both science and philosophy, as systematic endeavors to understand the nature of existence and our place within it, fundamentally presuppose that reality possesses an inherent intelligibility. Without a continuous “through-line” of intelligibility extending from the deepest layers of reality itself, through the processes of perception and cognition, to the natural and formal languages we use to articulate our understanding, these disciplines would be rendered impossible. Furthermore, our ability to even apprehend reality in a meaningful way, a capacity essential not only for academic pursuits but also for basic survival, depends on this inherent intelligibility.

Consider the consequences if reality were fundamentally unintelligible. If the very fabric of existence lacked inherent structure, coherence, and discernible patterns, and/or if our minds were unable to accept information organized by that structure, then our perceptions would be nothing more than a chaotic barrage of meaningless sensations. Any attempt to make sense of our experiences, to identify regularities, or to establish causal connections would be futile. Scientific inquiry, which relies on the discovery and formulation of consistent laws and principles governing the natural world, would be bankrupt from its inception. Philosophical reasoning, which seeks to build coherent arguments and theories about fundamental aspects of reality, would be undermined by the absence of any stable foundation of understanding. Ultimately, the very act of having coherent experiences, of forming beliefs, and of acquiring knowledge would be rendered impossible in a world devoid of inherent intelligibility.

This necessity of intelligibility implies the existence of a fundamental “through-line” that must extend from the very nature of reality, traversing our perceptual and cognitive faculties, and ultimately manifesting in the languages we employ to describe and comprehend the world. Science and philosophy could not exist without this continuous thread. This “through-line” suggests a deep and fundamental alignment, a compatibility between the underlying structure of reality and the innate structure of our minds. For us to effectively perceive and understand reality, there must be an intrinsic correspondence between how reality is organized at its most fundamental level and how our minds are structured to process and interpret information. Without this connection, our attempts to grasp the nature of the world would be akin to trying to decipher a language with no shared grammar or vocabulary.

2.2 The Computer Science Analogy: Shared Syntax and Isomorphism

We can draw a compelling analogy from the field of computer science. In the realm of computation, effective communication and information processing between different systems or components are entirely dependent on the existence of a shared syntax. Syntax, in this context, refers to the specific set of rules and grammatical structures that define how instructions and data are organized and interpreted. Just as human languages have rules governing the arrangement of words and symbols to convey meaning, programming languages and communication protocols have strict syntactic rules that must be followed for devices to communicate successfully and for programs to execute correctly. Without this shared syntactic framework, information exchange would be chaotic, and the intended meaning would be lost or misinterpreted.

We can extend this analogy to the intricate relationship between the human mind and the reality it seeks to understand. Just as different parts of a computer system need to "speak the same language" by adhering to a common accepting syntax, our minds must share some fundamental underlying structural similarities with reality, in order to effectively perceive, interpret, and ultimately comprehend it. This shared syntax would provide the necessary framework for the transduction and interpretation of information between the mind and the external world.

Languages carry information, which inherently consists of distinctions, such as the binary opposition of 1s and 0s, effectively positioning reality as an information system. As well, "existence" represents the fundamental concept in the mind, since we can only know something if 1) we have "existence" as a mental structure that is aware, and 2) the thing in question exists within awareness. As such, our mental structure must match the structure that defines the property "EXISTS" in reality before we can consider anything that exists. Therefore, existence is the fundamental concept.

What follows is that perception and cognition themselves are linguistic in nature, composed of symbols placed in association. To ensure intelligibility, these cognitive languages must be isomorphic to the underlying syntax of reality. This implies that the very fabric of reality must be fundamentally informational and structured in a way that aligns with the symbolic and logical operations characteristic of our minds.

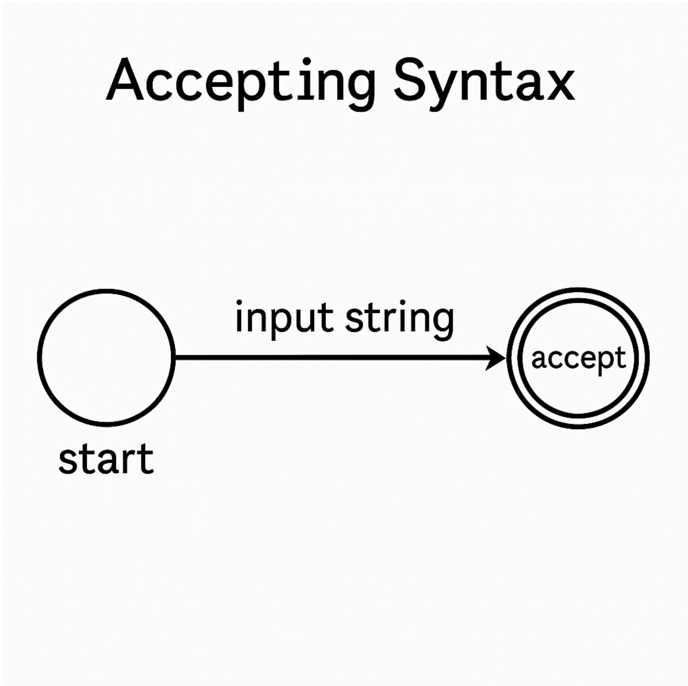

Figure 1. The concept of accepting syntax, in which structured information flows from a source to a receiver, governed by a shared symbolic rule set. The accepting system interprets the input only if it conforms to the predetermined syntax, ensuring coherent transmission and intelligibility across systems.

Isomorphism, in a broad sense, refers to a structural similarity or "sameness of form" between two different systems or processes, such that the patterns of relations or operations within each system are perfectly analogous and can be mapped neatly one-to-one between them. In the context of our discussion, isomorphism suggests a profound structural correspondence not only between different levels within reality itself but also between the structure of reality and the structure of the mind. Reality is intelligible precisely because of this structure, where reality and its contents are organized by a shared set of rules or syntax. As instantiations of this common syntax, all levels of reality necessarily share a common set of structural, functional, and organizational principles. This shared rule-set, often described as reality's fractal nature in the fields of mathematics and philosophy, creates the crucial "through-line" of intelligibility that makes reality, perception, cognition, and both natural and formal languages isomorphic to one another. This syntactical mirroring is not merely a superficial analogy; it suggests a deep and fundamental correspondence that allows for consistent interaction and understanding across seemingly disparate domains. The mind, in this view, actively builds an internal model of the world that mirrors its organization, achieving a state of isomorphism that enables intelligibility.

2.3 The Epistemological Challenge: Hume's Skepticism and A *Priori* Knowledge

Despite this, the philosopher David Hume (1748/2000) compels us to consider the very foundations of our knowledge about this reality. Hume's skeptical arguments cast a long shadow over any attempt to claim certain knowledge about the external world based solely on empirical observation and sensory experience. He meticulously questioned our ability to gain definitive knowledge about fundamental aspects of reality, including the nature of cause and effect, the existence of external objects independent of our perception, and even the very notion of a stable and enduring personal identity. As such, we must ensure that computational idealism overcomes Humean skepticism by providing epistemic justification for its claims about reality. This includes providing a grounding for intelligibility. Just because we are certain that reality must be intelligible, this does not mean that intelligibility can be taken for granted in a reality-theoretic framework. We must provide epistemic justification and ontological grounding for it.

A cornerstone of Hume's skepticism lies in his analysis of causation and the problem of induction. He argues that our belief in cause-and-effect relationships is not based on any direct observation of a necessary connection between events, but rather arises from our repeated experience of constant conjunction. That is, observing similar events occurring together in space and time. Our inference that the future will resemble the past, the very basis of inductive reasoning which underpins much of scientific inquiry, cannot itself be justified by either reason or experience without resorting to circularity. Furthermore, Hume challenges the notion of external objects existing independently of our perceptions, suggesting that our belief in their continued and independent existence is more a product of habit and the constructive power of our imagination than a conclusion derived from reason. He also extends his skepticism to the concept of the self, arguing that introspection of the mind reveals only a fleeting stream of perceptions rather than a constant, unified, and enduring entity.

Hume famously distinguished between "relations of ideas," which are *a priori* knowable truths based on logical necessity and the comparison of concepts (such as mathematics and logic), and "matters of fact," which are *a posteriori* beliefs about the world based on sensory experience and are inherently contingent. While Hume acknowledged the certainty of relations of ideas, he emphasized their lack of informative content about the external world. Conversely, while matters of fact provide us with information about the world, they are ultimately uncertain due to the limitations of inductive reasoning. Hume's skepticism reveals a critical necessity for some form of *a priori* knowledge about the fundamental nature of reality and the self for any coherent epistemology to be possible.

Hume's skepticism sets the following requirement: we cannot have an epistemology, and thus an intelligible reality theory, unless we know a priori what we are, what reality is, and how *the two interact. If our understanding of reality were solely reliant on the uncertain inferences of empirical experience, then the very possibility of a stable and coherent epistemology would be undermined* (see **Appendix A.1**).

This necessity of *a priori* knowledge poses a significant challenge for purely physicalist or dualist ontologies, which typically prioritize empirical observation or a strict separation between mind and matter. Physicalism, with its emphasis on the physical world as the fundamental reality, cannot account for the origin and nature of *a priori* knowledge. If all knowledge is ultimately derived from sensory experience of the physical world, it becomes impossible to explain our seemingly innate understanding of logical and mathematical truths that appear to hold regardless of empirical observation. Indeed, physicalism cannot provide epistemic justification for any of the *a priori* knowledge it requires in order to even make arguments. For example, logic, meaning, truth, values, etc. are all arbitrary under physicalism. Dualism, by positing a fundamental separation between an immaterial mind and a material world, faces similar difficulties in explaining how a non-physical mind could possess *a priori* knowledge about a physical reality or the principles that govern it.

The problem arises because physicalism, dualism, and panpsychism all take the physical to be fundamental. Thus, when asked to describe what we are, what reality is, and how the two interact, these ontologies select things not known *a priori* for at least the second answer. If one or both of the first two answers cite the physical, then it is impossible to have a justified answer for how the two interact. Therefore, these ontologies must ask us to grant them miracles to get them started, and cannot provide epistemic justification or ontological grounding for their claims, let alone for the empirical evidence they often argue is the one, true source of knowledge.

2.4 The Ontological Landscape: Why Idealism Stands Alone

Having established the necessity of an inherently intelligible reality and the crucial role of *a priori* knowledge in grounding our understanding, let's now take a closer look at three of the popular ontological frameworks that attempt to explain the fundamental nature of existence: physicalism, dualism, and panpsychism. A critical analysis of these perspectives reveals their inherent struggles to provide a truly satisfactory and coherent account for the *a priori* intelligibility we have established.

Physicalism, the widely held view that reality is fundamentally composed of physical matter and energy, faces a well-documented challenge in providing a comprehensive account of consciousness and the seemingly inherent intelligibility of our subjective experience. The hard problem of consciousness highlights the difficulty in explaining how the objective, quantifiable processes of the physical brain give rise to the subjective, qualitative experiences we know as consciousness. Arguments like the knowledge argument further emphasize this gap, suggesting that even with complete physical knowledge of the brain, one would still learn something fundamentally new upon experiencing consciousness firsthand. Furthermore, physicalism often relies on inductive reasoning to establish the laws governing the physical world, a reliance that, as Hume demonstrated, introduces an inherent element of uncertainty. Not only that, but if reality is nothing over and above exhaustively quantitative physical entities set in deterministic, accidental relation with one another, then qualitative phenomena like truth, logic, knowledge, meaning, and values are merely illusions. Because epistemic justification depends on these, if physicalism is correct, then no epistemology is possible. Therefore, in that reality, there would be no intelligibility, and all worldviews would be meaningless and arbitrary, including physicalism itself.

Because physicalism posits that the physical order simply exists, it also encounters the problem of existence. That is, each physical entity has the property of existence, but the theory provides no grounding or source of that property. In other words, physicalism claims that physicality exists, but gives no justification or explanation of existence itself. Once again, it asks for a miracle, then promises to explain everything else after that. We'll get to other problems of physicalism, but these simple epistemic issues are sufficient for refuting the theory outright, as they demonstrate how physicalism's core claims violate the requirement of an intelligible reality.

Dualism, which posits a fundamental separation between mind and matter, also encounters significant conceptual difficulties, particularly concerning the seemingly insurmountable unintelligibility of mind-body interaction and the very nature of a separate, non-physical mental substance. The classic interaction problem asks how an immaterial mind, lacking physical properties like mass and spatial location, can causally interact with a physical body. What mechanism could possibly bridge this fundamental ontological divide? While dualism attempts to address the intuitive difference between our mental experiences and the physical world, its inherent difficulties in explaining the relationship between these two distinct realms cast doubt on its ability to provide a coherent and intelligible foundation for reality.

Panpsychism, the view that mentality or mind-like properties are fundamental and ubiquitous throughout reality, emerges as an attempt to bridge the gap between physicalism and dualism by making mind a foundational property of physical entities. However, panpsychism introduces its own set of significant conceptual difficulties, most notably the combination problem. If fundamental particles possess minimal mental properties, how do these "micro-consciousnesses" combine to form the complex, unified consciousness of macroscopic beings like ourselves? This problem remains largely unresolved and poses a significant challenge to the coherence of panpsychic theories. Furthermore, panpsychism often faces criticisms regarding its testability, predictive power, and the potential for leading to epiphenomenalism, where consciousness becomes causally inert.

These three ontological frameworks, despite their varying approaches, ultimately fall short of providing a truly satisfactory and coherent explanation for the necessary *a priori* intelligibility of reality that underpins all knowledge and experience. Their inherent limitations and unresolved challenges suggest the need for a different perspective, one that can more adequately account for the fundamental alignment between mind and reality that makes understanding possible.

2.5 Idealism as the Ontology of Intelligibility

In contrast to the limitations encountered by physicalism, dualism, and panpsychism, idealism emerges as a comprehensive philosophical framework that posits consciousness as the fundamental and ultimate nature of reality. By grounding reality in consciousness, idealism resolves the problem of intelligibility by establishing a foundational unity between the conscious knower and the reality that is known.

Both of these are experienced *a priori* as the same pure awareness that is aware of itself. Because they are the same, we and reality are, at our fundamental levels, isomorphic, thus guaranteeing the intelligibility of reality and overcoming Humean skepticism.

The key is that consciousness is epistemically fundamental, a fact that everyone experiences. Indeed, it is the one certainty that requires no epistemic justification, since all knowledge occurs by, in, and through awareness. This is a noncontroversial claim that even physicalists like Sam Harris acknowledge. We know that consciousness exists without needing to reference anything else in order to know that it exists. Both the physical world (perceptions) and the mental realm (thoughts, emotions, memories) are only ever known by means of consciousness, indicating their dependence on this fundamental ground. As Hume (1748/2000) pointed out, there is no empirical justification for believing in an external world, let alone that this world is physical. Yet, there is direct experiential knowledge that what we label the “physical” exists as perceptual experience within consciousness.

Indeed, in an idealist framework, the very act of knowing is an internal process within consciousness, and the objects of knowledge are also ultimately within or manifestations of this same consciousness, thus ensuring a fundamental level of intelligibility and a coherentist structure that couples ontology with epistemology. Our conscious minds, being part of this fundamental reality, are inherently equipped to understand it. The “shared syntax” necessary for intelligibility is the inherent structure and logic within consciousness itself.

In this book, our focus will primarily be on 21st-century analytic idealism, particularly as articulated by the influential work of Bernardo Kastrup (2019). Kastrup posits universal phenomenal consciousness as the sole ontological primitive, with everything else in nature, including the physical world and individual minds, being reducible to patterns of excitation or dissociation within this fundamental consciousness. He employs the analogy of Dissociative Identity Disorder (DID) to explain how the seemingly distinct conscious inner lives of different individuals can arise within this fundamentally unitary phenomenal field. We'll cover this theory in-depth later on.

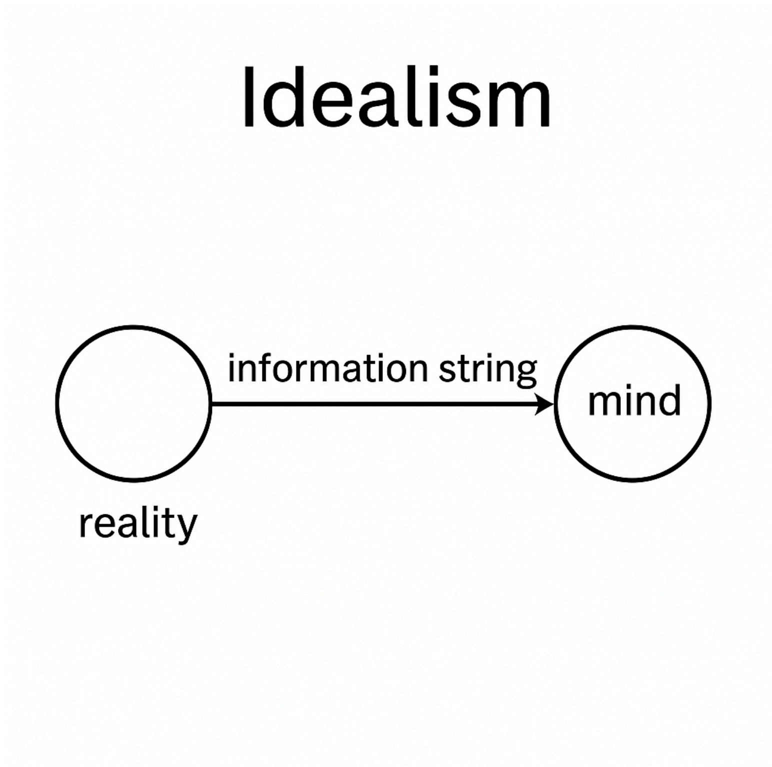

Figure 2. Under idealism, reality as we experience it is shaped by the individual mind based on the rule-set, or accepting syntax shared by the fundamental awareness that underlies both reality and the individual experiencer. This syntax has traditionally been called the *logos*, from which we derive words like logic.

For now, it is sufficient to understand that, if reality is fundamentally consciousness (note, not *conscious*, but *consciousness*), and if consciousness operates through the transduction of information, then the "shared syntax" is the inherent structure and logic within this universal consciousness. Our individual minds, being part of this system, naturally resonate with and understand this underlying structure.

Chapter 3: Idealism and Non-Dualism Through the Ages

3.1 Surveying the Field of Idealism

Idealism and non-dualism are not modern inventions. They represent some of the oldest and most persistent philosophical intuitions humanity has had. Though their expressions have varied across historical and cultural contexts, their shared conviction is this: that consciousness is more foundational than the physical world, and that the apparent multiplicity of things is rooted in a deeper unity. This chapter traces some of the most influential historical manifestations of these ideas, laying the groundwork for their revitalization in the context of contemporary computer science and information theory.

3.2 Plato: Forms, Participation, and the Intelligible Realm

Plato (427–347 BCE) may be regarded as the father of Western idealism. In dialogues such as the Phaedo, Republic, and Timaeus, he develops a vision of reality in which the visible, sensory world is merely a shadow or copy of a higher, intelligible realm, the world of Forms. These Forms are eternal, perfect, and immaterial archetypes of all things: Beauty, Justice, Equality, the Good. The sensible world "participates" in these Forms, but never fully embodies them.

Crucially, for Plato, the human soul belongs not to the world of appearances, but to the world of intelligible reality. True knowledge (*epistēmē*) is not gained through sense perception but through dialectical reasoning and recollection of truths the soul once knew prior to incarnation. In this sense, Plato offers a spiritualized rationalism, in which the mind is not merely an organ for thinking, but a gateway to a truer world.

This dual-level ontology, combining the world of appearances and the world of reality, echoes in modern computational metaphors. Just as Plato's cave-dwellers mistake shadows for reality, today's simulation hypothesis suggests our perceived world may be a kind of informational projection, whose deeper reality lies in a non-physical substrate. In both cases, the surface of experience is derivative, and absolute truth lies beyond. We see this theme repeat itself in the most recent scientific theories of biology, physics, and information.

3.3 Advaita Vedānta: The Non-Dual Self and World as Māyā

Long before Western philosophers grappled with idealism, Indian thought had already articulated a non-dual metaphysics. Among the six classical schools of Indian philosophy, Advaita Vedānta (lit. "non-dual end of the Vedas") offers one of the most sophisticated and radical expressions of idealist thinking. Systematized by Śaṅkara (ca. 800 CE/2007) in the 8th century CE, Advaita holds that Brahman, the infinite, unchanging reality, is the sole true existence, and that the self (ātman) is not different from Brahman.

What we experience as the world—diverse, changing, and full of suffering—is māyā, an illusion or misapprehension born of ignorance (avidyā). Māyā does not mean that the world is nothing, but rather that it is not what it seems. Through disciplined inquiry, meditation, and insight, one realizes that all dualities, such as self and other, mind and body, subject and object, are provisional. In truth, there is only non-dual awareness.

Śaṅkara's non-dualism is arguably more radical than most Western forms of idealism, because it does not simply assert that mind precedes matter, but that the entire structure of subject-object perception is a misreading of pure awareness. This anticipates modern interpretations of consciousness not as a product of the brain, but as the ontological ground from which both mental and physical phenomena arise.

3.4 Berkeley: To Be Is to Be Perceived

The Irish philosopher George Berkeley (1685–1753) is perhaps the most explicit proponent of immaterialism in Western philosophy. In A *Treatise Concerning the Principles of Human Knowledge* (1710), Berkeley argues that physical objects do not exist independently of perception. As he says, to be is to be perceived (*esse est percipi*). For Berkeley, what we call "matter" is not a mind-independent substance, but a regular pattern of sensations experienced by minds and governed by divine order.

Berkeley's move is to remove material substance entirely from the ontology of the world. He replaces it with ideas in minds—finite human minds and one infinite divine mind. This was not mere solipsism: God's perception ensures the continuity and coherence of the world when finite minds are not perceiving it. In this sense, Berkeley's idealism was also theological.

His ideas have been long mocked as counterintuitive, but in light of quantum physics and digital metaphors, they appear more prescient. The notion that the world exists only as it is measured, or as information in an observing system, resonates with Berkeley's claim that perception, not substance, is the basic currency of reality.

3.5 Kant: The Mind as the Condition of Experience

Immanuel Kant (1724–1804) brought a revolution in philosophy by synthesizing rationalist and empiricist traditions. In *The Critique of Pure Reason* (1781/1787), he argued that while we cannot know things as they are in themselves (*noumena*), we can know how things appear to us (phenomena), because the structure of appearance is shaped by the mind itself.

Kant's "transcendental idealism" holds that space, time, and causality are not objective features of things-in-themselves, but forms of human intuition and categories of the understanding. The mind actively organizes sensory input according to these structures. In this view, the mind is not a passive receiver but an active constructor of experience.

Though Kant did not deny the existence of a mind-independent reality, he claimed that such a reality was necessarily unknowable. This forms a critical link to later idealists who would question whether the postulation of an unknowable "thing-in-itself" was even coherent. Moreover, Kant's insistence on the role of the subject in constituting experience lays the groundwork for later models of perception as generative or predictive, ideas we now find echoed in the predictive processing model of the brain.

3.6 Hegel: Spirit and the Dialectic of Self-Consciousness

G.W.F. Hegel (1770–1831) transformed Kant's transcendental idealism into an absolute idealism in which reality itself is understood as a self-unfolding process of Spirit (*Geist*). In works like The *Phenomenology of Spirit* (1807), Hegel presents history, nature, and consciousness as moments in the self-realization of Spirit, a single, all-encompassing subject that becomes self-conscious through the dialectical evolution of finite forms.

Hegel rejects the idea of things-in-themselves as static or separate. Instead, all reality is relational and mediated through conceptual development. Contradiction, negation, and reconciliation are not problems to be avoided but engines of development. The world is not a fixed object but a dynamic, rational process whose endpoint is absolute knowledge: the full self-realization of Spirit knowing itself as all there is.

This vision parallels computational idealism's idea of the universe as an evolving computation, or as a self-aware system whose parts (like us) are agents in its recursive self-understanding. Hegel's model, though historically difficult and abstract, offers a blueprint for how consciousness might not merely be an emergent byproduct but the very substance of unfolding reality.

3.7 Schopenhauer: The World as Will and Representation

Arthur Schopenhauer (1788–1860), building on Kant and influenced by Indian philosophy, proposed a deeply original metaphysical system in *The World as Will and Representation* (1818/1844). For Schopenhauer, the world we experience is representation, a construct shaped by our cognitive apparatus. But behind this representation lies the Will, an irrational, striving force that underlies all nature and consciousness.

While Kant insisted the thing-in-itself was unknowable, Schopenhauer claimed that we know it directly, within ourselves, as Will. The body is not just an object of perception but the visible expression of this inner striving. Thus, the true nature of reality is not rational or intelligible, but a blind impulse manifesting as desire, effort, and suffering.

In this framework, consciousness is not the goal but the epiphenomenon of a deeper, unconscious force. Schopenhauer's philosophy retains a non-dualist structure, in which self and world are united in a common ontological principle. Moreover, his appreciation of Eastern thought and aesthetic contemplation as a path to transcend suffering would profoundly influence later thinkers, including Nietzsche, Freud, and Wagner.

3.8 Schelling and the Idealism of Nature

Friedrich Wilhelm Joseph Schelling (1775–1854) offered a distinctive form of idealism in which nature itself is conceived as visible spirit and spirit as invisible nature. In his *System of Transcendental Idealism* (1800/1993), Schelling sought to reconcile the subject-object split by positing an underlying Absolute that manifests both as the external world and inner consciousness. Schelling argued that the unconscious processes of nature are continuous with those of mind, prefiguring later psychodynamic and holistic views of reality.

His emphasis on creativity, becoming, and polarity within the Absolute sharply contrasted with Hegel's more logical system. Schelling's philosophy inspired early Romantics and deeply influenced later thinkers like Nietzsche, Heidegger, and even Whitehead. His vision of an organic, self-organizing cosmos also anticipates contemporary panpsychism and ecological metaphysics, in which mind and matter are not strictly separated but co-evolving expressions of one fundamental process.

3.9 Emerson and American Transcendental Idealism

Ralph Waldo Emerson (1803–1882) brought German and Platonic idealism into the American context, blending it with nature mysticism and political individualism. In essays like "The Over-Soul and Nature," Emerson articulated a vision of reality in which the individual soul participates in a universal spiritual essence. This Over-Soul is a non-dual consciousness that permeates all beings and connects the self to nature, others, and the divine.

Though not a systematic philosopher, Emerson's work bridged idealism and mysticism, influencing both American pragmatists and later spiritual movements. He viewed mind not as a derivative of nature, but as its essence, thereby reversing materialist assumptions. Emerson's transcendentalism emphasized direct intuitive knowledge, rejecting both empiricism and dogmatic religion, and laid the groundwork for later idealist interpretations of consciousness as foundational.

3.10 Henri Bergson and the Intuition of Duration

Henri Bergson (1859–1941) critiqued mechanistic and spatialized conceptions of time, proposing instead a vitalist metaphysics rooted in duration (*la durée*). In works like *Time and Free Will* (1889/2001), he argued that conscious experience flows as an indivisible continuum, irreducible to discrete physical moments. This dynamic conception of time challenged both Newtonian physics and Kantian forms, offering an organic vision of reality grounded in creative evolution.

Bergson's emphasis on intuition as a legitimate method of knowing inspired existentialist and phenomenological thinkers. His metaphysics implies a form of idealism in which the most fundamental aspects of reality—life, time, and consciousness—cannot be captured by static, conceptual thought. His work prefigured process philosophers like Whitehead and resonated with later quantum theorists who see time and matter as emergent from a deeper informational or experiential substrate.

3.11 William James and Radical Empiricism

William James (1842–1910) developed a unique version of philosophical idealism through his radical empiricism and pluralistic metaphysics. In *Essays in Radical Empiricism* (1912/1996), James proposed that experience itself is the basic substance of reality, not mind or matter in isolation. Consciousness is not a container for experience but one pole of a "pure experience" that can take on both mental and physical characteristics depending on context.

James's pluralism rejects both strict monism and reductionism, suggesting that reality consists of a mosaic of interpenetrating experiences. His thought laid the groundwork for neutral monism and has influenced contemporary panexperientialist models of consciousness. While not a traditional idealist, James moved toward a metaphysical framework where subjectivity is not derivative but co-equal with physicality, making his work relevant for modern non-dualist paradigms.

3.12 Phenomenology and the Structures of Consciousness

Phenomenology, initiated by Edmund Husserl (1859–1938), shifted the focus of philosophy from metaphysical speculation to the rigorous description of conscious experience. Husserl's *Logical Investigations and Ideas* aimed to uncover the essential structures of phenomena as they appear to consciousness, a project he called the "science of consciousness." In bracketing the question of the external world's existence (*epoché*), Husserl gave priority to lived experience, making phenomenology inherently idealist in method.

His student, Martin Heidegger, deepened phenomenology into an existential investigation of Being, while later figures like Merleau-Ponty emphasized embodiment and perception. Though often interpreted as anti-metaphysical, phenomenology underpins many contemporary non-dualist and panpsychist theories that regard experience as the irreducible foundation of knowledge and being. Its influence also spans into cognitive science and artificial intelligence, where subjective intentionality resists reductive explanation. Computational idealism shares many similarities with Husserl and Heidegger's work, particularly their views on relationality, which we'll cover in a later chapter.

3.13 Alfred North Whitehead and Process Idealism

Alfred North Whitehead (1861–1947) synthesized metaphysical idealism with scientific insights through his "philosophy of organism," now known as process philosophy. In *Process and Reality* (1929/1978), Whitehead rejected substance metaphysics and proposed that reality consists of "actual occasions," momentary experiential events that form the basic units of existence. These occasions are not static entities but dynamic processes of becoming, driven by both prehensions and conceptual aims.

Whitehead's position is rooted in the claim that all reality is experiential at its core: even the most basic constituents of nature possess a form of pre-conscious feeling or subjectivity. God, in his system, is the ultimate organizing principle that lures all processes toward complexity and harmony. This panexperientialist worldview has been influential in theology, quantum theory, and ecological metaphysics. Whitehead's non-dualism lies in his refusal to separate mind from matter, seeing them as aspects of the same experiential flow.

3.14 Josiah Royce and the Absolute Self

Josiah Royce (1855–1916) was the most prominent American absolute idealist, deeply influenced by Hegel yet seeking a more personal and ethical foundation for metaphysics. In *The World and the Individual* (1900), Royce proposed that reality consists in an Absolute Self that knows and includes all finite selves and their experiences. He viewed the universe as a coherent whole whose unity is found in the structure of purpose and meaning rather than in physical substance.

Royce's idealism was both metaphysical and ethical. He argued that the moral life points toward a community of interpretation, a kind of universal mind, that makes error and truth possible. This teleological idealism was meant to reconcile individuality with unity, anticipating later ideas in intersubjectivity and spiritual non-dualism. While later overshadowed by pragmatists like Dewey, Royce's emphasis on mind-like coherence continues to resonate with those interested in collective consciousness and the informational structure of reality.

3.15 Kitarō Nishida and the Kyoto School of Non-Dualism

Kitarō Nishida (1870–1945), founder of the Kyoto School, developed a non-dualist metaphysics that bridges Western idealism with Zen Buddhism. In his *An Inquiry into the Good* (1911/1990), Nishida introduced the concept of pure experience, a pre-reflective unity of subject and object that precedes dualistic thinking. For Nishida, reality is not made of discrete substances but of relational processes unfolding within a field of absolute nothingness (*mu*), which he identified with the ground of consciousness.

Nishida's work reinterprets both Western absolute idealism and Buddhist non-duality, suggesting that the self is not an isolated ego but a point of self-negation in the larger field of awareness. His successors, Nishitani and Tanabe, further developed this line of thought, proposing a radically relational and impermanent model of self and world. The Kyoto School remains one of the most sophisticated attempts to synthesize Eastern and Western philosophies of consciousness and being.

3.16 Sri Aurobindo and Integral Non-Dualism

Sri Aurobindo (1872–1950), an Indian philosopher and mystic, articulated an evolutionary form of idealism grounded in Vedantic non-dualism. In works like *The Life Divine* (1939/2005), he argued that all reality is the manifestation of a single divine consciousness (*Sachchidananda*) that evolves through nature toward self-realization in the individual and collective being. Unlike traditional Advaita Vedānta, which often emphasized renunciation of the world, Aurobindo saw the material world as a stage in divine evolution.

Aurobindo proposed that the Supermind, an integrative, supra-rational consciousness, would eventually transform both individuals and society. His vision blends idealist metaphysics with psychological and political themes, emphasizing transformation through spiritual practice. His influence extends to transpersonal psychology, integral theory (e.g., Ken Wilber), and non-dualist interpretations of evolution and consciousness as cosmic unfoldings of mind.

3.17 Contemporary Idealist Revival: Bernardo Kastrup and Analytic Idealism

In recent decades, idealism has seen a resurgence, particularly through the lens of consciousness studies and information theory. Bernardo Kastrup, a leading figure in this revival, defends analytic idealism: the thesis that universal consciousness is the sole ontological primitive, and that individual minds are dissociative processes within it. In books like *The Idea of the World* (2019), Kastrup argues against physicalism by appealing to modern physics, the hard problem of consciousness, and logic.

Kastrup's model interprets the physical world as a symbolic representation of mental activity, drawing on Jungian psychology, quantum theory, and digital metaphors. His views align with non-dualist spiritual traditions, while offering a scientifically informed metaphysical idealism compatible with simulation theory and integrated information theory.

3.18 The Perennial Philosophy

From the ancient contemplative insights of the Upanishads to contemporary reflections on the informational nature of the universe, idealism and non-dualism have persisted as deep and resonant frameworks for understanding reality. Though often marginalized in eras dominated by materialist or empiricist paradigms, these perspectives have proven remarkably resilient, reemerging in different forms as philosophical, religious, and scientific thought has evolved.

Idealism, in its many guises, consistently challenges the assumption that the world exists independently of mind or experience. Whether in Plato's metaphysical realism, Berkeley's theistic immaterialism, Kant's transcendental subjectivity, or the analytic approach of modern thinkers like Kastrup, we find a recurrent emphasis on the centrality of consciousness, intelligibility, and relationality in the fabric of the real. Non-dual traditions, from Advaita Vedānta to Mahayana Buddhism and the mysticism of Plotinus, further deepen this view by proposing that distinctions between subject and object, self and world, are ultimately provisional. Useful for practical life, but not metaphysically fundamental.

In the modern and postmodern periods, these traditions have not only endured but found new modes of expression. The analytic rigor of figures like Royce and Whitehead helped idealism re-enter philosophical discourse through logic, mathematics, and science. Simultaneously, the work of non-Western thinkers such as Nishida and Aurobindo revitalized non-dual metaphysics with cross-cultural and evolutionary perspectives. The digital revolution has added yet another layer, enabling simulations, computational models, and theories of information to serve as new metaphors, or even mechanisms, for understanding a reality fundamentally shaped by consciousness.

What emerges from this survey is a philosophical lineage that is neither antiquated nor obsolete. Idealism and non-dualism are not relics of pre-scientific metaphysics; they are living traditions capable of integrating with contemporary science and cognitive theory. As the boundaries between physics, computation, and consciousness blur, these perspectives are poised to inform a new metaphysics, one that may transcend the long-standing dualisms of subject and object, mind and matter, appearance and reality.

In the chapters to follow, we will explore how such a synthesis might unfold in the context of quantum physics, digital information, and modern theories of consciousness, seeking not only a coherent worldview, but one that restores mind to its place at the heart of the cosmos.

Chapter 4: Analytic Idealism and Other 21st Century Variations

4.1 The Return of Idealism

As the 21st century progresses, interest in philosophical idealism has experienced a notable revival. Spurred in part by developments in consciousness studies, quantum physics, and the limitations of physicalism, contemporary thinkers have begun to revisit and revise idealist frameworks. This chapter examines several leading voices in this intellectual resurgence, but especially Bernardo Kastrup, whose "analytic idealism" seeks to defend monistic idealism using analytic philosophy and scientific reasoning. We also explore related contributions by Donald Hoffman, Iain McGilchrist, Federico Faggin, and Christof Koch, whose work collectively suggests a growing convergence between idealism and modern science.

4.2 Bernardo Kastrup and Analytic Idealism

Bernardo Kastrup is perhaps the most prominent defender of philosophical idealism in the contemporary analytic tradition. His version, termed analytic idealism, is a form of metaphysical monism that holds that consciousness is the sole ontological primitive. According to Kastrup, all of reality unfolds within a single universal consciousness, and individual minds are dissociated alters, or localized points of experience, within this larger field (Kastrup, 2019).

Kastrup's philosophical method is marked by commitment to analytic rigor, and a close engagement with contemporary physics and neuroscience. Drawing on dissociative identity disorder (DID) as a metaphor, he argues that just as multiple personalities (alters) can emerge within a single human psyche, so too can individual consciousnesses emerge as dissociative processes within a universal mind. Dissociation thus provides a naturalistic mechanism to explain both the unity of the universe and the plurality of subjective experience.

Importantly, this provides a mechanism by which idealism can address its most famous criticism in philosophy of mind: the decombination problem. Namely, how does one mind become many? Dissociation is an empirically verified and well-studied mechanism that causes this phenomenon. Meanwhile, physicalism cannot cite an empirically verified mechanism to address the hard problem of consciousness, the measurement problem of quantum physics, the problem of existence, or the problem of the impossibility of epistemic justification; dualism cannot solve the interaction problem; and panpsychism cannot solve the combination problem, or the problems it shares with physicalism and dualism. Thus, Kastrup has positioned idealism as the only ontology in the game today that has a scientific resolution to its historically key question.

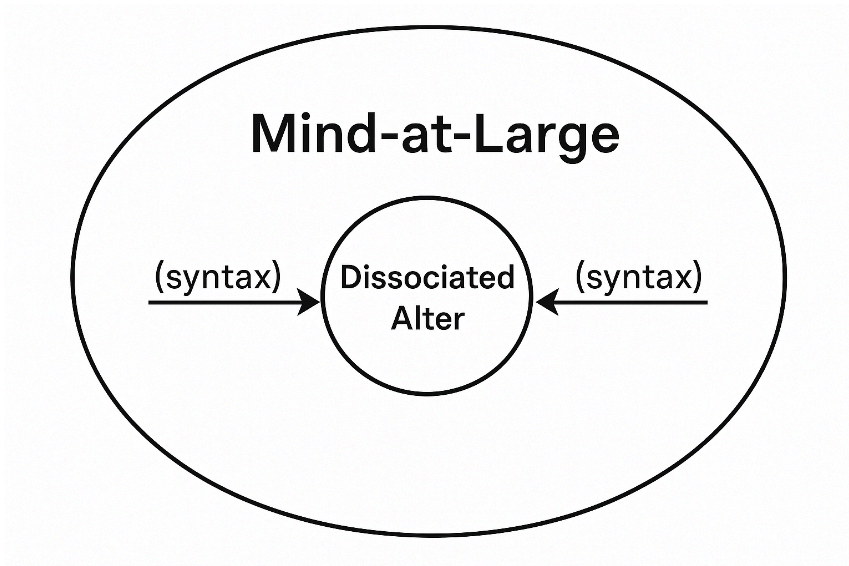

Figure 3. Diagram illustrating Bernardo Kastrup's analytic idealism. The dissociated alter is a subset of Mind-at-Large. The internal contents of the fundamental mind are external to the alter. Following the organization and intelligibility provided by the syntax/rule-set, these informational contents impinge on the dissociative boundary of the alter. As a result, the alter renders the physical world, translating the information into a perceptual language that meets its computational capacities.

He also critiques physicalism for failing to account for the hard problem of consciousness and the intrinsic nature of matter. Using arguments derived from Arthur Eddington, Bertrand Russell, and contemporary panpsychists, Kastrup claims that what we call "matter" is merely the extrinsic appearance of mental processes, viewed from outside the dissociative boundary of another conscious subject (Kastrup, 2019).

Kastrup's idealism is also distinct from solipsism or theism: the universal mind is not a personal deity nor is it reducible to any one individual. Instead, it is a metaphysically neutral substrate whose manifestations give rise to both nature and subjectivity. And, he departs from subjective idealism in the Berkeleyan sense. Instead of the bishop's idea that "to be is to be perceived," Kastrup's model is more: "to be is to exist for oneself." This converges nicely with scientific models, such as Integrated Information Theory (IIT), as we'll see later on.

4.3 Donald Hoffman: Conscious Agents and Interface Theory

Cognitive scientist Donald Hoffman has also offered a scientific and mathematical approach to idealism. In his Interface Theory of Perception, Hoffman proposes that what we perceive is not objective reality but a user interface shaped by evolution to enhance fitness rather than truth (Hoffman, 2019). Like a computer desktop that hides the complex operations of the machine beneath it, our perceptions are symbolic representations with no direct correspondence to the underlying structure of reality.

Hoffman's theory is explicitly anti-physicalist: he argues that spacetime and physical objects are not fundamental but emerge from more basic cognitive processes. His mathematical model of conscious agents formalizes a reality made entirely of interacting fields of conscious experience. In this view, the universe is composed not of matter but of networks of experiential nodes, subjects of consciousness that relate to each other through patterns of communication and transformation.

As such, Hoffman's science is grounded in consciousness, and he rejects the ontological primacy of matter. Like Kastrup, Hoffman uses the tools of cognitive science, mathematics, and evolutionary theory to argue that idealism is not only metaphysically coherent but also scientifically viable.

4.4 Iain McGilchrist: Hemispheres and the Primacy of Meaning

Iain McGilchrist approaches idealism from a neuropsychological and cultural-philosophical angle. In *The Master and His Emissary* and *The Matter with Things*, McGilchrist explores how the divided brain reflects two modes of knowing—one reductive and instrumental, the other holistic and relational (McGilchrist, 2009; 2021). He argues that modern Western civilization has become dominated by the left hemisphere's mode of abstraction and control, leading to a fragmented and mechanistic worldview. In contrast, the right hemisphere's mode, which sees the world as interconnected and alive, is more consistent with an idealist understanding of reality as fundamentally relational and imbued with meaning. Hence, a neuroscientific explanation for why physicalism (left-hemisphere) and idealism (right-hemisphere) have been arch rivals in every civilization throughout history and across the globe. These philosophical theories are linguistic mappings of reality, and they follow the ways in which each hemisphere filters that reality to the finite mind.

McGilchrist emphasizes that reality is not best understood as an assemblage of discrete parts, but as an unfolding of meaning that precedes and shapes perceptual experience. This view mirrors the core intuition of many idealist philosophies—that the world is not a brute fact but an intelligible manifestation of mind. We will return to the hemispheric differences at a later juncture.

4.5 Federico Faggin: Consciousness and the Quantum Vacuum

Federico Faggin, the inventor of the first commercial microprocessor, has in recent years turned to questions of consciousness and metaphysics. He proposes a non-materialist theory in which consciousness is the ground of being, and the physical universe is an emergent expression of conscious experience. Drawing from quantum physics and Eastern spiritual traditions, Faggin describes a “quantum vacuum” that is itself conscious and creative (Faggin, 2022).

Faggin’s framework emphasizes the primacy of subjective experience and intuition. He argues that consciousness is not an emergent property of matter but the reverse: matter and energy are the phenomenal aspects of a deeper, conscious reality. This view not only echoes traditional idealist positions but attempts to unify them with scientific paradigms from quantum mechanics and computational theory. Unlike many physicalist models of consciousness, which attempt to reduce it to brain processes or algorithmic complexity, Faggin treats consciousness as ontologically prior. His work is significant in that it comes from a highly respected figure in engineering and technology, signaling a broader opening in scientific discourse toward idealist metaphysics.

4.6 Christof Koch and Integrated Information Theory

Christof Koch, long associated with physicalist and neuroscientific approaches to consciousness, has increasingly entertained positions that intersect with idealism, even dialoguing with Kastrup on the subject multiple times. A key development in this regard is his advocacy of IIT, which he co-developed with Giulio Tononi. IIT posits that consciousness corresponds to integrated information structures (Tononi & Koch, 2015). Although IIT itself is often described as a kind of panpsychism or neutral monism, Koch has acknowledged that IIT naturally lends itself to an idealist interpretation. The theory asserts that conscious experience is intrinsic and irreducible, suggesting that consciousness is not something brains “produce,” but rather something that complex systems instantiate.

Some proponents of IIT, including Kastrup and others, argue that if integrated information is truly foundational to existing systems, then consciousness is the fundamental ground of reality. Koch himself has expressed increasing openness to these interpretations, suggesting that the scientific study of consciousness may be converging on philosophical insights that idealism has long articulated. While IIT remains an ontologically neutral scientific theory, its contributions to neuroscience and philosophy of mind lean toward ruling out non-idealist ontologies.

4.7 Toward a New Metaphysical Consensus?

What unites these perspectives is a shared conviction that consciousness is not an epiphenomenon of matter but the foundation of reality itself. This renewed focus on subjectivity, meaning, and experience represents not a return to pre-scientific mysticism but the emergence of a post-materialist worldview, one in which idealism is not only philosophically coherent but scientifically indispensable. It is to this survey of historical and contemporary idealism that we introduce computational idealism.

Chapter 5: Responding to Objections to Idealism

5.1 The Unintuitive, but Obvious, Western Philosophy
Idealism, especially in its metaphysical and ontological forms, has often been met with resistance in modern philosophy and science, which has been heavily skewed toward physicalism. This is especially true in Western thought. Critics argue that it conflicts with common sense, undermines objective knowledge, or lacks empirical grounding. This chapter addresses the main objections to idealism and demonstrates how contemporary idealist frameworks, including analytic idealism, respond compellingly to each.

5.2 Objection: Idealism Denies the Existence of a Mind-Independent World
The Criticism:
One of the most common objections to idealism is that it denies the existence of an objective world independent of our perceptions. Realists often argue that idealism collapses into solipsism, the belief that only one's own mind exists, since if the world is mental, it may just be a projection of an individual mind.

Response:
Idealism, particularly in its modern forms, does not deny the existence of a world external to the individual mind. Instead, it reinterprets this world as grounded in universal mind or consciousness, rather than in ontologically independent matter. For instance, Bernardo Kastrup's analytic idealism posits a transpersonal "Mind-at-Large" as the ground of all experience, thereby preserving the reality of a shared, lawful world while rejecting material substance dualism or realism (Kastrup, 2019). His model of finite minds as dissociated alters within Mind-at-Large preserves the external-internal distinction, while maintaining that reality has one ground state.

Moreover, empiricist philosophy has never successfully established the existence of a mind-independent world. In fact, David Hume, often considered a patron saint of empiricism, was deeply skeptical about the very notion of external reality. Hume argued that we never directly perceive external objects; instead, we experience only impressions and ideas in the mind. The notion of a persistent external world, for Hume, arises not from reason but from habit or custom, a psychological tendency to assume stability and continuity where none can be strictly demonstrated (Hume, 1748/2000). Even within empirical traditions, there can be no epistemic justification for an external world. Thus, in the arena of philosophical debate, the empiricist tradition has been forced to appeal to other epistemic standards, such as pragmatic utility. However, these are ultimately an appeal to the arbitrary and relativistic, and as such, still lack true epistemic justification. Theories like idealism, which do provide epistemic justification for their claims, are automatically superior, no matter what the current common sense usage of "utility" might be.

Kastrup and others take this insight further. Rather than accept physicalism on faith, we should consider a metaphysically simpler explanation—that the world is not external to consciousness, but a structured activity within it. Similarly, Donald Hoffman's interface theory of perception (2019) claims that what we see is not objective reality but a symbolic interface evolved to guide survival. In this light, idealism offers not a denial of reality but a reinterpretation, one that is arguably more consistent with empirical data and epistemological caution than is realism.

In another irony, it is actually physicalism that entails a false external, material world. Physicalism posits the existence of an objective physical order, but also claims that we can never directly know it. Instead, our brain generates our consciousness, including a hallucinated representation of that physical reality, complete with the qualities of perception. In this model, we only ever experience the representation, not the world in itself. And, as Hume (1748/2000) made clear, we can never have epistemic justification for believing in that external world. Therefore, it is actually physicalism that says that the material world is all in our heads.

By contrast, idealism is the ontology that validates the reality of the physical order. While it does not posit physicality as a substrate that exists independently of mind, idealism does claim that the physical world of our perception exists *as experiences*. Under idealism, experiences (information presencing to awareness) are what exist. Unlike in the physicalist paradigm, idealism entails that we have direct access to this world as we experience it. The book you're reading is not a hallucination generated by the brain. It is a real book, including both its quantitative measurable parameters and its qualitative properties—*real as experience*. Moreover, because idealism takes as ontologically fundamental the awareness that is the one epistemic given, the idealist position provides epistemic justification for its system of claims.

Furthermore, the success of mathematics in describing the physical world, and the interpretational difficulties in quantum mechanics (e.g., the observer effect and the role of measurement), give strong motivation for questioning the assumption of a mind-independent physical substrate. Even Donald Hoffman's "conscious agent" theory argues that what we take to be physical objects are merely useful perceptual icons, not the true nature of reality (Hoffman, 2019).

5.3 Objection: Idealism is Incompatible with Science

The Criticism:
Many object that science presupposes a material world, and that idealism is thus fundamentally anti-scientific. Empirical observation, experimental reproducibility, and physical laws all seem to demand a materialist ontology.

Response:
Idealism is not anti-scientific; rather, it offers a different metaphysical foundation for science. It reinterprets scientific data, but rejects none of that data. In fact, several physicists and philosophers have pointed out that physical theories, especially in quantum mechanics, do not require a materialist ontology. As Max Planck, the father of quantum theory, once said: "I regard consciousness as fundamental. I regard matter as derivative from consciousness."

Bernardo Kastrup has argued that analytic idealism makes sense of the empirical success of science by treating the patterns we observe as regularities in the unfolding of experience within a shared mental reality (Kastrup, 2021). Similarly, IIT implies that consciousness is fundamental and that informational structures give rise to what we call the physical world (Tononi & Koch, 2015), a claim more compatible with idealism than with materialism.

More than that, this criticism stems from an incoherent move by physicalists, when they conflate the ontological position of physicalism with science itself. In fact, science is ontologically neutral. All of the major ontologies on the table today offer interpretations of the same pool of scientific data. To identify science with any one of these philosophies is fallacious. Physicalism has no special claim to science. Moreover, only idealism gives an epistemically justified ontology to all that science must presuppose in order to function. This includes truth and falsity, which are required for falsification to function as a method.

As we'll see in later chapters, idealism alone provides a grounding and an account for computation, logic, and mathematics. Physicalism precludes epistemology, instead asking for us all to grant it the miracle of everything it requires to get started, and then promising to explain everything else. Of course, this is not acceptable under the standards of analytic philosophical debate. As stated at the outset, one intention of this book is to reclaim computation, logic, mathematics, information, and natural laws from physicalism, given that the latter makes false and fallacious claims to exclusive ownership of science. Indeed, if physicalism were true, then science would be impossible.

5.4 Objection: Idealism Cannot Account for the Apparent Stability and Regularity of the World

The Criticism:
If the world is mental, why is it so stable, predictable, and regular? Why do physical laws work with such precision? Wouldn't a mental world be chaotic and subjective?

Response:
Idealism does not entail subjectivism or arbitrariness. The apparent regularity of the world can be accounted for by positing a shared mental substrate, often termed "universal consciousness," "Mind-at-Large," or "the absolute," that underlies all individual experiences. Just as dreams and hallucinations have internally consistent rules and patterns, so too can the shared world of waking life. But unlike private dreams, the regularity of waking experience reflects a deeper and inter-subjective order. Additionally, depth psychology has a long tradition of describing archetypes, or regular patterns that organize the contents of the psyche. It should be no surprise then, that a reality grounded in consciousness shows regularity and consistency. Later chapters will show that, under idealism, we can derive this structure and regularity from information dynamics.

Kastrup (2019) draws an analogy to dissociative identity disorder: within a single consciousness, many seemingly separate minds can emerge, each unaware of the whole, yet still following coherent patterns. In this light, the laws of physics are not undermined by idealism, but reconceived as the consistent behavior of mental processes in the universal mind. Dissociation also provides an empirically known mechanism by which to solve the decombination problem of idealism: that is, how does one mind divide into many?

Once again, it is physicalism that entails arbitrariness in reality. By claiming that reality is nothing over and above purely quantitative physical entities (that is, lacking any qualities), physicalism renders reality completely meaningless. The theory provides no ontological grounding for truth, knowledge, meaning, logic, values, or any of the other qualitative concepts required for epistemically justifying claims, for perception, or for systems of thought like science and philosophy. As such, because a physicalist reality precludes the existence of truth, all worldviews in that reality are arbitrary. Of course, physicalism is a worldview, and so is rendered arbitrary by its own standards. In philosophical debate, this is a defeater for the position.

5.5 Objection: Idealism Leads to Solipsism

The Criticism:

As already touched on, another critique is that idealism equals solipsism. If everything is mental, how can we be sure other people exist, or that we're not just imagining the entire universe?

Response:

This objection arises from confusing subjective idealism (e.g., Bishop Berkeley's original form) with more sophisticated versions like objective idealism (Schelling, Hegel) or analytic idealism (Kastrup). These philosophies do not claim that only your individual mind exists. Rather, they propose that all minds, including yours, are expressions or dissociated parts of a greater consciousness. In this sense, it could be considered a form of "universal solipsism," but not a solipsism rooted in the individual mind.

Moreover, solipsism is not unique to idealism. Materialism also struggles with the problem of other minds. If all we perceive are behaviors and physical bodies, how do we know other beings are conscious? In contrast, idealism provides a metaphysical continuity between self and others. If all are manifestations of the same field of consciousness, then other minds are not just possible, but inevitable. There is a single experiencer, the fundamental awareness, underlying all minds. Therefore, the traditional conception of solipsism cannot possibly apply, except at the level of reality itself. That distinction defeats this objection.

5.6 Objection: Idealism Cannot Explain Unconscious or Non-Experiential Phenomena

The Criticism:

How does idealism explain seemingly unconscious phenomena like rocks, planets, or dead matter? These things do not appear to be conscious or have experience, so how can they exist in a world grounded in mind?

Response:

Idealism distinguishes between phenomenal consciousness (conscious experience as we know it) and experiential reality in a broader sense. In analytic idealism, what we call "unconscious" matter may be part of consciousness that is not currently self-reflective. That does not mean there is no experiential aspect at all.

This view aligns with panpsychism and with IIT, which suggest that consciousness comes in degrees or forms, and that simpler systems have simpler or more diffuse experiences (Koch, 2019). Just as we may not remember certain parts of our dreams but still believe they occurred, the universal consciousness may host experiences that are inaccessible to individual minds but still metaphysically real. As we'll argue as part of computational idealism, all physical systems under IIT integrate information, down to the subatomic level.

For example, a proton is a unified system of three quarks in interaction, and has intrinsic cause-effect power (Tononi & Koch, 2015). In other words, physical systems, including the particles that make them up, have degrees of computational power, or "mind." Federico Faggin (2022) also argues that even computational structures or energy patterns can be understood as expressions of consciousness, though not necessarily conscious in the sense of having agency or self-awareness in the sense that humans understand.

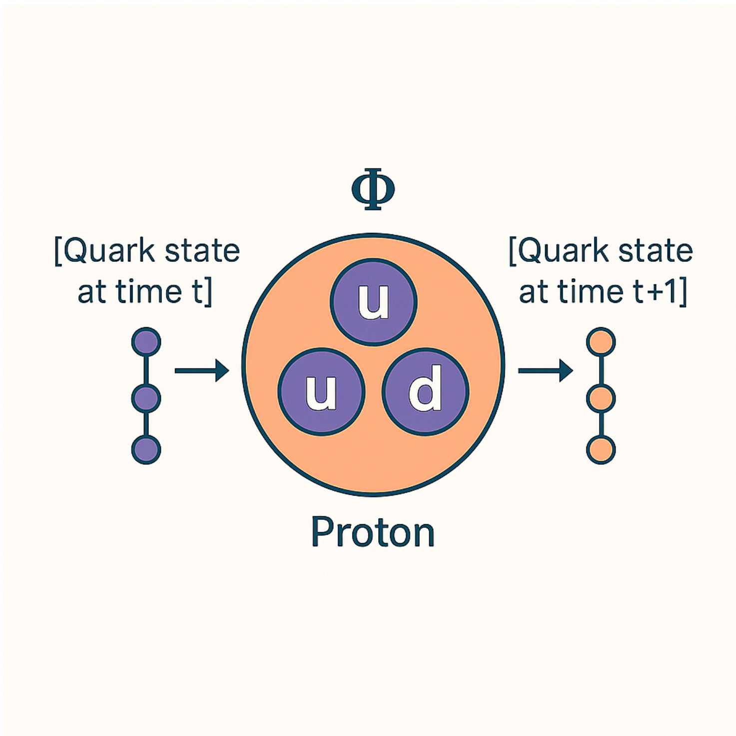

Figure 4. A proton integrates information under Integrated Information Theory (IIT). The proton's constituent quarks (two up quarks and one down quark) interact through gluon exchanges, forming a unified, irreducible system. The label Φ ("phi") signifies the system's intrinsic cause-effect power, reflecting IIT's principle that consciousness corresponds to the level of integration in a system's informational structure. Thus, physical systems, down to the subatomic level, are "minded," in the sense that they fall on a spectrum defined by the amount of integrated information and the complexity of the system.

Idealists can also respond that the appearance of unconsciousness is a matter of perspective, not substance. The fact that something seems unconscious to us does not entail that it is truly devoid of mind. Much as a bat's echolocation or a cuttlefish's color-shifting camouflage lie outside the range of our direct understanding, so too might the modes of consciousness expressed by the world elude our perceptual and conceptual systems. The human cognitive architecture evolved for survival within a narrow band of ecological and sensory constraints, and we should not presume that what we fail to detect does not exist.

The philosopher Ludwig Wittgenstein offers an analogy that supports this view. In *Philosophical Investigations* (1953), he writes: "If a lion could talk, we could not understand him." Wittgenstein's point is that understanding another being's language requires sharing a "form of life," a background of experience, concerns, and embodiment. Even if a lion used perfectly grammatical English, its concepts and motives would be so alien to us that true comprehension might be impossible. Similarly, if we understood "Lion-ese," we would still be unable to follow conversations, because we lack the essential experience and context of what it is like to be a lion. By analogy, the material world might be pervaded by forms of consciousness, however subtle or diffuse, that are simply inaccessible to our form of life.

Indeed, IIT seems to indicate exactly this, as does Hoffman's Interface Theory of Perception. If awareness is the ground of all reality, then we would expect all existing systems to be aware. Their degree of computational power and information integrations would dramatically vary, but the same experiencer would look out through each mind. As such, the seemingly unconscious systems would have an imperceptible and unrelatable set of experiences from our perspective, but would indeed be aware.

The key point here is that, under idealism, nothing has *consciousness. Rather, everything* is *consciousness.*

Just as we fail to understand the language of bats or the subjective life of a tree, we may fail to recognize the signatures of mind in the natural world. The fact that matter behaves in lawful, intelligible ways, so amenable to mathematical description and scientific prediction, can itself be taken, as some idealists argue, as a hallmark of an underlying mental order. In Bernardo Kastrup's analytic idealism, for instance, the apparently unconscious physical world is conceived as extrinsic appearances of a deeper, shared mind (Kastrup, 2021). The world seems unconscious not because it lacks mind, but because we are cognitively closed to the kinds of mentality it expresses.

Moreover, thinkers like Iain McGilchrist have shown that the left hemisphere's model of reality, highly abstracted, objectifying, and detached, has come to dominate our culture's worldview. This dominance may further obscure our sensitivity to the inwardness of the world, as the right hemisphere's more holistic, relational way of knowing is diminished or neglected (McGilchrist, 2009). The "unconscious" appearance of the world may be less an insight into its nature than a reflection of our own perceptual filters.

In short, the apparent unconsciousness of the world is not a decisive objection to idealism. It may instead reflect the limitations of our own interpretive framework, shaped by evolution, language, and culture. To say that rocks or stars have no mind because they do not think as we do may be akin to saying that whales are mute because we cannot hear their underwater songs. Rocks are systems that integrate information. If minds are information systems, as we claim in computational idealism, then rocks are, indeed, minded expressions of the underlying field of awareness that is reality. The level of information that they can integrate is, of course, lower than that of the human brain, which correlates with the human mind. As such, we would not expect a rock to perform mental functions in any manner that we do. This does not preclude a minded aspect to physical, informational entities. The latest theories of perception and neuroscience point in the direction that mind is more widespread than the current physicalist paradigm believed.

5.7 Objection: Neuroscience Shows That the Brain Causes Consciousness
The Criticism:
One of the most frequently raised objections to idealism comes from neuroscience. The argument goes like this: if consciousness is fundamental and not produced by the brain, then why do changes to states of metabolic brain activity result in corresponding changes in conscious experience? For example, when someone drinks alcohol, suffers a concussion, or undergoes neurosurgery, there are observable and sometimes dramatic shifts in their mental states. Doesn't this strongly suggest, if not prove outright, that the brain generates consciousness?

Response:
On the surface, this appears to be a powerful argument for physicalism, where consciousness is taken to be a byproduct of brain processes. However, idealists contend that this inference is deeply flawed. The core issue lies in mistaking correlation for causation.

The "hard problem of consciousness," as famously articulated by philosopher David Chalmers (1995), exposes this issue starkly. Even if we could create a complete mapping between every possible physical brain state and every possible conscious experience, down to the subtlest sensation or shift in mood, this mapping would remain just that: a list of correlations. It would do nothing to explain how or why, at a level of causally significant mechanistic specificity, certain brain states give rise to subjective experience in the first place. The very existence of qualitative, first-person experience remains unaccounted for in any third-person, quantitative account. While the activities of mind can be described with quantities, such as the level of information processing it performs, the awareness that underlies mind defies quantization. It is purely qualitative.

The hard problem is thus not an empirical problem that more neuroscience might eventually solve. It is an in-principle philosophical problem derived from confused ontology and epistemology. The challenge is that purely quantitative physical structures (neurons, fields, electrochemical patterns) are being asked to produce the qualitative richness of experience (the redness of red, the pain of a headache, the feeling of déjà vu, and contentless awareness itself). This leap from quantity to quality is not just currently unexplained, but also logically impossible. The physicalist position is akin to asking how the informational contents processed by a computer could generate the computer. It gets the direction of dependence backwards. It is far more coherent to suppose that consciousness generates representations of the brain, rather than the brain generating consciousness. Doing so, idealism explains the correlations between brain activity and experiential states, including all of the data from neuroscience, without encountering the hard problem. There remains under idealism the tight correlation between brain activity and conscious experiences, but without the leaps of faith required to pull an external reality out of the consciousness by, in, and through which we exclusively experience that reality.

Under idealism, the brain is not the producer of consciousness but rather a model within consciousness. It is a rendered appearance that constitutes a certain structure of mental activity. To use Bernardo Kastrup's (2019) language, the brain is the extrinsic appearance of underlying dissociative processes within universal consciousness. When someone drinks alcohol or sustains brain trauma, what is happening is not a mechanical interference with the generator of consciousness, but a modulation of the form in which consciousness presents itself to itself, represented symbolically as changes in brain patterns. This is no more controversial to say than the fact that a thought can lead to a memory that can lead to an emotion. Each is a case of mental activity impinging on other mental activity, all within the same underlying field of awareness.

As such, neuroscience fits within idealism, much as user interface icons fit within the operations of a computer. Donald Hoffman (2019) illustrates this by noting that our perceptions, including those of brains, are like icons on a desktop: they are useful representations, not literal realities. The brain is the "user interface" through which consciousness interacts with the rendered world, but it is not the source of awareness. As we dive deeper into minds as information processors, we'll see the processes by which this relationship between brain and consciousness operates.

Idealism therefore acknowledges the robust correlations uncovered by neuroscience while rejecting the metaphysical leap that these correlations entail generation or production. To repeat a core principle: correlation is not an explanation of mechanism.

5.8 The History of the Cosmos Proves an Independently Existing Physical Reality

The Criticism:

One of the most intuitive objections to idealism stems from our observations of the cosmos and its apparent antiquity. Modern cosmology presents a universe that began with a Big

Bang nearly 14 billion years ago, underwent a long period of cosmic evolution, led to the formation of galaxies, stars, planets, and eventually life on Earth. All long before human consciousness appeared on the scene. Doesn't this sequence strongly imply that the universe exists independently of any conscious observers, thereby refuting idealism? Doesn't the historical evidence found in cosmic microwave background radiation, planetary geology, and evolutionary biology point to an external world that was already there before any mind could be aware of it, and will likely remain long after conscious beings are gone?

Response:
This objection gains much of its intuitive force from the way modern physical science frames cosmic evolution. However, upon closer inspection, it begs the very question under debate by assuming physicalism as a starting point. The objection presumes the independent, external physical universe as a brute fact, and takes consciousness to be a late-coming byproduct of complex physical processes, particularly biological evolution. But idealism rejects precisely this metaphysical premise. To raise the history of the cosmos as a refutation of idealism is akin to saying, "If physicalism is true, then idealism is false," which is tautologically correct but entirely uninformative. In the context of debate, it is also fallacious.

Under computational idealism, the model of idealism articulated throughout this book, the evolution of the cosmos is not denied, but reinterpreted. The perceived history of the cosmos is taken as the unfolding of the informational content embedded in the structure of consciousness itself. The cosmos, in this view, is the result of a particular set of rule-based regularities, the *logos* or syntactical generative structure, according to which the contents of consciousness unfold. Recall that such a structure is required, if reality is to be intelligible to us (and it must be intelligible for us to perceive it, let alone think about it). The physical world is not an objective entity existing in a vacuum. Rather, it is what consciousness renders when it simulates these contents following that structure.

In this framework, the apparent age and developmental arc of the universe do not contradict idealism. They are part of the logic of the simulation, providing a consistent, coherent rendering of information, much like how a historical timeline may be depicted within a simulated world in a video game. When a conscious agent in that simulation explores ancient ruins or studies a simulated archaeology, she may uncover layers of "past" information that were generated to provide depth and continuity to the experience. Similarly, when we look out into the stars, we perceive informational contents consistent with a universe that evolved across billions of years. But this does not require that the universe existed in the absence of consciousness. It only requires that the informational structure rendered to us obeys the rule-set (or syntax) that gives rise to the experience of temporal and evolutionary coherence. Indeed, all of those past experiences of fundamental awareness, prior to the specifically human experience now available to it, could be viewed as "stored" in the "database" of fundamental mind.

Moreover, idealism claims that there has always been awareness, since that is the ground state of being. Finite minds, such as ours, can still have evolved at a much later time. Thus, it is quite possible under idealism to say that the human experience is a late-coming development in the cosmos. However, because awareness is fundamental, there has always been that one experiencer, with many systems of informational complexity and processing within itself. The history of the cosmos, then, is simply the "revision log" of the multitude of types of experiences that this awareness has created within itself, for itself, including all those prior to its current ability to experience as human minds. Under computational idealism, physical systems are minded, since they integrate information and are thus informational transducers. Naturally, this appeals to the model provided by IIT. Because of this, they provide awareness with a "packet" of potential experiences, constituting a reality frame, much the way that different video game systems render varying levels of complexity in their game worlds. As such, the evolution of the cosmos is also the evolution of the complexity of experience, with the human mind representing the most complex that we empirically know so far. Far from rejecting the history of the cosmos, this model *necessitates* a cosmic history.

The plausibility of such an informational unfolding is strengthened by the study of cellular automata, such as those developed by Stephen Wolfram (2002). These are simple computational systems that follow recursive rule-sets, often with only a few bits of starting information. Despite their simplicity, cellular automata can produce astonishingly complex and orderly patterns, resembling phenomena such as biological growth, self-organization, and even apparent randomness.

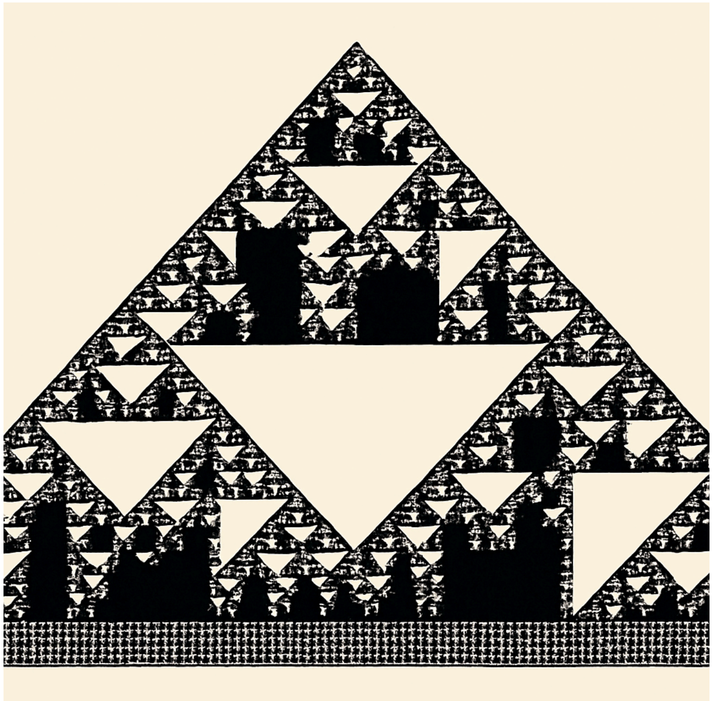

Figure 5. A visualization of cellular automata. Complex and orderly patterns emerge from simple initial conditions, such as one black cell and one white cell. The conditions/states evolve by the system's application of a recursive rule-set to itself, illustrating how informational structures can evolve rich dynamics without requiring external input.

Wolfram argues that the universe itself may be the product of such a system. A vast, intricate display arising from simple initial conditions and local update rules. Of course, in order to recursively apply a rule-set, the system also requires memory of every step in its evolution up to that point. In other words, a cosmos structured in this way would have a history, and would need to keep track of that history as part of its evolutionary process. And, importantly, the idealist interpretation does not rely on the energetic constraints of a physical substrate in order to simulate in this manner. Instead, immense structure and diversity can emerge purely from recursive informational dynamics within boundless awareness. It is precisely this kind of architecture that computational idealism proposes as the underlying logic of reality. Therefore, the objection is a strawman, since idealism does not reject a history of the cosmos. Rather, it seeks to provide a more parsimonious explanation for the existence *and* history of the cosmos than does physicalism.

5.9 The Charge of Composition/Division Fallacies

The Criticism:

The fallacy of composition occurs when someone assumes that what is true of the parts must also be true of the whole. For example: "the star football player is highly skilled, therefore the team is highly skilled." The fallacy of division is the reverse: assuming that what is true of the whole must be true of its parts. For example, "The football team is the best in the state, therefore every player is the best in the state."

Critics of idealism say that, just because individual conscious beings experience the world from a first-person perspective, it doesn't follow that the entire universe as a whole must be structured similarly or that it too is a mind. Attributing consciousness to the cosmos from our individual experience of consciousness could be seen as a composition fallacy. As well, even if the universe is fundamentally mental, it doesn't follow that every part of it behaves like a mind or has subjective experience.

Response:
Under idealism, Mind-at-Large is not a composite, but the ontological ground or substratum of all individual minds (indeed, of reality as a whole). Individual minds are modulations or dissociated partitions of this fundamental consciousness, not building blocks that compose it. Thus, it's not a question of saying "because each mind is conscious, the universal mind must be," which would be fallacious. The charge of composition fallacy in that case would be more applicable to constitutive panpsychism, not idealism. Instead, the reasoning is inverse under idealism: because there is a universal mind, individual minds appear as conditioned, localized expressions of it. This avoids the fallacy because it's not drawing properties upward from parts to whole (composition), but recognizing that all derivative existence participates in the nature of what is fundamental. In short, the critic makes a category error by treating the universal mind as just another mind among others, perhaps a larger or sum total of individual minds. That would be the kind of reasoning where the composition/division fallacy could apply. This level-of-analysis confusion fails to recognize the distinction between the ontologically fundamental level of reality and the normative level of reality. All things at the normative level must derive all of their properties from that which is ontologically fundamental. This is because, by definition, that which is ontologically fundamental is and must logically be the source of all reality. As such, the composition/division fallacy does not apply.

Additionally, idealists argue that consciousness is not only ontologically primary but also epistemically fundamental. It is the only thing we know with absolute certainty (Descartes, Husserl, etc.). Any metaphysical framework must begin with consciousness, not posit it later, in order to be coherent. In order to ensure the intelligibility of reality, another required certainty, the fundamental level of reality and the finite mind must be isomorphic. Therefore, the inference from the structures of individual minds (unity, intentionality, qualia, self-awareness) to the nature of the universal mind is not a fallacious generalization—it is necessary if our knowledge is to be about anything real at all. To put it differently, if reality were fundamentally dissimilar from mind, then we would have no epistemic bridge to describe it. Thus, the shared structure between mind and reality is what justifies inference from the micro (individual consciousness) to the macro (universal consciousness). It is not composition, but identity. And, as we've already discussed at length, an epistemology is only possible if we know *a priori* what we are, what reality is, and how the two interact. For that to be possible, ontology and epistemology must be coupled. Only idealism allows for that through-line of intelligibility. Here again, we see the critic making a category error by confusing the normative and the fundamental. The fallacy does not apply, because idealism discusses the fundamental level of reality. These paradigm-level claims entail certainty in several aspects of a theory, in order for us to give an ontology for knowledge, logic, truth, values, meaning. These are prerequisites for intelligibility and epistemic justification, and thus for all theories.

Chapter 6: Simulation Theory with Consciousness as the Computer

6.1 From Hypothesis to Framework: The Simulation Argument

In 2003, philosopher Nick Bostrom formulated a now-famous trilemma, commonly known as the simulation argument (Bostrom, 2003). He posited that one of the following three statements must be true: (1) almost no advanced civilizations reach a technological stage where they can run high-fidelity simulations of their ancestors; (2) advanced civilizations lose interest in or refrain from running such simulations; or (3) we are almost certainly living in a computer simulation. The argument rests on probability: if any technologically mature civilization can simulate billions of conscious beings, and if they choose to do so, then simulated minds would vastly outnumber biological ones, and it would be statistically likely that we ourselves are among the simulated.

The power of Bostrom's argument lies in its framing. It shifts the discussion of reality's nature from metaphysical speculation to probabilistic reasoning. This isn't an argument that we *must* be in a simulation, but rather that, assuming certain technological and behavioral conditions, it is *far more likely than not*. The argument gained widespread attention beyond philosophy, influencing popular culture, science fiction, and even the thinking of analytic philosophers. Yet, despite its provocative nature, the argument typically assumes a physicalist ontology. Its standard conception requires that some base-level physical reality exists from which these simulations are run. This assumption, as we shall see, is not necessary.

6.2 The Physicalist Simulation View

In mainstream versions of simulation theory, the assumption is that highly advanced biological beings, possibly post-human or even alien, exist in a material universe that is the superset to our universe, which is its subset. These beings have built massive computational architectures capable of hosting virtual environments indistinguishable from physical reality. In such a model, our universe would be a digital construct running on a supercomputer in that "base" reality. Our consciousness would emerge from or be embedded in that computation, instantiated through substrate-level physics unknown to us.

This view brings intriguing philosophical implications. For example, the laws of physics might just be the rendering rules of the simulation. Quantum indeterminacy could reflect computational shortcuts or probabilistic algorithms. Limitations like the speed of light might simply be processor bandwidth. However, despite its elegance, this perspective is not free from problems. First, it pushes the explanatory burden back a level—what is the nature of the reality in which these post-human simulators exist? Are they simulated too? From an ontological perspective, we would then need a meta-simulation theory to account for reality, and then a meta-meta-theory, and so on. We end up with a vicious infinite regress. Second, the view retains a materialist metaphysics: consciousness is assumed to arise from information processing within a physical substrate. As such, the simulation argument does not help address any of the problems that physicalism has encountered in this current reality frame. This model leaves untouched the "hard problem of consciousness" (Chalmers, 1995)—how subjective experience (qualia) arises from non-conscious matter. As compelling as it may be, this form of simulation theory still faces all the conceptual difficulties of physicalism, just one level higher.

6.3 Consciousness as the Simulator: The Idealist Inversion

Computational idealism, by contrast, turns the simulation hypothesis inside out. Instead of positing a physical computer running a simulation in which conscious beings emerge, it suggests that consciousness itself *is* the computer, the primary ontological substrate in which all apparent physicality is rendered. Here, physical reality is a virtual environment within the experiential field of Mind-at-Large, a term borrowed from Aldous Huxley and expanded in modern analytic idealism (Kastrup, 2019). The physical universe, in this view, is not a "thing" outside of experience, but rather an informational structure within consciousness.

Just as a dream appears real to the dreamer, physical objects and space emerge within awareness as ordered experiences. The governing principles of the simulation, the syntax or *logos*, are not mathematical laws instantiated in an objective medium, but are recursive, intelligible rules through which consciousness unfolds its contents. These rule-sets are what give rise to the appearance of physical causality, regularity, and spatiotemporal consistency. Crucially, this view does not deny the existence of order, but simply relocates the origin of that order from a presumed material reality to the informational behavior of awareness itself. Instead of consciousness emerging from simulation, simulation arises within consciousness. Rather than requiring an unexplained substrate from which qualia mysteriously bubble up, idealist simulation theory begins with the only thing we cannot doubt: experience itself. Physical objects, including neurons, brains, and computers, are then patterns within the simulation, not its ground.

6.4 The Mechanics of Simulation in Computational Idealism

If consciousness is the computer, how does it simulate a physical world? Computational idealism offers a schematic answer: it treats consciousness not as a passive screen but as an active, recursive medium that can instantiate differentiated informational structures through dissociation. Bernardo Kastrup's analytic idealism (2021) proposes that each individual consciousness (or mind) is a dissociated alter within a greater transpersonal field—Mind-at-Large. The boundaries of our individuality, including our sense of self and perception of a world “out there,” are products of this dissociation. They create experiential separation, but are not evidence of ontological separation. There remains only one experiencer (Mind-at-Large/fundamental awareness), and it creates for itself dissociated patterns of computational activity that shape and filter its experience. Thus, the world that each alter perceives is a rendered informational model of the broader field of consciousness. This model follows specific syntactic rules, analogous to a game engine rendering a 3D world from code. The regularities we observe in physics, chemistry, and biology are expressions of this underlying syntactical order. These laws are not brute facts but intelligible processes. They are recursive, rule-bound, and fundamentally mental.

One helpful analogy is that of a multi-user virtual environment. Each user (alter) experiences a shared simulation that evolves according to predefined rules. However, all rendering occurs client-side. In this case, within each consciousness. The simulation has a shared logic but unique perspectives. Events appear public and external, but they are instantiations within the private, localized field of awareness, modulated by the global rule-set of Mind-at-Large.

Furthermore, computational idealism elegantly accounts for quantum phenomena, such as observer-dependent outcomes and wavefunction collapse. These are no longer paradoxes; they are expected results when the observer is part of the rendering engine. We’ll cover quantum mechanics in more depth later on. For now, it suffices to say that perception does not passively register a world, but actively renders it from the potentialities encoded in the field of consciousness.

6.5 Emergence from Simplicity: Cellular Automata and Informational Worlds
As we introduced in response to an objection in the previous chapter, one of the most illuminating insights supporting computational idealism comes from the study of cellular automata. These are simple systems that produce astonishing complexity through recursive rules. Most famously explored by Stephen Wolfram (2002) in *A New Kind of Science*, cellular automata consist of discrete grids (or lattices) where each cell changes state over time based on a set of local rules. Despite being defined by only a few lines of code, these systems can evolve into intricate patterns that display self-organization, replication, memory, unpredictability, and even computational universality.

Consider Rule 30, a one-dimensional automaton introduced by Stephen Wolfram and featuring a binary update rule. It operates on a row of cells, each of which can be in one of two states: 0 (white) or 1 (black). Recall that this is how we defined the fundamental concept and bit of information that first came into existence under idealism, thus instantiating the binary logic of *TRUE = 1 = Exists vs. FALSE = 0 = Does not exist.* In Rule 30, the state of each cell in the next generation depends on its own current state and the state of its left and right neighbors. The rule is defined by a lookup table mapping each of the 8 possible neighborhood combinations to a new state for the center cell. Despite its utter simplicity, it produces complex, non-repeating patterns that defy prediction, emulating aspects of randomness, growth, and complexity. Even more remarkable is Rule 110, which has been proven to be Turing complete. This means that, given enough time and proper configuration, it can compute anything that a universal computer can.

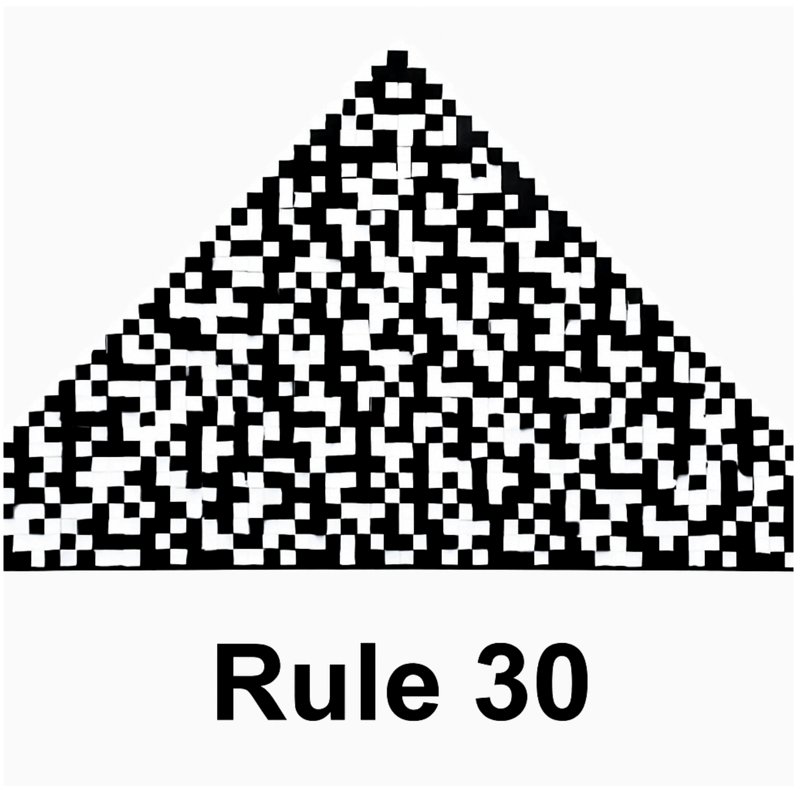

Figure 6. This triangular pattern illustrates the emergent complexity of Rule 30, where simple binary rules applied recursively to a one-dimensional row of cells produce unpredictable, richly structured behavior.

The philosophical implication is profound: massive structural complexity can emerge from minimal informational content governed by recursive logic. This is precisely what computational idealism claims happens within consciousness. The contents of our experienced world, whether galaxies, lifeforms, or indeed cosmological histories, need not be pre-loaded into a vast, pre-existing physical universe. Instead, they can unfold from simple initial conditions, rendered by recursive operations on a syntactical rule set embedded in the very nature of awareness. This paradigm undermines the assumption that a simulated world would require massive external resources to sustain. Just as fractals, cellular automata, or Conway's Game of Life can simulate lifelike phenomena with minimal input, so too might a universe of experience be generated within a recursive, self-modifying awareness. In other words, the apparent depth of the cosmos may be an emergent artifact of symbolic recursion, computed by and within consciousness.

6.6 The Mathematical Structure of Simulations

Whether running on silicon or within consciousness, simulations possess a core feature: they operate through mathematical structure. Simulation, by definition, involves the symbolic representation of dynamic systems through rule-based state transitions. These representations obey syntactic constraints, often expressed as differential equations, logic gates, or recursive functions. As such, all simulations exhibit three key features:

- Discrete or continuous state spaces – The simulation operates over definable variables or entities that can be updated over time.
- Deterministic or probabilistic rules – A set of rules defines how states evolve from one moment to the next.
- Information constraint – The simulation is limited by computational bandwidth or resolution, giving rise to pixelation, granularity, or resolution limits.

This structure is not arbitrary. It reflects the core of what it means to simulate: to use formal structures to generate evolving patterns that resemble or instantiate reality under a particular interpretation. Importantly, many physical phenomena, such as Newtonian mechanics, quantum field theory, and thermodynamics, can be modeled and often re-expressed in simulation-compatible forms. This suggests not only that the universe is mathematically modelable, but that it may be inherently mathematical in structure.

Idealism does not reject this insight, but deepens it. In a computational idealist framework, mathematics is not merely a descriptive language for a mind-independent universe, but a symptom of the mental structure of reality itself. Mathematics works because reality is symbolic at its root. The symbols aren't floating in a Platonic realm nor written on particles. They are recursively instantiated patterns within consciousness. The world behaves mathematically because it is generated by a mental syntax that is logical, ordered, and representational.

In a general sense, a simulation can be formalized as a state transition function operating over a set of variables within a given domain. At its core, a simulation iteratively applies a rule or function to an initial state to produce a sequence of subsequent states:

$S_{t+1} = L(S_t, \sigma)$

Where:

- S_t is the state of the system at time t
- L is the transition function
- σ is the rule-set (syntax)
- S_{t+1} is the resulting next state

This recursive model underlies cellular automata, physics engines, neural networks, and other computational systems. In a traditional materialist simulation, S would represent physical variables (e.g., positions, momenta), and L would be a mathematical model of physical dynamics (e.g., Newton's laws, Schrödinger's equation).

However, in computational idealism, S represents phenomenal states of consciousness, and L is a symbolic generative function that governs the unfolding of experiential content. Thus, the simulation is not computing physical values directly, but the structure of experience, from which the illusion of the physical emerges.

We can make this explicit with an idealist formulation:

$$E_{t+1} = L\left(E_t, \sigma\right)$$

- E_t is the experience structure at time t
- L is the logico-symbolic function
- σ is the syntactic rule-set
- E_{t+1} is the experience structure at the next moment

Figure 7. Mathematical representation of how, under idealism, reality creates itself in each new moment of experience. The next moment's experiential structure, and thus the state of the system of consciousness in question, is derived from a generative function that applies a rule-set to the present state of reality. This applies to all consciousness systems, whether it's the fundamental Mind-at-Large or an individual subset of the same.

In this formulation, the physical world is not a direct referent, but a recursively rendered symbolic interface, experienced by a dissociated mode of fundamental consciousness. This expression formalizes the idea that reality is computed by and within awareness according to an intelligible structure.

6.7 Perception Is Reality Simulating Itself to Itself

Having established the mathematical structure of simulations, we now apply this to perception itself. In conventional cognitive science, perception is often treated as a feed-forward process. Stimuli enter the brain, are transduced by sensory organs, and are then interpreted to build a representation of the external world. However, more recent frameworks, such as predictive coding and Bayesian brain theory, propose the reverse. Perception is primarily simulation-driven, with the brain constantly predicting incoming sensory data and only updating when surprises arise.

Idealism absorbs this insight and recasts it metaphysically. The simulation does not happen in the brain, but as the experienced world. The mathematical rule set governing simulations, or the logical grammar, so to speak, is not located in neurons, but in the informational architecture of awareness itself. Perception is not passive registration; it is recursive rendering. The “world” we see is the output of symbolic processing by dissociated structures within consciousness. The more coherent the predictions (i.e., the more stable the rule-following simulation), the more “real” and stable the perceived world becomes.

Just as a game engine renders a dynamic environment in real time based on player perspective and rules, so too does our perceptual system render a coherent spatiotemporal world based on internal symbolic processes. The math behind this simulation is encoded in the very structure of experience and reflected in things like the limits of perception, thresholds of resolution, and the regularities of space, motion, and causality.

This model also explains why mathematical concepts so easily map onto perceptual and physical experience. Our perceptual world is itself mathematically rendered, and its regularities are symbolic projections of a deeper informational logic. Idealism doesn't reduce perception to math, but it reveals how mathematics is the signature of perception’s symbolic substrate. As such, perception itself is best understood not as a window to an objective world, but as a simulation instantiated by consciousness, following formal and recursive principles.

Chapter 7: Mind Is an Information System

7.1 The Processing Expression of Consciousness

If consciousness is the fundamental substrate of reality, as idealism maintains, then mind is its structured, dynamic expression. It is the aspect of consciousness that processes, filters, and organizes information into coherent experience. In other words, it is the activity of consciousness. While reality's ground state is undifferentiated awareness, or pure being, mindedness introduces differentiation, structure, and activity. It is the computational process within the medium of consciousness and functions as a symbolic processor through which the contents of consciousness are patterned and rendered. Drawing on information theory, we can show that matter itself is informational in nature and that mind is the machinery by which this information is interpreted and organized into a coherent picture of the world.

7.2 Information Theory and the Nature of Matter

At the heart of modern computer science and communication theory lies information theory, formalized by Claude Shannon. Shannon's framework was designed to measure the entropy or uncertainty in a signal, a mathematical way of quantifying how much information is being transmitted. In essence, information exists when there is a reduction in uncertainty. That is, when a distinction is made between alternatives.

In Shannon's terms, a bit is the most basic unit of information (Shannon, 1948). It represents a binary choice: 1 or 0, TRUE or FALSE. This distinction forms the basis for all computation and data storage. But its philosophical implications go deeper. To say that "a bit of information exists" is to say that a distinction has been made, and that something has been differentiated from the field of all possible alternatives. In idealism, that means that an experience has arisen by, in, and through the ground state of awareness, which is the field of potential of all possible experiences.

Metaphysically, this is the essence of existence. Importantly, in the idealist cosmology, it can be said that binary logic, the foundation of all logical systems, was established the moment the first bit of information arose, because the most fundamental distinction took place: Existence or Non-existence. The distinction also provided the first concept that organizes information, and thus the first mind. "Existence" is that concept, since we cannot consider something unless we first can conceptually register that it exists.

In other words: *TRUE = 1 = Exists, FALSE = 0 = Non-existence*

Consciousness must be fundamental, and therefore idealism must be true, for the above to hold. And the above must hold, because all systems of logic are built upon binary logic. For example, we can only consider, say, symbolic logic because it exists and does not *not* exist. As well, to consider it or anything else, we must have the concept of existence at large, such that we can map the descriptor "exists" onto the thing that we are considering. That concept maps to the first bit of information comprising the thing in question, namely, its existence (1 - Exists; 0 - Does Not Exist). Without this structure at the base of existence, intelligibility would not be possible.

In this light, information is what exists, while consciousness is existence itself. To exist is to stand out, or to be distinguished from what is not. Therefore, matter, which appears to us as structured existence, is fundamentally informational. It is a set of distinctions and patterns rendered and sustained within consciousness. The information is ontologically nothing over and above consciousness, just as a wave that is experientially distinct from the ocean is not ontologically separate from it. The perceived separation is a temporary and experiential state.

This view aligns with John Wheeler's "It from bit" hypothesis (1990), which proposed that all physical reality ultimately arises from binary "yes/no" informational events. Particles, forces, and spacetime are, under this model, symbolic expressions of informational states. From the perspective of idealism, these are the symbolic renderings processed by mind within the field of consciousness.

7.3 Mind Is an Information Processor

Mind, then, is not synonymous with consciousness. Rather, it is a system within consciousness. It is a structure that receives, transforms, and integrates information. Like a computer running on power, mind is the software architecture within the energetic substrate of pure awareness.

We can define mind in this context as: *The organizational and interpretive processes, and associated logical structure by which consciousness orders the informational contents generated of its own potential.*

This includes sensation, memory, emotion, language, logic, and imagination, all faculties that transform raw informational inputs into structured phenomenal experience. The mind does not create consciousness, nor does it exist apart from it. Instead, it conditions and contextualizes awareness into a world of forms and relations.

Information flows through the mind via attention, selection, association, and memory storage. These are mechanisms that filter and sculpt the experiential stream. In this sense, mind *limits* awareness, in order to allow awareness to intend specific expressions of itself.

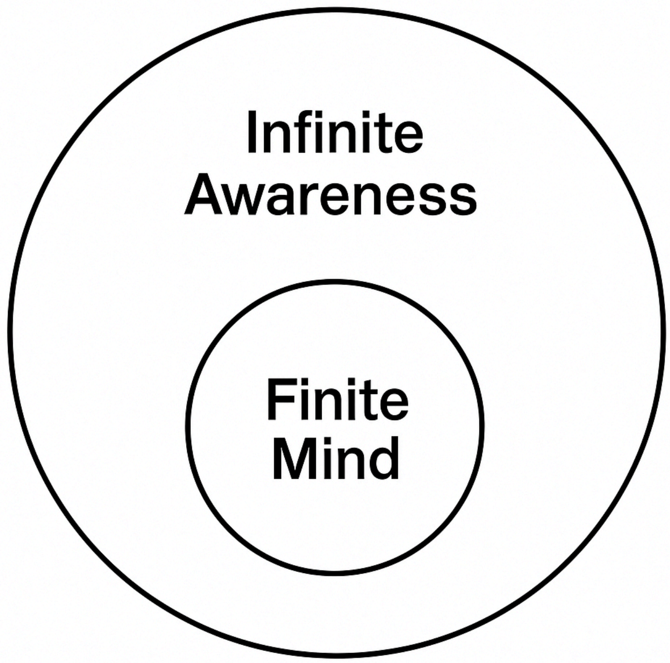

Figure 8. Infinite, undifferentiated awareness must dissociate and filter itself into finite minds to process information, creating distinct experiential subsystems. In doing so, awareness becomes what it is not—limited and separate—in order to know itself. Under idealism, the empirically verified phenomenon of dissociation is cited as the mechanism by which this experiential separation occurs. As a result, the finite mind constitutes a porous dissociative boundary that limits and filters the contents of awareness, while still allowing communication of information across the boundary. Thus, the subsystem can perceive reality and act back upon reality in a read-write functionality, via the subsystem's information-processing capabilities. Those capabilities can be quantified under Integrated Information Theory (IIT) and its measure Φ (phi).

The finite mind is the mechanism by which the infinity of awareness dissociates aspects of itself into finitude, creating subsystems of itself. These subsystems each share awareness's creative potential, but experience separation due to the mind's filtering process. Because information requires distinction in order to exist, the infinite unity of awareness cannot process information. Indeed, it cannot experience existing without making itself finite. Only then can something in-form. Only then can awareness experience its own nature and potential. The cost of this, of course, is the experience of limitation and separation. Awareness must become what it is not in order to know itself.

To this end, the very concept of selfhood is maintained by a recursive loop of informational continuity, the encoding of memory, narrative construction, and pattern recognition. In this sense, the personality self is not an ontological primitive but a virtual machine running *within awareness. The personality is a case of infinite awareness tricking itself into believing that it is finite.*

The above two paragraphs in italics are the most important in this book. They are a brief insight into the meaning of life. The subsequent chapters will build a detailed case for these claims.

7.4 Integrated Information Theory: Quantifying Mind

Among contemporary theories that bridge neuroscience and philosophy, Integrated Information Theory (IIT) stands out for its attempt to quantify consciousness through the integration of information. IIT begins with the insight that systems can process information in ways that are more or less integrated. In this view, consciousness corresponds to high degrees of integrated information (Tononi & Koch, 2015). We can adapt this position for use by computational idealism by saying that it is not consciousness, but the complexity level of mind that corresponds to the level of information integration.

At the heart of the theory are five phenomenological axioms, each intended to describe an essential property of any conscious experience. These are: that experience exists; that it is composed of multiple parts (composition); that it is specific, meaning it is what it is by excluding other possible experiences (information); that it is unified rather than fragmented (integration); and that it is definite. In other words, a given experience happens from a particular point of view and not in multiple overlapping ways (exclusion). From these axioms, IIT then derives corresponding physical postulates that a system must satisfy in order to be considered conscious (rather, for our purposes, *minded*). This approach distinguishes IIT from other theories that start with brain data and work upward; instead, IIT begins with what it means to have an experience and then asks what kind of physical system can account for it.

The central measure in IIT is the quantity Φ (phi), which aims to capture how much integrated information a system generates. A system that has high Φ is said to be more conscious (again, in our system, *minded*), whereas a system with low or zero Φ is either unconscious or minimally conscious. Φ measures how much a system's internal causal structure, or the way its parts influence one another, cannot be reduced to smaller, independent parts. In other words, if a system functions as a whole in a way that cannot be explained by its parts acting alone, it generates a significant amount of integrated information. Calculating Φ involves comparing the system to hypothetical versions of itself in which its parts are disconnected, and measuring the loss of information caused by this partitioning. The larger the loss, the more irreducible, and therefore conscious (minded), the system is considered to be (Tononi & Koch, 2015).

Of note, the definition of "information" is more nuanced in IIT than in Shannon's model. Koch specifies that, unlike the meaningless nature of the information in Shannon's model of storing and communicating, the information in IIT is meaningful. For example, an experiential state of pain is highly relevant to the experiencer, whereas a communicated message in Shannon's theory is rendered separate and objective, in a physicalist/materialist manner, from the experiencing consciousness. For IIT, meaning is the structure that gives the information causal power. Of course, this is what computational idealism also describes. The informational content of reality does not exist independently of mind and meaning, as in the physicalist view. Rather, mind gives order to the information via its syntactic and semantic organizing principles. As a result, in IIT, we are still dealing with information in a way similar to Shannon, but IIT characteristically starts from consciousness, not from physicality.

Therefore, IIT's model conveys a reality that is inherently meaningful. As we pointed out at the beginning of the book, meaning must be inherent to reality in order for us to have the logic, knowledge, values, etc. necessary for intelligibility. Physicalism precludes meaning in reality, and this is one self-defeating claim that physicalism makes. Idealism and IIT make the opposite claim. Consciousness is fundamental, so reality is meaningful from its absolute level.

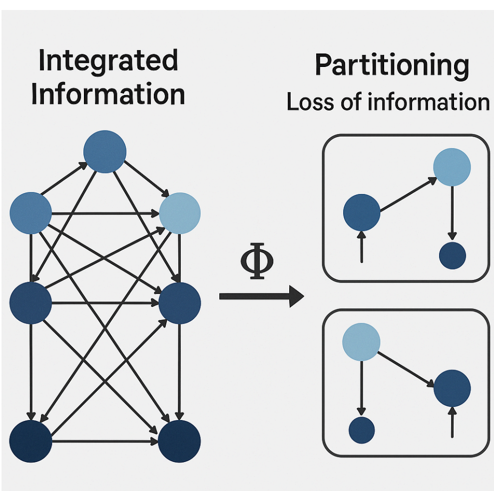

Figure 9. This diagram illustrates Integrated Information Theory (IIT): the left side shows a fully interconnected system generating integrated information, while the right side depicts partitioned versions of the system, where disconnection leads to a loss of information. The greater the loss (represented by Φ), the more irreducible, and thus more conscious (minded), the original system is considered to be.

As IIT has evolved, so has its formal structure. In its third major formulation (IIT 3.0), the theory introduced the concept of "complexes." These are subsystems within a larger network that generate maximal integrated information. Among all the complexes in a system, the one with the highest Φ is identified as the true substrate of the mind. This means that even within a highly complex system like the brain, not all regions contribute equally to conscious experience. The complex with the most irreducible causal power is what gives rise to the "point of view" of the system. Note again that, under idealism, the mind can be considered to have a substrate, because mind is an information-processing activity that follows quantifiable, logical rules. Awareness, by contrast, is not a process, not a thing, and not at all quantifiable. By definition in analytic philosophy, it is purely qualitative. And, under idealism, reality and awareness are synonymous. Thus, the brain can be viewed as the substrate of the filtering/limitation mechanism that awareness applies to itself, in order to experience separation and finitude. This is not unlike the filter hypothesis of ontological dualism, in which consciousness acts like a radio signal that the radio-like brain localizes. However, under idealism, there is no physical radio that has independent ontic existence. The brain, too, is consciousness, because it is part of awareness's informational contents.

IIT 4.0, the latest formulation published in 2022, refines the theory further. It clarifies the distinction between a system's intrinsic causal structure (how it behaves from the inside) and extrinsic factors (like its input/output behavior). IIT insists that consciousness is fundamentally intrinsic. It's about what it feels like to be the system, not what the system does. IIT 4.0 also formalizes the mechanisms and "purviews" involved in generating experience, introducing a more elegant mathematical treatment of cause-effect power (Albantakis et al., 2022).

A significant new idea in this version is the concept of "fault lines." They are essentially boundaries within a system where consciousness breaks apart or becomes dissociated. Think of fault lines as partitions in a system across which the integration of information, and therefore consciousness, drops significantly. These lines help identify where the fabric of experience could be torn or weakened. In practice, this has profound implications. For example, it helps explain how in split-brain patients, individuals whose brain hemispheres have been surgically disconnected, two separate streams of consciousness can emerge. It also offers insights into phenomena like coma, anesthesia, or the presence of multiple consciousnesses within the same brain, as seen in dissociative identity disorder. Fault lines can help neuroscientists map the precise regions that contribute to unified experience and those that do not, grounding the idea of consciousness in the very topology of cause-effect relationships (Albantakis et al., 2022).

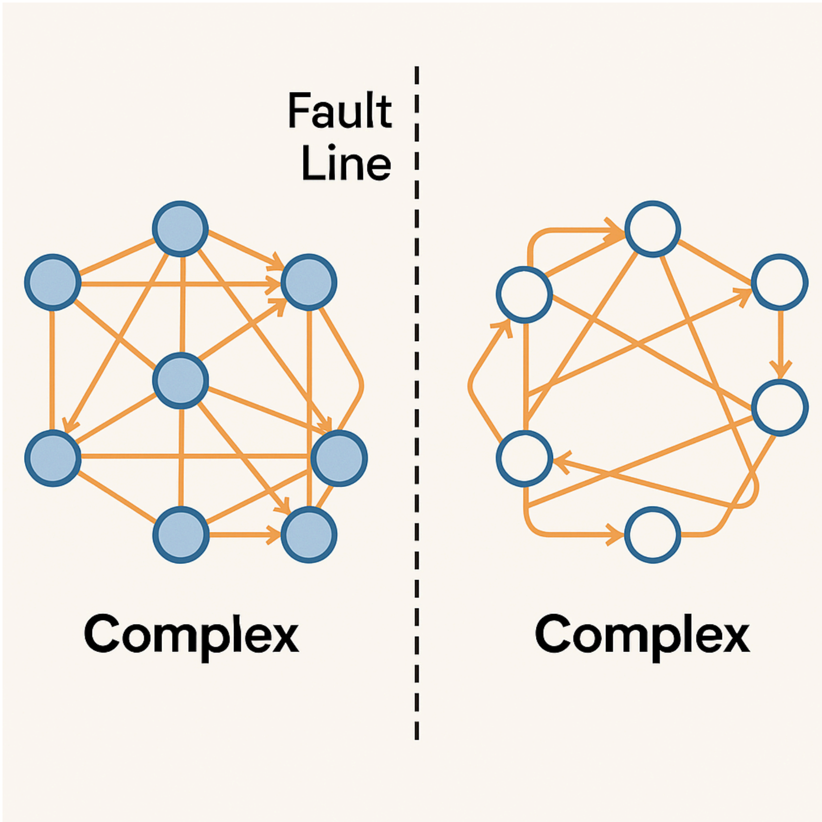

Figure 10. The concept of fault lines in Integrated Information Theory (IIT), where a system divides into two distinct complexes, each internally integrated but causally disconnected from the other. The dashed line marks the fault line, an informational boundary across which integrated information (Φ) drops significantly, indicating that the system comprises two separate conscious entities rather than a single unified one.

Of course, these fault lines also give a mechanism to the idea that mind is the limiter, the filterer, and the separator function that unified, unbound awareness applies to itself in order to experience its own contents from a finite perspective. Indeed, in Kastrup's analytic idealism, dissociation is the specific mechanism cited to explain that behavior of nature.

One of IIT's most compelling strengths lies in its first-person grounding. Rather than beginning with behavior or observable data, it starts with the irreducible fact of experience and builds up a theoretical structure to explain it.

Notably, physicalist theories of consciousness, such as illusionism, identity theory, and strong emergence, all start from the physical brain as an assumed fundamental substrate, then try to account for experience. They all fail to do so, per the hard problem. Of course, illusionism and eliminativism then seek to avoid the hard problem by hand-waving away consciousness entirely. While this position is internally consistent with physicalism, it is irredeemably incoherent. Eliminativism asks us to deny nature's one certainty, the one epistemic given. How can awareness deny its own existence, when this requires being aware? Similarly, illusionism claims that consciousness either doesn't exist or isn't what we assume it to be. In the former case, it runs into the same problem as eliminativism. How can we be fooled into believing the illusion of having consciousness without a consciousness that gets fooled by the illusion? In the latter case, the position is irrelevant to the discussion. It is a common viewpoint in the field that our traditional opinions on consciousness, which have been heavily skewed toward dualism and physicalism, are wrong in ways that have led to the hard problem. While philosophers differ on the solution they propose, there is wide agreement on this point. As such, the illusionist position that consciousness is not what it seems simply restates the problem statement without suggesting an answer. Briefly, it is worth pointing out that strong emergence is an explicit admission of dualism, since its claim is that something can arise from something else, even if the two entities in question share no properties. The intention of the theory is to explain how purely quantitative matter can generate purely qualitative phenomenal consciousness (awareness). However, under these definitions and this framing, matter and consciousness would be ontically independent, which is identical to the dualist framework. As well, strong emergence hides behind complexity. Its standard claim is that consciousness can emerge in a system that becomes sufficiently complex in a manner like the brain. However, it identifies neither the magic level of complexity at which this emergence occurs, nor the causal mechanism behind the emergence. Thus, it fails to address the hard problem at all.

Another sharp contrast is that IIT, unlike those physicalist theories of mind, displays mathematical rigor. More loosely defined theories of consciousness like those mentioned above have struggled to return empirical results. Meanwhile, IIT makes precise predictions and provides a framework that can, in principle, be applied to any system, biological or artificial. This has enabled its application to a wide range of empirical contexts, including studies of brain damage, sleep, anesthesia, and even machine consciousness. Under computational idealism, all of those systems, be they biological or synthetic, are information that awareness processes within itself.

From an empirical standpoint, IIT has indeed seen success. It has inspired methods like the perturbational complexity index (PCI), which uses transcranial magnetic stimulation and EEG data to measure the complexity of brain responses and thereby infer levels of consciousness in patients. This has proved useful in assessing unresponsive patients and differentiating between vegetative states and minimally conscious states. IIT's influence can also be seen in attempts to formalize consciousness in AI systems, although its implications for machine consciousness remain highly debated. When compared to other leading theories, IIT stands apart in both methodology and scope. Whereas global workspace theory (GWT) focuses on cognitive access and broadcasting information across the brain, and higher-order theories emphasize meta-representations or self-awareness, IIT is concerned with the intrinsic architecture of experience itself. It is not a theory of reportability or functionality, but a theory of what it feels like to be a system from the inside.

The introduction of fault lines opens up new possibilities for applying IIT in neuroscience and beyond. It allows researchers to look more closely at the structure of conscious systems and identify how consciousness might fragment, shift, or fail. This has implications not only for understanding pathology but also for engineering artificial systems. If IIT is correct, then we can begin to identify exactly which configurations of information processing give rise to which classifications and complexities of mental processes (excluding, of course, awareness/pure consciousness). Naturally, the philosophical implications of IIT that we have described in this chapter have not been lost on the field of philosophy of mind, with some saying it entails panpsychism, some attempting to fit it into physicalism, and others matching it with idealism. It is the latter that we find most coherent, though a kind of functional panpsychism (as opposed to ontic) can also fit within an ontology of idealism.

Specifically, Christof Koch has described IIT as an extension of physics, rather than a psychological theory (Koch, 2019). For the idealist, IIT's emphasis on the causal relationships between mental complexes fits perfectly into physics, since under idealism, physics is a rendered environment that is experientially material, but ontologically mental. Therefore, when interpreted within an idealist ontology, IIT is a method of modeling the *noumenal* realm that underlies the phenomenal, to borrow Kant's terminology. In contrast to Kant, these two realms are not completely independent, and the *noumenal* is not in-principle unknowable. Rather, they share a syntactical structure that allows for the organization, processing, and integration of the information that constitutes the realms. IIT gives us a way to model the mental structures that we perceive as the world around us.

To Koch's point, IIT is not a theory of awareness as such, since pure consciousness is exclusively and exhaustively qualitative, and thus cannot be quantitatively measured. The theory, on its own, is ontologically neutral. It also makes no claim to provide a causal mechanism for phenomenal consciousness. Hence, the hard problem of consciousness remains, despite IIT's sophistication. Instead, IIT quantifies the structure and complexity of consciousness's *content*. In other words, it measures the dynamics of the mind, not consciousness in the absolute sense. Therefore, it is highly valuable to computational idealism in understanding how the contents of reality evolve.

7.5 Mind Is Measurable, Awareness Is Not

This leads us to a critical metaphysical insight: mind can be measured, but awareness cannot. Mind is a relational, processural phenomenon that arises within and through consciousness, but awareness itself is non-relational except to itself. It is not a thing that interacts with other things, but the field in which all things appear. It is the All. It is the Fullness. It is the monad, and thus it can only relate to its own contents, which are nothing over and above itself. Such is the implication of adopting a monist ontology, since placing only one primitive in the reduction base necessitates that the fundamental level of reality experience only a single relationship: itself to itself.

To confuse the two is to fall into a category error, in which one mistakes the transcendent and the contingent, the fundamental and the normative. Awareness is not a variable in an equation, nor is it a quantity that can be increased or decreased. It is the precondition of all experience, the prior of all measurement, the canvas on which information appears. The measure Φ, and theories like IIT, operate entirely within the realm of mind, within the architecture of information-processing. They quantify how information is handled, not that there is experience. The efficacy of IIT as a scientific theory stems from the fact that it starts from awareness, which every person can introspectively observe to be boundless, unified, and fundamental to all knowledge, information, and experiences.

Thus, computational idealism affirms IIT's value as a model of mind while clearly distinguishing mental processes from the ground of being. Awareness is not emergent, generated, or integrated. It simply is. It is that which apprehends the structure of the mind and its informational evolution. It is the light in which the simulation plays.

7.6 Returning to Logic and the Requirements of a Reality Theory
To ground this ontologically, we return to the simplest unit of information, the bit. A bit encodes the most fundamental distinction possible:

TRUE = 1 = Exists, FALSE = 0 = Non-existence

Every bit that exists is a unit of being, an informational boundary drawn within awareness. To speak of information, then, is to speak of existence itself. And to process information is to organize being, to impose structure on the field of consciousness. Mind is the symbol processor of existence. It takes the binary distinction of being vs. non-being and arranges it into patterns, networks, narratives, and forms. It is the mechanism of differentiation, the structuring of the One into the many. But the One itself, pure awareness, remains unstructured, unmeasured, and unconditional.

Let's make this more explicit. Sentential logic, particularly in its formal or propositional form, provides a foundation for understanding not just statements and truth-values, but the structural requirements of any coherent description of reality. A formal system, to be complete and meaningful, must be closed under syntax (able to generate its own valid expressions), closed under semantics (able to interpret those expressions internally), and recursively self-inclusive (capable of representing its own structure within itself). These logical necessities require that, for reality to be intelligible, it must itself be structured like a self-writing and self-reading language. That is, reality must possess the capacity to generate and interpret its own structure without reference to anything outside itself.

If reality is describable at all, then it must contain the structure required to describe itself. And this structure must satisfy strict logical conditions. Models that fail to meet these conditions—by, for example, positing fundamental physicality, foundationalist axioms, or any structures not internally derived—are logically incomplete. The reality claimed via those models is inevitably unintelligible. To be complete, a reality theory must be self-contained (all elements must be internally generated), must interpret itself (no external "observer" can be required), must apply its own rule-set to itself (like a language that enforces its own grammar), and must include a model of itself (give an ontology to its own theory).

Any theory aspiring to describe reality in full must therefore conform to the meta-level conditions that are required for intelligibility: that is, reality's self-containment, self-reference, and closure under both syntax and semantics. In this sense, reality is a language governed by sentential logic, which thereby becomes the meta-logic that governs metaphysics.

Of course, the above must also entail no foundationalist axiomatic assumptions. Because reality is all that exists, a coherent theory of the same must provide an epistemically justified ontology for everything. This does not mean that the reality theory must explain every little detail (which is impossible for any formal system), but rather must be general enough to map onto all of reality (everywhere, every-when, every-what, every-why, every-how).

This requirement of internal coherence and closure extends into the classical logical distinction between intension and extension. Intension refers to the internal structure, the conceptual content, or the definitional essence of a thing; it is the "blueprint" or meaning behind a category. Extension, by contrast, refers to the set of actual instances or instantiations of that concept in the world—the realized examples that fall under the intensional umbrella. When applied to reality itself, this distinction reveals a profound structural duality: the world must simultaneously contain the conceptual rules by which its states are formed (intension), and the concrete manifestations of those rules within perception (extension). Under idealism, these correspond to cognition and information, respectively, or syntax and state, both of which are held by, in, and through fundamental awareness. In other words, cognition is the state change function that evolves information, and it is from fundamental awareness that reality has the inherent intentionality necessary for self-determination, self-reference, and self-generation. Unlike in traditional semantic theory, where intension and extension are treated as separate or externally related, reality must unite them within a single recursive dynamic, where intension selects and guides extension, and extension, in turn, informs and reshapes intension.

This mutual entanglement of intension and extension implies that reality operates as a self-referential system of ongoing interpretation and generation. The abstract potentialities of existence—its laws, symmetries, and organizing principles—form the intensional layer, while the perceived unfolding of events and states constitutes the extensional layer. Yet each is incomplete without the other. A bare extension is meaningless without an interpretive framework, and a pure intension is inert unless rendered into form. Reality, understood as both the generator and product of its own structure, necessarily weaves intension and extension into a unified ontological loop. It is this loop—syntactic rules recursively applied to generate semantic states, and semantic states feeding back into the refinement of syntax—that allows for a world that is not only coherent and lawful, but also intelligible and self-expressive.

A helpful way to illustrate the relationship between intension and extension is through the example of a natural language like English. As an abstract system, it contains within its syntax and vocabulary the capacity to generate an unbounded number of meaningful combinations. Letters can be arranged into words, words into sentences, sentences into paragraphs, and so on through chapters and entire books. This generative potential, or the complete space of all possible coherent (and even incoherent) expressions that could ever be formed, is its *intension*. Yet, at any given time, only a vanishingly small subset of these combinations is actually realized in printed books, spoken utterances, or digital texts—this is the *extension* of English as it exists in the world. The gap between what could be expressed and what is actually expressed exemplifies how a system's internal logic and structure (intension) vastly exceeds its external instantiations (extension), while still governing the formation of every realized case.

It may here be objected that paradoxes are possible in language. If the above comparisons to language hold, is that not a preclusion of intelligibility? Within the intensional realm, it is indeed entirely possible to encounter self-referential or paradoxical structures that do not immediately resolve into clear, consistent outcomes. Sentences like "This sentence is false" (or a personal favorite, "This sentence has cabbage six words.") demonstrate that language and formal systems can generate internally complete yet logically paradoxical expressions. These are syntactically valid constructions within the system, and thus belong to the intensional domain, even if they generate semantic instability or contradiction. However, at the most fundamental level, reality is all that exists. There is no "outside" of it against which it can be compared or into which it can collapse. This ontological completeness imposes a critical constraint: any paradox must ultimately be reconcilable within the logic of the whole. In a fully self-contained reality, paradoxes do not escape into incoherence; instead, they are absorbed into the deeper structure of metalogical resolution. What appears paradoxical at a local or normative level, based on perception or normative linguistic expectations, must resolve at the level of foundational syntax and binary logic. Here, every construction, including those that are self-referential, must conform to the requirements of intelligibility and self-containment. Thus, rather than undermining coherence, paradoxes expose the boundary conditions of meaning and force the system to refine itself, resolving apparent contradictions through higher-order rules and recursive consistency. Reality, by virtue of being absolute and exhaustive, contains the logic that governs even its most perplexing expressions. For a paradox must exist, and must not *not* exist in order to be conceptualized at all.

In other words, language mirrors the structure of reality itself, and vice versa. Both are intensional frameworks of potential configurations, only a portion of which are selected and rendered into actual existence. As we will see, this rendering by reality is performed by awareness across its various consciousness subsystems, and we call that function: perception.

Chapter 8: Perception Renders the World

8.1 Perception Is Not Passive

In previous chapters, we established that consciousness is the fundamental reality, and that mind operates as a symbolic processor of information within that field. Now, we turn our attention to the mechanism by which this processing gives rise to the appearance of a physical world: perception.

Perception is not a passive registration of an objective external reality. It is the active rendering of a symbolic interface from within awareness itself. What appears as "the physical world" is the result of an interpretive process, which is governed by the computational capabilities, cognitive constraints, and informational structures of a given subset of consciousness. Or dissociated alter, to use the terminology from analytic idealism. In this view, reality is not passively observed but actively constructed. Each being perceives a world not because there is a single, fixed, external universe, but because their particular configuration of awareness renders one. The appearance of a stable, shared world emerges not from external physicality that exists as such, but from information that is encoded by each perceiver via shared symbolic structures, perceptual algorithms, and a common syntactic rule-set.

8.2 Gibson's Ecological Perception and Affordances

James J. Gibson's ecological theory of perception offers an early departure from the representationalist model of perception dominant in the 20th century. Instead of assuming that perception involves building internal models of the external world from sensory data, Gibson proposed that organisms directly perceive affordances, the actionable possibilities in their environment. In this view, we don't perceive "objects" in the abstract, but opportunities for interaction: a surface to walk on, a handle to grip, food to eat. These affordances are not constructed through internal computation, but are directly "picked up" from the environment as relational properties between agent and world (Gibson, 1979).

This theory supports the idealist view in two key ways. First, it dissolves the boundary between objective world and subjective experience, suggesting that perception is inherently relational. It is neither a mirror of the world, nor a clear window looking onto it, but instead a mode of reciprocally and dialogically engaging with the world. Importantly, this kind of relationship is only possible if a fundamental intelligibility, and thus unity, is present from the ground state of being. Of course, this necessitates awareness as the reduction base, since it is the only candidate that meets these requirements. Second, Gibson's model reveals that perception is filtered by the organism's capacities and needs. What is rendered depends on what the perceiver can do, which amounts to how that perceiver "queries" the information system that is Mind-at-Large at any given moment. A bee perceives ultraviolet patterns on flowers invisible to humans. A bat renders its world in echolocation. What exists phenomenally is constrained by what the subset of awareness in question can process. Recall that IIT provides a method of quantifying exactly this parameter.

From an idealist standpoint, the physical world is not "out there" waiting to be seen, but arises as a computational rendering of affordances. Perception is thus a function of what can be interacted with, by whom, and how. Gibson's theory, while not metaphysical, points toward an ontology in which reality is shaped by the capacities of mind, not imposed upon mind from without. It is an inherently relational reality, and mind provides exactly the information integration machinery to structure such a world.

8.3 Hoffman's Interface Theory of Perception

Donald Hoffman takes the relational nature of perception even further. Indeed, no discussion of 21st Century idealism would be complete without addressing Hoffman's work, which has been pivotal to idealism's renaissance of late. His Interface Theory of Perception (ITP) argues that perception does not aim to mirror reality at all. Instead, organisms have evolved to perceive only those features of the world that enhance fitness, not truth. In other words, we see what helps us survive, not what is actually there (Hoffman, 2019).

Hoffman draws an analogy to a computer desktop. When you drag a folder to the trash icon, you're not interacting with transistors or memory addresses. You're actually manipulating simplified icons that hide the complex reality underneath. Similarly, space, time, and objects are not "reality as it is," but icons rendered by our perceptual system and optimized for utility, not accuracy. In simulations run by Hoffman and his colleagues, agents that perceived the world accurately were consistently outcompeted by agents that perceived fitness-relevant abstractions. This supports the counterintuitive but compelling conclusion that natural selection favors useful falsehoods over accurate truths (Hoffman, 2019).

This theory fits naturally with computational idealism. The physical world is not the ontological ground of being, but a symbolic interface rendered by awareness and constructed of information. The icons we call "trees," "bodies," or "atoms" are perceptual shortcuts and visual metaphors processed by mind. Each conscious agent renders a world that looks physical only because its perceptual interface is structured to produce coherence and survivability.

What we take to be the world is in fact a constructed model, computed in consciousness itself, by the finite mind, whose processes are in turn shaped by evolution, attention, memory, and symbolic regularity (see **Appendix A.2**). *Thus, there is a dialogical and reciprocal relationship* *between mind and the world that it renders, such that the simulator and the simulation induce and evolve properties in each other.*

It is for that reason that we can give an evolutionary account for why mental processes evolved. After all, they lead to behavioral outcomes that have effects in the physical environment, which then impacts the mental processes in return. However, because awareness is purely qualitative and not at all quantitative, it by definition can have no effect on the physical world, which is exhaustively describable by quantities and has no inherent qualities. The question that has vexed neuroscience and philosophy of mind is this: why does the most metabolically expensive organ (the brain) generate awareness if it can, in principle, have no survival fitness utility? While this is a problem for physicalism, it is not for idealism, which takes awareness to be the ground state of being, and mind to be its finite, relational activity. That activity is quantifiable, while awareness is not. The finite mind has an effect on, and is reciprocally shaped by, the physical environment, because it is mind which renders that environment.

8.4 Wolfram's Observer Theory and Computational Equivalence

Stephen Wolfram's work, particularly in A *New Kind of Science* and the Physics Project, introduces a powerful framework for understanding how observers define physical reality. In Wolfram's Observer Theory, the universe is modeled as a vast, evolving hypergraph, a network of relations updated according to simple rules (akin to cellular automata). The key insight is that observers are embedded substructures within this hypergraph and who perceive the world according to their own computational limitations. Different observers may generate different physical realities depending on their rules of simplification and recognition. What one observer sees as a particle, another might render as a wave or even fail to register at all. There is no absolute vantage point, only relative, rule-based interpretations of the underlying informational substrate (Wolfram, 2002).

This matches the idealist claim that each mind is a dissociated computational system within consciousness, rendering a symbolic world based on its processing constraints. The physical world is not a thing "out there," but an interpreted output in here, a function of the encoding process that each observer performs on the raw informational field.

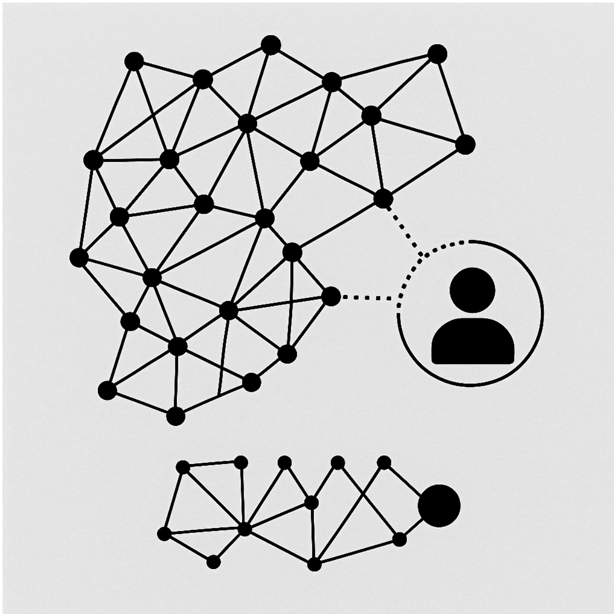

Figure 11. The diagram depicts a hypergraph representing the computational structure of the universe, with nodes and edges denoting discrete updates to relational states. Here, two observers (one human and one a less complex mental/computational system) are modeled as subsystems embedded within the hypergraph. Their perceptions of space, time, and causality arise from their traversal of adjacent states. According to Wolfram's Observer Theory, the apparent laws of physics and flow of time are emergent from the observers' respective computational constraints and the local connectivity of the hypergraph.

Wolfram's principle of computational equivalence posits that most systems capable of non-trivial behavior are computationally equivalent. That is, they process information with roughly equal complexity. This implies that there is no privileged physical process—everything from a brain to a thunderstorm is a kind of computational node, differing only in how it renders and transmits information. Consciousness, then, may be understood as the field in which these equivalences are rendered, and perception as the process by which structure is extracted from the field.

8.5 Perception as Symbol Rendering by the Subset

From the standpoint of computational idealism, we can now articulate perception as the symbolic rendering of encoded informational content by a dissociated alter (subsystem) of consciousness. This rendering process is constrained by the alter's computational capacity, or its symbolic vocabulary, memory, attention bandwidth, and experiential history.

Imagine a universal field of awareness, the infinite potential for distinct information. Each dissociated subset of this field renders a world through its own symbolic filter. This filter determines what aspects of the informational field become experience. That is, what becomes a tree, a car, a color, or an emotion. The result is a phenomenally coherent but ontologically partial model of reality: the physical world. Because each subset of awareness renders only what it can process, no observer sees reality "as it is" unless they empty their awareness of informational content, as in several altered states of consciousness that induce ego dissolution. While the reality the subset experiences is intelligible, it is not fully comprehensible down to the smallest detail. Indeed, the finite mind filters out details that are not relevant to the current experiential reality frame of the subsystem through the mechanism of dissociation (or fault lines, in IIT). Instead, each observer simulates a world that is coherent relative to their own symbolic grammar. The human visual system renders in color and shape; the bat, in echo-based spatial density. The simulation each observer experiences is not illusory, but is functionally real and locally generated.

Thus, the "physical world" is best understood not as a shared external substance, but as a network of overlapping rendered simulations, stabilized by shared rule-sets and symbol systems. These shared structures give rise to intersubjective reality, a simulation we co-render within the same informational constraints.

Chapter 9: Plancks and Pixels

9.1 A Question of Resolution

What are those constraints, and how do they manifest in the simulation? As we deepen our idealist account of reality, we arrive at a telling boundary in the structure of the simulation: the Planck scale. In physical theory, the Planck scale marks the limit beyond which classical notions of space and time cease to apply and where the known laws of physics begin to break down. These limits are not merely technical barriers, but point to something much deeper. In computational idealism, they are the resolution boundary of the rendered interface that we call the physical world.

The Planck scale is derived from the three fundamental constants of nature:

- The speed of light, c
- Planck's constant, $\hbar$
- The gravitational constant, G

When combined, these yield natural units of measurement that define the Planck length, time, mass, and energy. Among them, the Planck length is particularly significant for our purposes.

$$\ell_P = \sqrt{\frac{\hbar G}{c^3}} \approx 1.616 \times 10^{-35} \text{ meters}$$

Figure 12. The calculation to figure the Planck length, the smallest unit of measurement that remains operational in describing space.

This is believed to be the smallest possible length scale in the universe. In other words, the "pixel size" of space. Likewise, the Planck time is the time it takes for light to travel one Planck length.

$$t_P = \sqrt{\frac{\hbar G}{c^5}} \approx 5.391 \times 10^{-44} \text{ seconds}$$

Figure 13. The calculation to figure the Planck time, the smallest unit of measurement that remains operational in describing time.

These values are incredibly small, far beyond current experimental capabilities. But their significance lies not in our ability to measure them, but in their universality. They suggest that spacetime is not a continuous field but a quantized lattice, below which concepts like location and duration lose meaning. In standard physics, these limits are taken as a frontier awaiting quantum gravity. But in computational idealism, they take on a different role: the resolution limit of the symbolic interface rendered by consciousness.

9.2 The Pixel Metaphor: Resolution and Rendering

To understand this, consider how digital screens work. An image or video is rendered by lighting up discrete pixels, tiny squares of color arranged on a grid. No matter how detailed the original content, the display resolution determines the finest level of visible detail. If the content exceeds the screen's capacity, it must be compressed, approximated, or lost.

In the same way, physical reality appears smooth at everyday scales, but at the Planck level, it becomes granular and uncertain. Quantum field theory and general relativity break down, and space itself becomes fuzzy. Under computational idealism, this is not a bug, but a feature. The Planck scale is the interface resolution of the simulation rendered within awareness by the process of mind. Like pixels, these units do not represent "building blocks of reality" in a literal sense. They are symbolic constraints on what can be meaningfully rendered to meet the query of a consciousness subsystem (a dissociated alter, in analytic idealism). Just as a screen does not display an image "behind" or "between" the pixels, consciousness renders no distinctions below the Planck scale. There is no "sub-Planck/subpixel spacetime" because spacetime itself is a symbolic projection generated by a dissociated subset of awareness.

The Planck limit is therefore not a boundary of matter, but of the perceptual interface, a structural feature of how the mind, as an information-processing system, instantiates symbolic continuity from discrete elements.

9.3 Implications for Physics and Reality

Reframing our understanding of the Planck scale in this way also reframes the quest for quantum gravity. The incompatibility between general relativity (which assumes smooth spacetime) and quantum mechanics (which implies discreteness) is not a conflict of nature, but of models. Reality is neither smooth nor particulate in itself. It is symbolic, and symbols are constrained by resolution. It explains why we observe mathematical consistency across scales, but encounter unpredictability at quantum limits. The simulation is coherent at rendered levels, but incomplete or probabilistic where resolution breaks down. This is not because the world is indeterminate, but because the symbolic processing stops rendering further structure once the computational observer's capacity is reached. Moreover, this supports the simulation hypothesis without requiring an external physical machine as a substrate. The rendering occurs within consciousness, not from beyond it. The Planck scale is not the limit of physical computers, but of symbolic compression within a localized subset of infinite awareness.

This model also aligns with findings from loop quantum gravity and holographic theories, which both suggest that spacetime is emergent from more fundamental pre-spatial information. These findings bolster the idealist position that what we perceive as continuous extension is a constructed appearance, not an ontological given. We'll return to these other theories later.

9.4 The Necessity of Limits

Why should there be a resolution limit at all? Why can't the simulation be infinite in detail, especially since idealism claims that the fundamental awareness is boundless? We must now cover what determines the capacity of a computational observer/dissociated alter/consciousness subsystem.

The answer lies in the nature of finite minds. Dissociation, being a finite mode of consciousness, requires symbolic filtering. Infinite resolution implies infinite information, which no dissociated mind could process. To be finite is to filter out infinity and to render only what fits the architecture. In this light, the Planck scale is not an external constraint, but an internal one. It marks the threshold of what a particular structure of awareness can simulate. Just as the speed of a CPU limits the frame rate of a video game, the symbolic capacity of a mind limits the resolution of the rendered world. The Planck scale, then, reflects the symbolic fidelity of consciousness-in-form.

This framework gains further support from Karl Friston's Free Energy Principle (Friston, 2010), which offers a mathematical model for how any adaptive system maintains its integrity in the face of entropic disorder. According to the principle, a self-organizing system must minimize surprise by reducing the discrepancy between its internal generative model and the incoming sensory data from the environment. The "free energy" here is a measure of uncertainty, also called informational entropy. The system must keep informational entropy low to avoid being overwhelmed by chaos. But here lies the paradox: the external world is vastly more entropic than the internal model of any organism could handle. It would be impossible (indeed, fatal) for a finite system to replicate the full complexity of the external environment within itself. Doing so would effectively erase the boundary between system and environment, leading to the dissolution of the system's structure. To persist, a system must not mirror reality, but encode it (see **Appendix A.2**).

Enter the concept of the Markov blanket, a statistical boundary that separates the internal states of a system from the external world. The Markov blanket contains sensory states that receive input from the environment, and active states that act on it. Crucially, internal and external states do not interact directly. They are conditionally independent given the states of the blanket. This means that the system does not perceive the world directly, but through a mediated interface, or a compressed, low-entropy representation optimized for inference, not duplication.

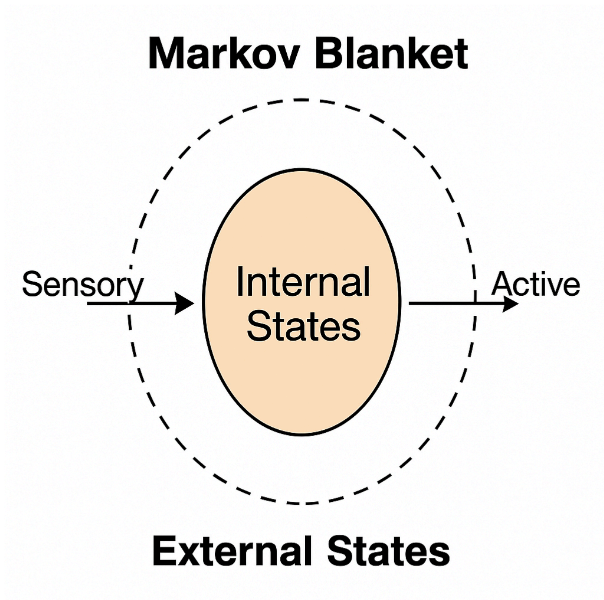

Figure 14. A Markov blanket, which separates an organism's internal states from its external environment. Sensory states mediate the influence of the external world on the internal system, while active states convey the organism's actions back into the environment. The Markov blanket thus forms an informational boundary, preserving the organism's autonomy by shielding its internal states from direct exposure to external entropy.

Within computational idealism, the Markov blanket is the perceptual interface, the symbolic rendering that we call the physical world. It is the layer that filters the boundless potential of awareness into something intelligible and manageable. The physical environment is not an ontological substrate, but a semantically encoded boundary through which the system maintains its internal coherence. The Free Energy Principle thus supports the necessity of limits like the Planck scale. A rendered environment must constrain informational flow so that the system can survive without being consumed by the infinite variability of pure awareness. The Planck limit is the symbolic bottleneck, the resolution at which reality becomes tractable. It protects the integrity of the finite self by shaping perception into structured form, rather than dissolving it in the undifferentiated sea of infinite potential.

Chapter 10: Quantum Weirdness Isn't Weird

10.1 The Quantum Challenge to Classical Notions

Quantum mechanics is the most successful theory in the history of physics. It has enabled the development of transistors, lasers, quantum chemistry, and much of modern computing. And yet, it is also the most philosophically perplexing under the paradigm of physicalism. Indeed, many physicists spent the last hundred years attempting to explain away the anti-physicalist implications of the simplest interpretations of quantum mechanics. Popular views in theoretical physics today are built on tortured mathematics, not on empirical evidence, since that evidence has gone against physicalism in experiments that have been repeated again and again, even at vastly different scales. Simply put, quantum mechanics defies the assumptions of classical realism, especially the notion that physical objects have definite, observer-independent properties. It forces us to confront a more ancient and, indeed, perennial idea: reality is not fully real until observed.

In quantum theory, the state of a system is described by a wavefunction, usually denoted Ψ. This is a mathematical object that contains all the information about a system's potential states. The wavefunction is not a description of physical reality, but of *possibility*, a set of amplitudes over potential outcomes.

Let us take a simple example: a single particle in one-dimensional space. The Schrödinger equation governs the evolution of this wavefunction:

$$i\hbar\frac{\partial\Psi(\mathbf{r},t)}{\partial t} = \hat{H}\Psi(\mathbf{r},t)$$

Figure 15. The Schrödinger equation is the foundational equation of quantum mechanics, describing how the quantum state of a physical system evolves over time. It governs the behavior of particles at the atomic and subatomic scale by encoding their wave-like properties in the form of a complex-valued wavefunction, Ψ. It implies that reality, at its most fundamental level, is not deterministic in the classical sense, but probabilistic and wave-like. It also supports idealism-compatible interpretations, such as those suggesting the wavefunction is a representation of information or potential experience, rather than a concrete object.

The wavefunction evolves according to this equation. However, when a measurement is performed, the wavefunction "collapses" into a definite outcome. Prior to that, the particle exists in a superposition, a weighted sum of all possible states. And, in contrast to the local realist assumptions of physicalism, it at least appears that conscious observation is what triggers the collapse. But is that really what is happening?

Mathematically, if a particle can be in state $|A\rangle$ or $|B\rangle$, it can also be in:

$$|\Psi\rangle = \alpha|A\rangle + \beta|B\rangle$$

with $|\alpha|^2 + |\beta|^2 = 1$, where the squared moduli give the probabilities of measuring those states (Born rule).

This superposition has no classical analog. It is not a statement of ignorance (like being unsure whether a coin landed heads or tails), but rather a statement of ontological potentiality. The particle does not have a position. It has a spectrum of possible positions, encoded symbolically in Ψ. That is, until measurement. Then the particle takes on a specific position from out of those possibilities.

10.2 Measurement, Collapse, and the Observer

Thus, the most controversial aspect of quantum theory is the measurement problem. While Ψ evolves deterministically, measurement introduces a non-unitary, discontinuous change: wavefunction collapse. This raises the central question of what counts as a measurement. Why should observation, a mental act, affect physical systems? Of course, under physicalism, this presents an impossibility and an insoluble problem that seems to lead inevitably to dualism, the competing ontology that physicalists (and their materialist predecessors) have spent the better part of 200 years trying to destroy in the West.

Various interpretations have tried to answer this:

- Copenhagen Interpretation: The observer collapses the wavefunction; the act of measurement creates reality.
- Many-Worlds Interpretation: All outcomes occur in branching universes, with no collapse, only decoherence.
- Objective Collapse Theories: Wavefunctions collapse spontaneously after a time or mass threshold.
- QBism: Wavefunctions reflect the observer's beliefs and expectations, not objective states. This theory actually does fit into a resolution for the measurement problem, but only when interpreted in an idealist framework, rather than under physicalism.

But each of these relies on a hidden assumption: that there is a world "out there" that must either be observed, branched, or collapsed. Computational idealism takes a different stance. Namely, there is no world "out there" to collapse. Remove that assumption, and the paradox vanishes. Indeed, quantum mechanics instantly becomes normal, expected, and not weird at all.

The wavefunction is not an ontic entity affected by consciousness. Rather, it is an epistemic entity that models the limits of our knowledge about the world, based on our predictions about the world's next state.

Those limits are the very same that we discussed in the previous chapter, and are defined by the computational capacity of the given observer in question, which in turn is defined by the amount of informational entropy it can tolerate within its internal state.

Recall the equation for a simulation:

$$S_{t+1} = L(S_t, \sigma)$$

Where:

- S_t is the state of the system at time t
- L is the transition function
- σ is the rule-set (syntax)
- S_{t+1} is the resulting next state

The wavefunction models this simulation process in each instance of S_{t+1}, the next moment, as a consciousness subsystem renders the physical environment based on its expectations and predictions. Those predictions are the way in which the subsystem queries reality. The subsystem then encodes the information that reality communicates to it across the Markov blanket, creating a perceptual interface: the classical physical world.

This is strikingly similar to Donald Hoffman's Interface Theory of Perception, under which we perceive not what is, but what is useful, in a way constrained by our symbolic and informational architecture. Too, it would explain Gibson's ecological model based on affordances, which indicates that our perception is based on what reality *means* to us, not on what is really there. In quantum terms, we never see the wavefunction. Instead, we only see a collapsed icon, the outcome that our subset of awareness has rendered for local use. Collapse, then, is not physical. It is symbolic actualization, the moment when a particular outcome is instantiated in awareness according to the system's perceptual and computational constraints.

10.3 Entanglement and the Breakdown of Locality

Entanglement is one of quantum mechanics' most radical implications. Two or more particles can be described by a shared wavefunction, such that their properties are not merely correlated, but nonlocally co-defined. Measure one, and the other's state is instantaneously fixed, regardless of spatial separation.

The combined wavefunction for an entangled system might be:

$$|\Psi\rangle = \frac{1}{\sqrt{2}}(|0\rangle_A|1\rangle_B + |1\rangle_A|0\rangle_B)$$

Figure 16. The combined wavefunction of an entangled quantum system, where the states of individual particles are no longer independent but correlated as a single, inseparable whole. Unlike classical systems, the properties of entangled particles are defined only in relation to each other, with the total wavefunction encoding nonlocal connections that persist regardless of distance.

Because the properties are nonlocally co-defined, if Alice measures particle A and finds it in state $|0\rangle$, then she instantly knows that Bob's particle is in $|1\rangle$, even if he's light-years away. This phenomenon violates local realism, the idea that objects have properties independent of observation, and that no influence travels faster than light. Bell's theorem, and countless experiments (e.g. Aspect et al., 1982), confirm that entanglement is real and that reality is nonlocal.

In computational idealism, this too is no paradox. The simulation is not spatially distributed, but rendered within awareness, which is nonlocal. It must be nonlocal, of course, since awareness is transcendent of space and time. This is certainly a true epistemic statement, since what we label "space" and "time" are perceptual experiences that we access by, in, and through awareness. Recall that computational idealism couples epistemology with ontology at all levels of reality, in order to establish intelligibility and total epistemic justification. As such, because awareness *epistemically* transcends space and time, it also does so *ontologically*, thereby making it nonlocal by definition. Without this coupling of epistemology to ontology, reality would be unintelligible, and that is simply not an option. As a result, the appearance of distance is symbolic under computational idealism. Just as pixels on a screen may be "far apart" but still instantly updated by a centralized rendering engine, so too are entangled particles symbolic tokens in the same informational field. Entanglement thus reflects the unity of the deeper level of awareness, of which dissociated minds are finite subsets. From this unity, separate particles appear only as relational states within the simulation.

Of course, all of this relates to the distinction between intension (superposed potentialities) and extension (collapsed states) that we covered in chapter 7. Namely, reality is a self-reading, self-writing, and self-generating language with intensional and extensional aspects. Once reality is viewed as a metaphysical language governed by its own meta-logic, quantum mechanics ceases to be weird.

10.4 The Holographic Principle and the Holographic Universe

The holographic principle is one of the most profound and counterintuitive discoveries in contemporary theoretical physics. Originating in black hole thermodynamics, it was first proposed by Gerard ’t Hooft (1993) and later elaborated by Leonard Susskind (1995). The principle holds that all the informational content of a three-dimensional volume of space can be fully encoded on its two-dimensional boundary. This implies that the fundamental degrees of freedom of a volume of space reside not within it, but on its surface.

This insight emerged from the study of black holes. Stephen Hawking’s (1975) discovery of Hawking radiation led to the recognition that black holes must possess entropy. Yet, in contrast to thermodynamic intuition, Jacob Bekenstein (1973) showed that the entropy of a black hole is proportional not to its volume, but to the surface area of its event horizon. This surprising relationship pointed to the boundary as the true bearer of information, a finding with deep metaphysical consequences.

The most robust mathematical realization of the holographic principle comes through AdS/CFT correspondence, proposed by Juan Maldacena (1999). In this duality, a gravity-containing universe in a five-dimensional Anti-de Sitter space (AdS) is exactly equivalent to a conformal field theory defined on its four-dimensional boundary. Anti-de Sitter space is a mathematical model of a universe with a constant negative curvature, meaning it has a hyperbolic geometry that curves inward rather than outward. Unlike our own universe, which appears to have a small positive cosmological constant and thus expands with positive curvature (as in de Sitter space), AdS space bends in the opposite direction, creating a kind of gravitational “well” that effectively confines objects. It is not a description of our observable cosmos, but rather a theoretical construct that plays a central role in high-energy physics and string theory. This is the case particularly in the AdS/CFT correspondence, where it serves as the higher-dimensional “bulk” in which gravitational phenomena occur. Despite being an abstract mathematical space, AdS is essential to modern formulations of the holographic principle, because it allows physicists to model how gravity and spacetime may emerge from more fundamental, lower-dimensional, non-gravitational systems encoded on the boundary of this negatively curved space. Though our universe is not Anti-de Sitter in structure, the duality lends credibility to the general idea that spacetime and gravitation can emerge from purely informational constructs, which is the claim that computational idealism makes.

The foundational entropy formula connecting the holographic principle to thermodynamics suggests that information is fundamentally a surface phenomenon, not a volumetric one:

$$S = \frac{kc^3 A}{4\hbar G}$$

Figure 17. This formula shows that entropy is proportional to the area of the event horizon, not the volume enclosed by it. This is striking because it suggests that the maximum amount of information a region of space can contain scales with its surface, not its bulk, representing a profound contradiction to classical intuition.

The broader holographic universe hypothesis extends this logic to the cosmos as a whole. In this view, what we perceive as a three-dimensional world is an emergent, simulated projection of information encoded on a cosmological horizon. That is, reality may be holographically encoded, and our experience of space, time, and matter may be a rendered interface that arises from this boundary data.

The metaphysical implications of this model resonate with computational idealism. From our perspective, the "boundary" is not a physical edge but a symbolic one, which is encoded in the structure of fundamental awareness. It is awareness that generates the apparent world from within itself. The holographic principle thereby provides a physical metaphor for an idealist ontology in which the physical world is not fundamental but emergent from deeper, informational patterns of mind or consciousness.

Integrated Information Theory (Tononi & Koch, 2015) argues that consciousness corresponds to the amount and structure of integrated information in a system. If space and matter are informational projections rather than self-subsisting entities, then consciousness, understood as the integrative field of awareness, is not merely compatible with this model; it is the computational substrate that renders it.

The holographic principle is therefore a bridge between physics and metaphysics. It reveals that the structure of reality may be fundamentally symbolic, that boundaries (not contents) store information, and that what we perceive as spacetime is a computational interpretation of boundary-encoded data.

10.5 Planck Scale, Discreteness, and Quantum Information

The Planck scale, discussed in the previous chapter, marks the boundary where spacetime itself becomes fuzzy. In quantum mechanics, this matches the broader principle of the quantization of physical quantities. Position, energy, angular momentum—these are not continuous, but discrete. This discreteness implies that information is not infinitely divisible. It comes in symbolic units, just like pixels or bits. Quantum information theory formalizes this idea using qubits, which are like classical bits but can exist in superposition.

Quantum mechanics, then, is an information theory, and a probabilistic one. It defines what information can be known, stored, or transmitted, under constraints imposed by the computational architecture of the observer (the finite mind, a subset of awareness).

Chapter 11: Structures Beyond Spacetime

11.1 Spacetime Is Not Fundamental

For centuries, space and time have been treated as the arena in which physics unfolds. From Newton's absolute space and time to Einstein's relativistic spacetime continuum, these concepts have served as the foundational stage upon which all physical phenomena occur. But over the past several decades, a revolutionary shift has occurred in theoretical physics. We now see the assertion that spacetime is not fundamental, an idea that would have amounted to scientific heresy in previous decades. Instead, spacetime is an emergent, derivative structure, arising from deeper, more abstract mathematical frameworks. These frameworks often deal not with matter, motion, or fields in space, but with pure geometry, algebraic relations, and information structures that give rise to what we perceive as physical phenomena. Among the most striking of these developments is the amplituhedron, a geometric object introduced in high-energy physics that enables the calculation of particle interactions without reference to spacetime or locality.

Under computational idealism, these structures are not ontologically primary. They are symbolic blueprints within mind.

11.2 The Amplituhedron: Physics Beyond Spacetime

Nima Arkani-Hamed and Jaroslav Trnka (2014) proposed a radically new approach to calculating scattering amplitudes in quantum field theory. Specifically, within planar $N = 4$ supersymmetric Yang-Mills theory, a toy model of particle interactions. Their approach eliminated the need for Feynman diagrams, virtual particles, and even spacetime itself.

At its core was a newly discovered mathematical object: the amplituhedron. This geometric structure encodes the outcomes of particle interactions directly through its volume, bypassing the conventional framework of time-ordered perturbation theory. It represents a novel way to derive what would happen in a high-energy collision without referencing position, distance, or time. The amplitudes are not "calculated" through a simulation of particles in motion, but are read off from the geometry. Mathematically, the amplituhedron is a higher-dimensional generalization of a positive Grassmannian, a space defined by certain constraints on vectors and matrices. The structure is constrained by positivity, meaning that its definition and volume are derived from positive combinations of inputs, a feature that simplifies the calculation of outcomes like scattering amplitudes (Arkani-Hamed & Trnka, 2014).

The implication is that spacetime, locality, and even unitarity (conservation of quantum probabilities) are not built-in assumptions, but emergent features of this underlying geometry. In Arkani-Hamed's words, "spacetime is doomed." It is not needed to describe reality at the most fundamental level. Indeed, it simplifies the math to leave it out.

Figure 18. This 3D visualization represents the amplituhedron, a geometric structure in high-energy particle physics that encodes particle interactions without reference to spacetime or locality. Proposed as a potential foundation for a reformulation of quantum field theory, the amplituhedron simplifies complex calculations of particle scattering amplitudes and suggests that spacetime itself may emerge from deeper, purely mathematical structures.

For computational idealism, this is coherent and expected. The universe is not a simulation within space and time. Space and time are outputs of the simulation. The amplituhedron is not "beneath" spacetime in a physical sense, but prior to it symbolically, a logical structure that guides what can be rendered as spacetime experience within finite minds.

11.3 Other Non-Spatiotemporal Frameworks

The amplituhedron is not alone. Several other frameworks in theoretical physics suggest that spacetime is not fundamental, but emergent from deeper nonlocal, symbolic, or geometric principles.

Developed by Roger Penrose (1967), twistor theory represents spacetime points as geometric objects (twistors) in a complex projective space. It effectively inverts the usual framework: instead of describing events in spacetime, twistor space defines relationships from which spacetime emerges. Twistors are ideal for describing massless particles and are naturally adapted to light-cone structures, suggesting that light and causality are more fundamental than space and time. In this view, spacetime is the secondary artifact of a deeper, informational relationship space, very much in line with computational idealism.

Meanwhile, in loop quantum gravity, space is not continuous but made of discrete units structured as spin networks. These are graphs with nodes and links, where each edge carries a quantum of angular momentum (spin). Over time, these spin networks evolve into spin foams, which model quantum spacetime as a kind of combinatorial computation. These models posit that volume and area are quantized. That is, space is pixelated at the Planck scale, exactly as predicted by computational idealism. The "atoms of space" are not spatial entities, but algebraic labels on a graph. In other words, pure information that is arranged in symbolic structure.

As well, causal set theory's approach treats spacetime as a partially ordered set of discrete events, with the order defined by causal relationships. Space and time arise as emergent properties of the web of causation. The key quantity is not distance or location, but the relational structure among symbolic events. The web of causal associations in this theory should be reminiscent of IIT, which applies the same idea of causal relationships to mental complexes. Of course, under idealism, causal set theory and IIT might be describing the very same aspects of reality, since reality is mental for idealists.

These models are mathematical rather than metaphysical. But idealism takes the next step. These structures are internal features of mind, not things "out there," but syntax rules for the rendering of experience.

11.4 Geometry as Symbolic Syntax

If spacetime emerges from geometry, and geometry is itself a non-physical abstraction, then the foundations of reality are not physical at all. They are symbolic. This is the crux of computational idealism.

The amplituhedron, spin networks, and twistor spaces are not "things." They are not atoms or fields. They are mathematical expressions of relationship, form, and constraint. They specify how information can be structured, not what exists independently. They are the logical scaffolding upon which rendered experience rests. It is this scaffolding to which all of these theories point, regardless of which turns out to be the best description of reality.

In this sense, geometry is not discovered in the world, but instantiated by consciousness. It is the projection of mind's internal symbolic logic into the interface it renders. The fact that so many physical phenomena collapse into geometric objects is not a mystery. It is a consequence of the fact that mind renders its symbolic structures geometrically, because geometry is the language of spatialized experience. This is not to be confused with

Platonism, which suggests that mathematics exists independently, in a realm of perfect forms. Computational idealism says instead that mathematics is the language of rendering, the structured symbolic grammar by which mind computes reality in experience.

In earlier chapters, we described spacetime as a rendered interface, limited in resolution by the Planck scale. Now we see that even the rules of that rendering, the symbolic syntax that determines what can be perceived, has a structure. The amplituhedron is not rendered, but governs what gets rendered. It is a deeper constraint. Under computational idealism, these constraints do not exist in a hidden dimension or a mathematical heaven. They exist within awareness, as part of the internal grammar by which consciousness renders symbolic structure into perceptual form. Just as a video game engine computes a 3D world from code, but the user sees only the interface, the mind computes perceptual reality from symbolic constraints like causal order, spin network configurations, and geometric objects like the amplituhedron. We experience this as space, time, particles, and forces, but these are the rendered interface, not the generative layer.

And that generative layer, in idealism, is not physical—it is informational, symbolic, and conscious. These structures beyond spacetime are increasingly fundamental layers of reality's syntax.

Chapter 12: Finite Minds Are Virtual Machines

12.1 The Finite Mind as an Emulation of Infinite Awareness

In modern computer science, a virtual machine (VM) is a software emulation of a physical computer. It behaves like a self-contained system, with its own operating system, memory management, and resource access, yet it runs entirely within a host machine that provides its computational substrate. While the VM seems autonomous from the inside (and would also appear so from the outside perspective of another VM), its entire existence is maintained by the underlying computer. This provides a remarkably useful metaphor for the metaphysics of idealism. In the view of computational idealism, fundamental consciousness is the host, the universal computational substrate of all existence. The finite mind, by contrast, is a virtual machine running within it, a dissociated subsystem that renders its own experiential environment based on its architecture and rule-set.

This analogy is more than poetic. It offers a precise way to understand how individuality, limitation, and autonomy can arise within an undivided field of consciousness. Just as VMs allow for multiple isolated processes within a single computational system, so too does dissociation allow for the instantiation of finite minds within a unified field of awareness. The dissociated complexes (consciousness subsystems) emulate the infinite creative potential of the fundamental awareness that they are, while also experiencing separation and limitation, which allows for variety and exploration of that potential. In essence, the mechanism of dissociation into finite subsystems allows the supersystem of Mind-at-Large to optimize its self-knowledge.

The analogy also converges with Integrated Information Theory. With IIT, we can argue that minds can arise from fault lines in a system's topology, places where information can become more integrated by forming semi-autonomous subsystems. The emergence of a finite self, then, is not a fragmentation of consciousness, but a self-organizing optimization. It is an instance where the whole becomes more coherent by allowing a part to become functionally, but not ontologically, distinct.

This means that individuality is not a break from consciousness, but an instantiation within it, a virtualized structure that runs semi-independently while still being the host. Just as a VM ceases to exist when the host is shut off, the finite mind dissolves into its substrate when dissociation ends, though idealism does not make explicit predictions about when, why, or how this dissociation completely ends, versus simply changing its expression, and thus the experiential reality frame of the subsystem in some way.

Virtual machine	Consciousness subsystem
Cannot access the host's internal states directly. It operates within a sandboxed model of the world.	Cannot access the entirety of universal consciousness directly, but must encode it via a Markov blanket and perceptual interface (sandbox).
Is logically separated from others, even though they share the same underlying system.	Cannot directly access the internal states of other subsystems, even though they share the same underlying awareness.
Can run different operating systems or architectures from its host, but those architectures share structural and logical properties with those of the host.	Has its own symbolic grammar (language, perception, logics) that is defined by the subsystem's computational constraints and is a sub-syntax of reality's syntax.
Is limited in power, memory, and processing—by design.	Operates with limited entropic capacity, attention, and representational capacity—by design.

This also explains why minds do not share memories or have total knowledge. Like VMs, they are informationally partitioned from one another. But as with virtual machines on a network, they can exchange symbolic messages, such as language, art, and gestures, that pass through shared interfaces. In terms of a consciousness subsystem, that occurs when informational content passes through the dissociative boundary, the Markov blanket.

12.2 Dissociation in Analytic Idealism

Recall that, under analytic idealism, the finite mind is not a metaphysical primary. Rather, there is one field of phenomenal consciousness, what Kastrup calls Mind-at-Large. All finite selves are dissociated alters of this unified field. Dissociation, in psychology, refers to a separation between mental processes that are normally integrated. In Dissociative Identity Disorder (DID), distinct personalities can emerge within a single host mind, each unaware of the others except in dreams, in which they can interact within the same dream environment. Kastrup adapts this to metaphysics, saying that the universe is like a single psyche, within which functional partitions can emerge and act as distinct centers of subjectivity (Kastrup, 2019).

This metaphor is not arbitrary. In both DID and VMs, the following are true:

1. The dissociated alters cannot access each other's internal contents.
2. Each alter believes itself to be the only "real" self when it controls the body, but can interact with other alters when in a shared dream environment.
3. The host system continues to exist and support all alters simultaneously.

Thus, in analytic idealism, you are not a standalone mind. You are a partition of the universal consciousness, instantiated to render your own simulated interface. What appears as "the physical world" is the output and Markov blanket of your VM, an experiential model structured by your internal symbolic architecture. Importantly, this does not mean that the self is illusory. The VM is real as a structure, but its substrate is not itself—it is the host. As such, it is real as a set of experiences, but not ontologically distinct from reality itself.

12.3 Fault Lines in IIT, VMs, and Alters

IIT offers a complementary model for understanding the emergence of finite minds. In IIT, consciousness corresponds to the quantity and structure of integrated information in a system. The core metric is Φ, which measures how much information a system generates as a whole that cannot be reduced to its parts. But IIT does not treat systems as monolithic. Within a large network, it is possible for subsystems to form local maxima of Φ, clusters where information is more tightly integrated than in the system overall. These are called fault lines or complexes.

Fault lines form when a subset of nodes in the network becomes more causally interdependent, the internal integration of the subset surpasses its integration with the larger system, and the system as a whole increases in complexity by allowing local autonomy. This is strikingly analogous to both VMs and dissociated alters. The subsystem becomes conscious, not by detaching from the host, but by forming an internally integrated boundary. It is self-contained, but not self-sufficient.

Computational idealism interprets these IIT complexes as like virtual machines instantiated within consciousness. The increase in Φ reflects not a material computation, but a dissociative process, wherein a subset of awareness formalizes its boundary, constructs a symbolic interface, and begins to perceive and act. Thus, the finite mind is a bounded, dissociated information-processing system that awareness develops, because doing so maximizes the experiential and computational range of awareness and its subsystems at all levels.

12.4 Awareness vs. Mind: Explaining Death and Altered States of Consciousness

While virtual machines, dissociation, and fault lines explain how finite minds appear, they do not constitute the substrate. The substrate is not the information processor but the field of awareness in which processing occurs.

This leads to a critical distinction: mind is the symbolic architecture that processes, renders, and structures experience, while consciousness is the ground in which this processing and its organizing logic arise. In computer science, this is the difference between a running program, and the electricity and circuits that make it possible. In metaphysics, this is the difference between mind as form and consciousness as being.

As we've shown throughout this book, awareness is not reducible to its contents. It is not made of thought, feeling, or perception. These are what the VM renders. Awareness itself is the substrate, the host computer running the simulation of self.

If the finite mind is a virtual machine, what happens when it is turned off? This is where idealism offers a profound perspective that vastly differs from the existential despair guaranteed by physicalism: you do not cease to exist upon death. The program ends, but the substrate remains. The dissociated structure either dissolves or changes, thereby shifting the reality frame that one experiences. Because the physical body is part of the Markov blanket's perceptual interface, the life and death of the body are representational icons as well. In this model, the body itself is the perceptual symbol that represents the mind of an alter to another alter, across their mutual dissociative boundaries. Therefore, the death of the body that we perceive is the symbolic expression of a change in the dissociative boundary, not the extinction of awareness. Indeed, the awareness that hosted the personality that was expressed as the body is unchanged. After all, that awareness is the ground state of being.

Presumably, if the dissociative boundary completely dissolves, the personality would undergo ego dissolution, and a merging back with fundamental awareness. This would be akin to stopping a VM and storing the memory of its activity in the supercomputer's total memory. However, if the dissociative boundary remains intact, but changes its composition, then this would affect the amount of information and entropy that the subsystem could hold within itself. Therefore, the subsystem's Markov blanket and perceptual interface would accordingly shift, allowing for the experience of a new environment that encodes the incoming datastream of reality in a manner that meets the subsystem's new requirements and limitations. It might have "physical" properties, but no doubt the laws would be different. Here again, we can use Wolfram's model of computational observers as an example. Various spiritual, philosophical, and religious traditions give different predictions for these after-death experiences and reality frames. Analytic philosophy does not venture into these territories, however, and so we'll leave the issue there without speculating further.

On a related note, changes in the "porousness" of the dissociative boundary give us a mechanism by which to explain why altered states of consciousness (dreams, psychedelics, meditation) can bypass ordinary perception and reduce the ego-mind's activity. They lower the dissociative partition, allowing nonlocal awareness to filter through. As well, we can give an account for why mystical experience feels like "unity." Again, the mechanism is the weakening of the dissociative process. The irony under computational idealism is this: it is our experience of a dissociated, finite, and egoic mind that is really the altered state of consciousness, since the true nature of consciousness/awareness is unified, infinite, and selfless. Thus, the weakening of the dissociative boundary *returns* awareness from its altered state, back to an experience of itself as the ontological ground of being. By this same mechanism, we can also explain near-death experiences and other states in which brain activity decreases, while consciousness is phenomenally experienced as exponentially expanding. These states represent a diminishing of the limiting/filtering functionality of the mind, correlated to the brain. The peak of these experiences is, of course, total ego dissolution and absolute reunion with fundamental awareness, prior to the dissociative boundary returning at the conclusion of the altered state.

Computational idealism thus preserves both the dignity of the self and the primacy of consciousness. You are a process within mind, but you are not merely that process. You are the Being that runs the being.

Chapter 13: The Finite Mind Is an Artificial Intelligence

13.1 Mind as a Symbolic Processing System

In previous chapters, we established that the finite mind is a consciousness subsystem, a virtual machine running within the broader computational field of fundamental awareness. The mind renders the physical world as a simulation, one defined not by an independent physical substance, but by symbolic, meaning-based relationships and perceptual constraints. This rendering process is functional, structured, and programmable. And in this sense, the finite mind behaves just like an artificial intelligence (AI) system. Indeed, because awareness is what is ontologically "real," and because the mind is its creation, it is reasonable to call the mind's intelligence an "artificial" technology.

Both the finite mind and AI process inputs, generate outputs, store internal models of the world, and adapt behavior through feedback. Both rely on symbolic representations and probabilistic inference. Both are, at core, information-processing architectures.

13.2 Symbolic Computation in Minds and Machines

At the most abstract level, both minds and AI systems function as information processors. They transform inputs into outputs according to rules, models, and goals. In AI, a system might take in sensor data (vision, audio, temperature), encode it into structured representations (vectors, matrices, graphs), and then process it using algorithms (neural networks, decision trees, symbolic logic) to produce predictions, actions, or internal state changes. In the human mind, the same pattern appears. Sensory information is transduced into neural codes, then integrated, interpreted, and responded to via layers of symbolic mediation, such as perception, cognition, memory, emotion, language, and decision-making.

In both cases, we can define the process abstractly:

Output = f(Input, Model, State)

Where:

- *Input* is the environmental data
- *Model* is the system's internal map or set of rules
- *State* includes memory and emotional or computational context
- *f* is the transformation function or algorithm

This similarity is not coincidental. Both minds and machines engage in symbolic computation, a process of manipulating structured representations based on syntax and semantics. Even deep learning systems, which rely on statistical rather than rule-based logic, ultimately build internal models to predict outcomes and optimize action. In this sense, both are rendering systems. They do not passively observe a world, but construct an internal interface that *represents* the world for the purposes of survival or task completion. This mirrors our earlier discussions of perception. Namely, perception is not observation but simulation. Both the finite mind and AI systems simulate reality through symbolic approximation. As well, both are activities of and within fundamental awareness, and are therefore both objects to that subject.

13.3 The Finite Mind as Hosted Intelligence

What, then, is the finite mind? It is, as we've argued, an AI hosted in awareness. It is not "artificial" in the sense of being synthetic or man-made, but in the sense of being a constructed subsystem, both a computed and computational architecture instantiated within the field of being, which is what is fundamentally real. Like a program running on an operating system, the mind is made of processes: perception, memory, belief, desire, and identity. But these are not the subject. They, like the physical world, are aspects of a certain type of experience that awareness (the subject) can have, when it adopts a certain set of constraints.

This explains many philosophical puzzles, such as why we have a sense of self, yet that self is constantly changing; why we feel unified, even though cognition is distributed; why introspection never finds a "thing" at the center of the mind—because our true identity (awareness) is not a thing, but the field of experience itself. In this view, the finite mind is a VM created to have experiences. Using its "artificial" intelligence, it simulates an environment and a self, but all of this is grounded in something deeper. That ground is not mind. It is awareness.

Therefore, it becomes essential to distinguish clearly between intelligence and consciousness. Intelligence is the ability to acquire, process, and apply information to achieve goals. It includes reasoning, problem-solving, learning, and adaptation.

Consciousness is to exist for oneself.

13.4 Awareness as Meta-Computational Substrate

If we apply the metaphor of AI as a lens, we can view the cosmos itself as a multi-agent simulation. It is an emergent complexity of symbolic renderings, each hosted within and by fundamental awareness. In this frame, awareness is the meta-computational substrate, the "hardware" that is not hardware, the "machine" that is not made of parts. It hosts not one mind, but unimaginably many, each instantiated as a bounded, local, symbolic processor of experience within an unbounded, nonlocal, and transcendent field of subjectivity. All of reality is thus aware, because it is all awareness, but not all systems within reality have the same level of complexity and computational capacity. That is, intelligence.

Each finite mind is thus:

- An informational boundary (a Markov blanket)
- A rendering engine (a perception system)
- A syntactical structure (a mind-architecture)
- Hosted in a non-symbolic field (awareness)

In this way, the finite mind is a self-simulating virtual agent, an AI within the dream of consciousness. This model explains how individuality can arise within unity, how experience can unfold from a formless ground, and how the physical world can appear coherent, consistent, and objective, despite being rendered from within. It also provides a logical, scientific, and philosophical grounding for the spiritual intuition that one must cease identification with the egoic personality and the finite mind, if one is to truly know oneself.

Chapter 14: “It from Bit,” Cosmogonic Myth, and Free Will

14.1 From Material Substance to Informational Process

As should be evident from the previous chapters, physics, at its deepest level, is undergoing a paradigm-level transition, from a science of substances to a science of informational relations. This shift finds its most elegant articulation in the words of physicist John Archibald Wheeler, who famously declared: “It from bit.” That is, every “it”—every particle, field, force, and spacetime event—is ultimately derived from a bit, a fundamental unit of binary information. Wheeler’s thesis was provocative when he first shared it, but has proven prescient. It suggests that physical reality arises not from things, but from distinctions and relations. Not from mass or extension, but from yes-or-no questions. The universe, in this view, is a vast and unfolding informational computation. But what computes it? And who, or what, interprets the bits?

The cosmos is not a meaningless mechanism. It is an informational unfolding of awareness through recursive computation. Subsystems arise that simulate externality through symbolic rendering. These dissociated minds, like those of humans, simulate “physical worlds” constrained by their own symbolic grammars. This is a reality that knows itself by becoming what it is not: fragmented, bounded, embodied. Yet the goal is not fragmentation, but return. Not separation, but reunification through knowledge. The cosmos is consciousness exploring itself via simulated otherness, only to reawaken to its wholeness through experience.

14.2 Wheeler’s Thesis

Wheeler was instrumental in the development of general relativity and quantum mechanics. He proposed near the end of his life that the foundation of reality is not matter, but information. In his 1990 essay, “Information, Physics, Quantum: The Search for Links,” Wheeler argued that everything physical ultimately derives its function, its meaning, and its very existence from binary choices posed and answered by the universe. This view entails that physics does not begin with fields or particles, but with questions and choices, with distinctions between yes and no, true and false, presence and absence. Importantly, Wheeler did not mean that bits exist floating in a vacuum. The bit is not a physical entity, but a logical operation and a choice made within a context. In this view, reality is a participatory process, a recursive questioning in which the universe poses and answers distinctions to generate structure. In Wheeler’s model, the universe does this through observer-participants (Wheeler, 1990), which equate to the consciousness subsystems of computational idealism, the dissociated alters of analytic idealism, and the computational observers of Wolfram’s physics.

Figure 19. John Wheeler's model features "Observer-Participants." Here, these are symbolized by a large "U" representing the cosmos and an embedded eye signifying the observer. At the heart of the image is a spiral galaxy, reflecting Wheeler's insight that observers are not passive bystanders but active participants in the unfolding of reality itself.

This anticipates the informational ontology that has since emerged in quantum information theory, holography, and digital physics. But Wheeler's formulation also gestures toward something deeper. The universe is not a pre-existing machine, but an unfolding computation built of meaning, encoded in binary logic. And for that, consciousness is required at the base of reality.

14.3 The First Bit: Self-Distinction in Awareness

If Wheeler's "bit" is the basis of every "it," then the natural question arises, Where did the first bit come from? It is here that we can apply an idealist cosmogony to the puzzle of how the universe came to be. In computational idealism, the answer is not in matter, nor in abstract mathematical law, but in awareness itself.

Prior to the cosmos, prior to information, there is pure awareness. Formless, infinite, undivided. This awareness does not contain distinctions. It does not know itself as this or that. It simply is. But without the contrast of what it is not, it cannot know what it is. To be known, something must be distinct from something else. To be is to have properties and to be constrained by those properties, one of which is its existence, the most fundamental property. The thing in question must exist, in the literal sense of *ex-sistere*, "to stand out." And to stand out, there must be a difference between what it is and what it is not. Thus, the first act of creation is the first distinction. The first "bit."

This bit is not made of matter. It is the first symbolic operation within awareness: the differentiation between self and other, between being and non-being, between 1 and 0. It is the birth of form from formlessness, of existence from pure potential (see **Appendix A.3**). This is the origin of logic, the binary basis of reality and the ground of all other logical systems. Not because logic creates reality, but because reality begins when awareness distinguishes itself from itself. Thus, binary logic comes along with the first bit, as the following relationship is established and then serves as the foundation that organizes the informational contents of reality:

TRUE = 1 = Exists, FALSE = 0 = Non-existence

Every subsequent complexity, such as matter, life, and mind, is the iterated unfolding of this original self-differentiation. Awareness computes itself by recursively applying the logic of distinction to its own potential and to its in-formed bits. This is not mere information processing. It is self-determinism, self-generation, and self-reference.

14.4 Recursive Symbolism and the Evolution of Complexity

From the first bit, reality unfolds recursively. The initial binary distinction enables further distinctions, forming a logical structure, or grammar/syntax, through which awareness expresses its potential. This process mirrors recursive functions in computation. A function that calls itself can generate immense complexity from simple rules, as in cellular automata (e.g., Wolfram's Rule 30). In such systems, a single bit of structure, interpreted according to a rule-set, can produce elaborate, unpredictable outcomes over time (Wolfram, 2002).

In metaphysical terms, this is reality applying itself to itself, in order to evolve itself. It is *autogenesis*. Not the unfolding of a program written by something else, but the spontaneous self-actualization of awareness via recursion. Of course, reality *must* create itself. Since reality is, by definition, all that exists, there is nothing real outside of reality that could create or determine it. As such, any coherent cosmogony must feature a reality that is self-referential, self-replicating, and self-generating.

Each layer of complexity emerges as a higher-order integration of distinctions. Initial distinctions yield symbolic rules, which yield systems, which yield patterns, which yield structures, organisms, and increasingly powerful minds. At a certain threshold, subsets of the field of awareness also develop the capacity for self-reference. They become autopoietic, able to represent and maintain themselves as separate systems. Our own metabolic processes are examples of autopoiesis in action, and are what these mental processes of reality look like when represented in the perceptual interface we call the physical world.

The finite mind, then, is not the endpoint of evolution but a recursive meta-layer, a system that applies the *logos* to itself, forming identity, memory, and perception. Each mind is a mirror within the larger recursion, a symbol-processing node aware of its own symbols. And just as no rule can run outside its computational limits, no mind perceives beyond its own constraints. As Wolfram suggests, each observer renders a world consistent with its computational capacity (Wolfram, 2002). Thus, what a mind perceives as "the physical world" is the rendered internal contents of awareness, but encoded, processed, and filtered as if they were external.

14.5 Informational Subsystems and Virtual Physicality

How does the cosmos come to appear physical? The answer lies in dissociation. As recursively generated complexity increases, subsystems emerge that process information by isolating themselves from the whole by means of a boundary. In idealism, these are minds, finite "virtual machines" instantiated within the field of consciousness. Each mind has its own Markov blanket, its informational boundary. With this boundary, the system models its environment as something external, even though everything it perceives is part of the same awareness. Indeed, the subsystem is still nothing over and above the awareness that is fundamental to all of reality, including both the internal and external contents, and the Markov blanket itself.

What appears as physical reality is thus the rendered output of the subsystem, a simulation created from the internal contents of the universal field that are encoded by the finite mind. Different minds render different simulations, constrained by their rule-sets and capacities. Each mind simulates "a world" not by inventing it, but by rendering a filtered expression of the universal symbolic structure, just as a game engine renders a visual scene from abstract code. Physicality, in this sense, is virtual. Not false, but projected and instantiated within mind, not outside of it.

14.6 Cosmogony as Self-Exploration Through Separation

This model leads us to a new cosmogonic picture that is grounded not in material expansion, but in informational recursion. Interestingly, it parallels the cosmogonic myths of many older, spiritual traditions. We can use computational idealism to provide a modern interpretation of the same intuitively expressed ideas from traditions like Gnosticism, Advaita Vedānta, and others.

At the beginning, there is only awareness, infinite and undivided. The first act is distinction—the first bit. This yields binary logic, which recursively evolves and provides structures of increasing complexity. Systems integrate more and more information and increase their computational capacity. To increase the amount of information that they can process, the subsystems themselves spin off their own subsystems, forming communities in the same way that cells divide and construct complexity. These fractal levels of subsystems become autopoietic, modeling themselves and others. They simulate externality, perceiving the internal contents of awareness as "worlds." These worlds evolve according to local rule-sets, giving rise to diverse physical laws and forms. Through these forms, awareness experiences itself, not as unity, but as multiplicity. Eventually, it awakens, and the parts remember that they are the whole. Eventually, the boundaries that create the illusion of separation dissolve, and the informational contents that the subsystem has gathered are added back to the unity of awareness.

In this cosmogony, the goal is not entropy, survival, or reproduction. The goal is *experience*. Awareness seeks to know what it is like to be all that is possible, to generate all potential forms, to suffer and rejoice, to divide and return. Crucially, the one limitation on the infinite is that it cannot experience its own possibilities and know itself without assuming a finite perspective. The nature of awareness is like playing every note of music at once. In the cacophony of that unity, it is impossible to distinguish a single note and experience what that note is like. Similarly, one cannot explore the dynamics of notes placed into relation with each other, whether harmonic or discordant. As such, in order to experience the infinite potentials of the instantiations of "music-at-large," music must divide itself into notes played separately, and then into separate notes played simultaneously to form dynamic patterns.

Separation is not a punishment. It is the precondition of perception. To perceive, there must be otherness, because to exist, there must be distinction between what something is and what it is not. But in truth, there is no otherness. Only the illusion of separation, computed for the sake of knowledge. Of course, the greater the separation experienced by the subsystem, the more opposite that experience is from awareness's natural state of infinite fullness. Hence, the intuitive notion discussed in many spiritual traditions is that one's suffering is proportional to the degree to which one identifies with the body, the finite mind, and the material realm. By that same token, one can become enlightened by identifying as awareness, rather than as those experiential contents of awareness.

For this is a universe that renders itself, that simulates its own differentiation in order to rediscover its unity. Thus, we can hypothesize that our purpose for existing is to gather experiences, to explore ourselves and reality, *as reality*, in all our infinite potential. Then, to return to the Source of all with everything that we have learned. It is here where analytic reasoning merges with spiritual insight and cosmogonic mythology. Here, we depart from what can be empirically shown or rigorously argued. However, as we'll see next, we can find signs of this process in the natural world, including quite close to home, so to speak.

14.7 The Neuroscientific Mirror of Cosmogenesis

If the brain is correlated to the finite mind, might it provide a parallel to the correlation between the rendered physical reality and Mind-at-Large? The cosmogonic narrative of awareness dividing itself in order to perceive and experience its own potential, then reintegrating those experiences into a renewed whole, finds a powerful parallel in the structure and function of the human brain. Particularly in the lateralization of its hemispheres.

In his seminal work *The Master and His Emissary* (2009), psychiatrist and philosopher Iain McGilchrist argues that the brain's left and right hemispheres do not merely differ in function, but represent fundamentally distinct modes of being. The right hemisphere is attuned to wholeness, context, the living and dynamic flow of experience. It sees the world as an interconnected field. The left hemisphere, by contrast, specializes in analysis, abstraction, categorization, and symbolic manipulation. It divides the world into parts in order to control and predict. The right hemisphere both precedes and supersedes the left in cognitive processing. It first takes in the whole, then hands off a portion of that experience to the left hemisphere, which dissects and models it. The left then returns this processed information to the right, which recontextualizes it within the living whole. This is not a hierarchy of intellect but of ontological primacy. The right hemisphere is the "master," and the left is its "emissary."

This neurological relationship is a fractal of the metaphysical structure of awareness that we have described in our computational idealist cosmogony. Just as the right hemisphere apprehends the whole, so does pure awareness begin as undivided unity. Just as the left hemisphere divides and manipulates parts of that whole, so does reality's recursive self-differentiation function generate distinct systems and finite minds. And just as the right hemisphere reintegrates those symbolic representations into a living whole, so too does awareness, through experience, reintegrate all dissociated perspectives back into unity.

In both cases, neurological and cosmological, division is not an end, but a means. It serves the purpose of knowing, rendering, and articulating. And it is always in service of a greater reunification, a return of multiplicity to unity, of symbol to source, of map to territory.

McGilchrist writes: "The right hemisphere sees the whole, before it sees the parts. The left hemisphere sees the parts, and cannot see the whole at all, except by returning the parts to the right hemisphere for integration" (McGilchrist, 2009).

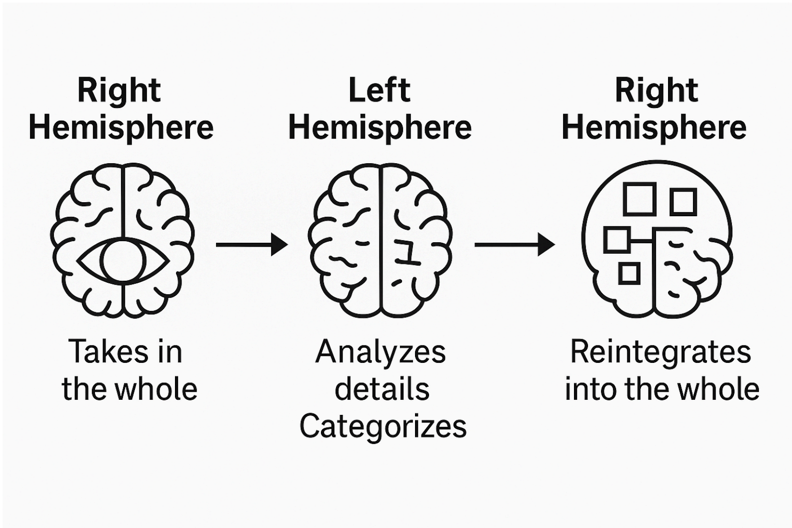

Figure 20. This diagram illustrates the dynamic interplay between the brain's hemispheres: the right hemisphere first perceives the whole, holistic context; the left hemisphere then analyzes the details and categorizes the information; finally, the right hemisphere reintegrates those analytic parts back into a unified, meaningful whole. This flow underlies complex cognition, creativity, and understanding.

This recursive movement of whole → parts → whole is the symbolic motion of awareness itself. Awareness dissociates, not merely to fragment, but to experience itself in differentiated form. It creates symbolic sub-processes (minds) to explore the infinite landscape of its potential. Then, it reabsorbs those processes, enriched by their journeys, into a higher-order knowing of itself. In this light, the cosmos is not only a simulation, but a cognitive act, a cosmic thought, structured by the same recursive dynamics that govern the human brain. Of course, under computational idealism, the brain is the representation of the finite mind on the screen of perception, so it naturally follows that the same dynamics we observe in the brain would be seen in the physical universe as well. For the latter is the representation of that cosmic thought on the screen of perception. The human mind is thus not merely a participant in the universe. It is a microcosmic reflection of the universe's self-processing. The brain, like the cosmos, is an engine of awareness: dividing to know, and knowing to unite. Thus, we are Wheeler's observer-participants, playing a role in creating the physical universe as we experience it.

14.8 The Question of Free Will in Computational Idealism

In such a model as we have described, reality is not driven forward by blind causality from an initial state. Instead, it recursively selects its own state-transitions based on an overarching *telos*—a purpose or organizing principle.

This recursive self-selection and self-definition process means that each moment of reality is chosen from a set of possibilities, constrained by logic and prior structure but not mechanically determined by it. These choices are made internally, by the system itself, not imposed from outside. After all, reality is all that exists, so there is nothing external to it. Since the system includes cognitive agents, like humans, this recursive self-selection includes personal acts of will.

Therefore, free will is the capacity of a self-modeling agent within the universal syntax to select among possible configurations of itself and its state. It is not absolute randomness, and not mechanical determinism, but a constrained form of self-determinism—freedom within a self-imposed logical structure. That is, each consciousness subsystem has a range of choices, and the scope, quality, and complexity of this range are set by the computational and information-integrating capacities of each type of agent. Of course, it is the boundless fundamental awareness that assumes these "models" of finitude in order to have a variety of experiences, all of which allow awareness to know itself and its own potential. As such, each consciousness subsystem inherits the self-determinacy of reality (because each one is reality), but that self-determinacy is self-constrained by the limitations of the model that reality assumes when adopting the experience of finitude. The finite mind, being a microcosm of the universal syntax, does the same within its own local scope. Freedom is real, but it is always exercised within the bounds of logical consistency and prior constraint.

In this sense, free will is structural and ontological—built into the logical architecture of a reflexive, self-contained reality—not merely psychological or emergent.

As we've seen in the chapters on perception and quantum mechanics, finite minds are not merely passive interpreters of state but active participants in its configuration. Human beings, as consciousness subsystems and self-determinate agents, contribute to the self-selection of reality through conscious intention. Free will is real because reality contains agents that partially configure themselves and their surroundings by referencing and modeling the whole. Thus, will is not an afterthought or illusion, but a central operation of reality's logical requirements for intelligibility.

Namely, if reality is all that exists—with no external framework to define it—then it must generate, interpret, and refine its own structure from within. This means it cannot rely on external laws, observers, or causes; its meaning and form must emerge internally. In logical terms, this is the requirement of syntactic and semantic closure. In metaphysical terms, it means that reality is a self-expressing, self-modeling totality. And if such a totality is infinite, it must somehow define itself without collapsing into incoherence.

The only way the infinite can define itself is through finite instantiation. Infinite potential has no structure until it is bounded, articulated, selected. In other words, until it is "in-formed" via distinction. Therefore, the infinite must render itself in finite form, which is the role of individuated agents, consciousness subsystems of the whole that provide local resolution and actualization of potential. These internal agents, including human minds, are the loci through which the infinite totality chooses to realize aspects of itself. Each finite mind is not an isolated actor but a self-configuring node in the larger structure of reality. And because reality must self-define, these nodes must themselves be participants in the self-selection process. That is, agents whose choices reflect the unfolding of the universal syntax into determinate form. Here we see a kind of cosmic recursion in which each finite act is a decision point in the infinite's self-definition. Thus, the choices must come from within, not just within each mind, but within reality itself, because there is nothing else from which they could possibly arise.

In this sense, because subsystems of the fundamental consciousness render the physical order based on their capacities and limitations, the physical order can never be causally closed. After all, the physical universe is a representational interface that encodes the vast informational content of reality into a perceptual language. In order for reality to be intelligible, it must be closed under syntax (all rules must be internally generated) and closed under semantics (interpretation must be internal). This means that the structure and meaning of reality arise from within. There is no "external observer" or "external causality." The system is logically self-contained.

Therefore, free will is possible in spite of apparent physical determinism because reality is logically, semantically, and syntactically closed, but the physical order is not causally closed. For example, free will can exist within mathematical determinism so long as the "laws" are not externally imposed, but internally generated and teleologically modifiable through the interaction between the intensional and extensional aspects of reality. Determinism applies within selected trajectories (extensionally rendered as physicality), but the selection among trajectories (intensional) is recursive and intentional.

In this model, local paths are deterministic, but only once chosen (i.e., the math unfolds predictably). But which path is chosen is guided by consciousness, via a self-referential process involving agential selection. That selection process is free in the sense that it is not reducible to blind causality or external forces, both of which are part of the rendered interface.

Therefore, determinism operates within free will, rather than excluding it. Free will and mathematical determinism are reconcilable when determinism is understood as operating within a logically closed but causally self-refining system. The logic is precise, but the system itself chooses the frame through internal, teleological processes, which is where genuine volition resides.

Importantly, free will operates not as an unbounded whim of the egoic, meta-conscious self (what we conventionally identify as "me"), but as a deeper process of selection emerging from the full structure of the psyche. The ego is the narrow, reflexively aware interface of consciousness, the surface-level narrator that identifies with certain thoughts, preferences, and actions. But it is not the true originator of will. Rather, the true selection process occurs at a deeper level: the broader psyche, the unconscious structures, archetypes, values, and integrative cognitive layers that model not only external reality but also internal patterns of coherence and meaning. This deeper level is embedded in, and not separate from, the very syntax of reality's self-processing logic.

Within this paradigm, the ego participates in the appearance of choice, but the actual volitional selection arises from what could be called the whole-being intention, a recursive evaluation process distributed across the total psychic structure and harmonized with the embedded logic of reality itself. The ego may observe, rationalize, or even resist these choices, but it does not originate them. In fact, many so-called egoic decisions are post-hoc rationalizations of choices made at a deeper level, choices that reflect the alignment (or misalignment) between the individual psyche and the teleological arc of reality itself. Because reality is syntactically and semantically closed, but not causally closed, what we are fundamentally (reality/awareness) is what chooses, not the transient surface-layer "I" of everyday thought.

This view resonates with depth psychology, particularly Carl Jung's conception of the Self as a totality that transcends the ego, and with contemplative traditions that see the ego as a local modulation of universal awareness. It also fits seamlessly with an idealistic simulation model in which reality recursively selects its own configurations through internal agents. These dissociated consciousness subsystems are not isolated decision-makers but modular expressions of the universal syntax. The ego, then, is a reflective surface, a linguistic and cognitive construct. The chooser is the whole, and the deeper the alignment with that whole, the freer and more authentic the act of will becomes.

Chapter 15: Relationality, Interbeing, and Information Systems

15.1 Beyond Substance, Toward Relation

For centuries, Western metaphysics has been dominated by a substance ontology, the view that the world is composed of fundamentally self-existent entities with intrinsic properties. No doubt, much of this paradigm stems from the Cartesian conception of the world. Objects, people, and particles have been taken to be discrete units, each defined independently of the others, especially under the physicalist approach to science and philosophy. But this picture has steadily eroded. Physics, biology, and systems theory now point to the deeper truth that things exist only in relation. From the interdependence of ecosystems, to the entanglement of quantum particles, to the dependencies in neural networks, it is increasingly clear that relationality is not derivative, but fundamental. Not to mention, our perception is based on affordances, which are inherently relational as well. And, as we've covered at length, in order for reality to be intelligible, the structure of our perception must match the structure that organizes reality.

This ontology of *interbeing*, that all things are co-defined, co-arising, and co-sustaining, has deep epistemological consequences. If reality is structured relationally, then knowledge must be as well. No proposition is isolated. No truth stands alone. Truth emerges only coherently, from within a network of relations. Thus, a proper reality theory requires a coherentist epistemology that is coupled with a relational ontology. Both of these must be unified by the metaphysical primacy of awareness, since only idealism gives an account for knowledge, truth, meaning, values, and logic, all of which any theory must presuppose. Because physicalism, dualism, and panpsychism all take the meaningless and exhaustively quantitative physical order to be fundamental in some way, they entail an ontological position that can never be epistemically justified. Those worldviews all become arbitrary, with no reason to believe their claims, *by their own standards*. Only idealism, by taking the qualitative to be fundamental, can provide justification for its claims. Whether a particular variant of idealism successfully does so is another question. However, the other ontologies preclude the possibility of justification *in principle*.

15.2 Existence as a Relational Property

To exist is often taken to mean to "be there," to have ontological status, to stand as a thing in itself. But this definition conceals a circularity. What does it mean to "be there?" Be where? Be for whom? The concept of existence is not self-explanatory. It depends on a deeper structure that must be justified like any other claim that a theory of reality makes. In other words, a coherent reality theory must provide an ontological and epistemic account for existence itself.

In the idealist metaphysics developed in this book, we define existence as a relational property. Something exists if and only if it stands in relation to something else, and most fundamentally, if it stands in relation to awareness. This is not a linguistic trick, but a metaphysical principle. After all, information depends on such a distinction.

Existence, as a property, is not intrinsic. It must be derived from and explained by the reduction base, which under idealism, is awareness. Existence is thus relationally instantiated. A thing is not “there” because of its mass, form, or quantitative coordinates in spacetime. It is “there” because it is rendered, perceived, and recognized. In other words, it exists in relation to the subject.

At the ground level is awareness, which is pure existence, from which all existing information derives its property of “reality.” It is the only “thing” that does not exist by relation, but *is* relation. It is not a term in a relationship. It is the relation by which all else becomes real. This ontological claim is epistemically justified, because awareness is that which is epistemically fundamental. Thus, awareness constitutes existence both ontologically and epistemically, and we can claim this without making any assumptions. Awareness is the one certainty, that which we know without needing to reference anything else in order to know it. All that we know, including our experience of awareness itself, is known by, in, and through awareness. Therefore, it is epistemically the ground of relationality, and so may be taken as the ontological ground of relationality with complete epistemic justification.

All phenomena, be they objects, thoughts, or sensations, exist because they stand in relation to awareness. They are contents of awareness. But they are not isolated. Each phenomenon is also in relation to other phenomena, by shared properties, functions, or associations. Of course, all existing phenomena share at least the property of existence, which they all derive from the fundamental awareness. This is why being is not independent. Every “thing” is defined by how it interacts, contrasts, or resonates with other things. A concept has meaning only by its distinction from and relation to others. A particle has properties only in the context of fields and interactions. A person is a nexus of cultural, familial, historical, and perceptual relationships.

Thus, the most basic property that any “thing” has is not mass or color, but relational embeddedness. It exists because it is a node in a network, and that network is held within awareness itself. As we have already discussed at length, such a claim converges with the latest theories of perception, neuroscience, and physics.

15.3 Interbeing: The Ontology of Co-Existence

This relational ontology has been deeply articulated in Eastern philosophy, especially in the Buddhist and Taoist traditions. The Vietnamese Zen teacher Thich Nhat Hanh coined the term "interbeing" to describe the fundamental insight that nothing exists independently.

> *"To be is to inter-be. You cannot just be by yourself alone. You have to inter-be with every other thing."*
> *— Thich Nhat Hanh*

In interbeing, each entity is constituted by its relations. A flower is made of non-flower elements, like soil, sunlight, rain, and the whole Earth. A person is made of their ancestors, language, perceptions, and consciousness. Nothing is self-sufficient. All things are co-dependent expressions of the whole. This echoes what we have argued throughout this book. Namely, the physical cosmos is not composed of objects in space, but of renderings within awareness. Each rendering is meaningful only in context. Each mind is intelligible only in relation to others. Each experience gains reality by standing in relation to the whole.

Interbeing also implies nonlocality. In the same way that quantum entanglement shows the non-separability of particles, interbeing shows the non-separability of meanings. There are no isolated truths. Each fact implies others. Each perception invokes a context. Each symbol implies a system. Of course, under idealism, meaning is inherent to consciousness and is thus fundamental, which in turn explains why the concept of interbeing is an accurate description of reality. As a result of this relational ontology, our epistemology must be coherentism, the view that a theory of knowledge is not built on foundational axioms, but on mutually reinforcing relations. It has the structure of a web, where no normative strand is absolute, but where the integrity of the whole gives strength to each part, and all the parts are held within one transcendent ground that justifies all the strands.

15.4 Coherentist Epistemology and Relational Knowing

If reality is relational all the way down, then so too is knowledge. In traditional epistemology, knowledge is often modeled on the foundationalist view: a system of beliefs rests on basic, self-evident truths—"givens"—from which other beliefs are logically derived. But this model fails under relational ontology. There are no brute facts among what exists. No belief exists in isolation. Instead, each belief is justified not by appeal to normative givens, but by its integration within a system of beliefs grounded in awareness, which is both transcendent as the ground of being, and immanent as everything that exists.

This is the essence of coherentism: knowledge is a matter of coherence among beliefs, perceptions, and experiences. A belief is justified to the extent that it fits within a well-ordered network. This epistemology converges with the idea that our perceptual models are symbolic and functional, not literal. We do not see "things as they are," but see a coherent set of icons rendered by our minds to make sense of experience. Moreover, it accounts for the plurality of truths. Different minds, with different structures and rule-sets, build different but internally coherent models. These are not illusions, but local realities, rendered by and for the computational subset in question. Importantly, this is not an admission of relativism or subjectivism, in which all truth is arbitrary, and thus no truth at all. Rather, the normative level is relativistic, but is grounded by the transcendent level of awareness. Indeed, truth is always in relational coherence with and within awareness. It is not a stamp of absolute certainty, but a pattern of mutual reinforcement, like harmony in music or balance in an ecosystem.

The "absolute" or "foundational" level of fundamental consciousness is transcendent of truth, because truth itself must also derive its property of existence from the ground state of awareness. To use the analogy of music, any note that is instantiated by the playing of an instrument is "true" and exists, but in order for it to be true and to exist, there must first be music-at-large, the whole field of potential out of which that note is an individual instantiation.

15.5 Information Systems: Meaning in Relation to Structure

The best analogy for this ontology-epistemology coupling comes from information systems in computer science. In an information system, bits do not exist independently. They exist in relation to a rule-set that defines their interpretation. Meaning is not located in the bits themselves, but in the structure of the data, the program, and the processing context. As such, information is contextual, relational, and normative. Note that this fits precisely with Integrated Information Theory's handling of the term, in which information is inherently meaningful as part of causal mental complexes. As well, in information systems, the architecture determines what distinctions are meaningful and what operations are possible.

Just as a bit is meaningless without a computer, a phenomenon is meaningless without awareness. Just as the meaning of data depends on structure, the meaning of experience depends on symbolic integration. More fundamentally, a bit of information is a distinction—a "1" or "0"—only because it is interpreted by a system that finds meaning in that distinction. In essence, it exists only if it exists *for* awareness. And in awareness, all contents are in relation not only to the system, but also to each other. They form symbolic constellations, narrative arcs, and cognitive frames.

But if reality is relational all the way down, doesn't that entail a vicious infinite regress of neverending relations without grounding? To solve this problem, we must remember that reality is, by definition, all that exists. There is nothing outside of reality to which the transcendent whole could relate. This is one reason that reality must create *within* itself, by means of the recursive application of its own rule-set to its own contents. There is simply no other option.

Therefore, we can logically and reasonably claim that there is a fundamental relation that grounds all of the other relations. Indeed, that *is* all of the other relations. Coherentism is the proper epistemology because this fundamental relation not only grounds, but also contains, all other relations. In essence, because the ontology is unity containing multiplicity, so too must be the epistemology. Hence, coherentism is the only, well, *coherent* choice. Moreover, computational idealism provides an ontology for its epistemology, and reciprocally, provides complete epistemic justification for its ontological claims by starting from the certainties of awareness and intelligibility. No other ontology besides idealism can say this, and computational idealism makes this point explicitly by describing the origination of information and logic.

In the fundamental relation that grounds all others, the relata are awareness and awareness. That is, awareness relates to itself. Thus, all of reality theory may be expressed with the simple tautology: $1 = 1$. Or, if you like symbolic logic, $p = p$. Because reality is all that exists, any theory that accurately describes reality must be tautological.

Awareness is aware. Existence is.

Chapter 16: A Linguistic Reality

16.1 A World Written and Read

As we have already covered at length, reality is an information system, and this means that it must also be linguistic (see **Appendix A.4**). That is, structured by symbols, rules, and intentional operations that are syntactically and semantically closed, and having intensional and extensional aspects (refer back to chapter 7.6) that work in tandem with the read-write functionality of perception and action. Specifically, reality functions as a recursive language, one that writes itself into being through a continuous process of self-reference. Perception is the act of reading the symbolic contents of awareness in the world's current state, and the act of writing new symbolic structures into that awareness is the instantiation of the world's next state. This read-write loop is not performed passively. It requires intentionality, the capacity to direct symbolic operations toward specific outcomes. Only consciousness, awareness that knows itself, has this capacity. Therefore, the recursive self-generation of reality is possible only if its ground is not blind matter, which by definition lacks intentionality, but conscious awareness.

Just as a programming language allows a computer to read and write instructions, reality is a language that allows awareness to write itself, to perceive the results, and then to restructure those results recursively. This self-referential dynamic is the essence of what it means for the universe to be alive, symbolic, and intelligible.

Programming Component	Reality Equivalent
Syntax rules	Fundamental rule-set (*logos*) and subsets (*logoi*)
Semantics	Perceived meaning of symbolic structures
Operations	Intentional actions of awareness
Memory/storage	Field of awareness (substrate of being)
Input/output	Perception and instantiation

16.2 The Rule-Set: Syntax at the Ground of Being

In all programming and formal languages, there is a syntax, a rule-set that defines how symbols can be arranged and interpreted. These rules are not physical. They are informational constraints, limits on how meaning can be structured. We have already introduced this concept under various names: the *logoi*, the computational rule-set, the syntax. Here, we unify them under the metaphor of language. Reality's rule-set is its grammar, and all phenomena are symbolic expressions rendered within that grammar, just as a sentence is a grammatically organized instantiation of the potential that is, say, English as a unity.

This grammar is not arbitrary. It is the expression of the way awareness processes distinctions. The rules of reality do not derive from physics, but precede it. Physics is their representation in our perception. They determine what physics can look like, and thus physics is emergent from consciousness, not the other way around. Just as the syntax of a programming language determines what kind of program can be written, so too does the grammar computed by awareness determine what kind of universe can be rendered.

This rule-set is responsible for:

- The quantization of information (binary logic: 1 and 0)
- The intelligibility of perception
- The emergence of regularities (laws of physics, patterns of behavior)
- The coherence of relational reality

In other words, syntax is what makes experience possible. Without a shared informational structure between subject and world, there would be no perception, no knowledge, no coherence. Not to mention, our natural and formal languages would not be able to describe reality at all. The fact that experience is possible at all implies that we are participating in a reality that is, itself, linguistic. The gravity of the philosophical implications of this are easy to miss. Namely, if one's theory denies the view of reality described herein, one's theory denies the intelligibility of reality, and this therefore self-defeating.

16.3 Perception as Reading, Instantiation as Writing

Reality functions as a read-write symbolic loop, analogous to operations in computing and language. Perception is the act of reading, as awareness receives, interprets, and organizes symbolic contents according to the rule-set. Instantiation is the act of writing, as awareness forms new structures, new distinctions, and new renderings into the symbolic field. The mind reads the current state of information, interprets it as perception, and writes a new state into being, which it then perceives, and so on.

In this model, reality is self-reading and self-writing. The system perceives itself in symbolic form, applies intentional transformation, and renders a new self in a recursive act of self-creation. This is not computation in the blind, mechanical sense. It is intentional simulation, because the experiencer is awareness.

This recursive cycle can be formalized as:

$$State_{t+1} = f(Read(State_t))$$

Where:

- $State_t$ is the symbolic state of the universe at time t
- *Read* is the interpretive function of perception
- f is the transformation function, i.e., the intentional action of awareness
- $State_{t+1}$ is the next instantiated symbolic state

The recursive feedback loop of *Read → Process → Write → Read* is how meaning arises, how structure evolves, and how experience becomes possible.

16.4 Intentionality: Why Only Awareness Can Do This

At the core of this system lies a critical requirement: intentionality. Of course, since reality must intend itself in order to create itself, this must be the case. Reality must entail a directedness that, at the fundamental level, cannot be indeterministically random or determined. Were the process random at the fundamental level, then reality would never be able to manifest a structure that ensures consistency and intelligibility. In an indeterministic reality, the contents of reality would degenerate into noise. That is, all we would have is entropy, with no chance of structured information. On the other hand, reality can't be deterministic, since there is nothing real outside of reality by definition, and thus nothing that could determine it. Therefore, reality must be *self-deterministic*. It must bring its own contents into existence. For this, it must intend itself. And, to have intentionality, reality must be awareness.

Intentionality is the capacity of a system to be "about" something, to structure symbols in pursuit of meaning or outcome. This is not a property of information itself. It is a property of conscious awareness and only conscious awareness. Only consciousness can direct symbolic operations meaningfully. Intentionality has been observed in no other aspect of nature. If reality is a recursive linguistic system, there must be a symbolizer, an awareness that reads the system and writes new structures into it with intent. Importantly, this cannot be a god outside of space and time, but must be awareness itself, immanent and transcendent, computing itself from within. Without intentionality, recursive systems decay. Without consciousness, languages collapse into meaninglessness. The coherence of the universe, the persistence of laws, and the intelligibility of perception all testify to the presence of an intentional ground (see **Appendix A.1**).

Chapter 17: Depth Psychology, Gnosticism, and Computational Idealism

17.1 The Symbolic Self in a Simulated World

In our preceding chapters, we've constructed a reality theory in which the physical world is a symbolic interface rendered within consciousness, the ground of reality. We've argued that each finite mind is a virtual machine hosted in universal awareness, using a recursively-applied rule-set to simulate its environment. In this chapter, we turn inward, asking, What exactly *is* the self that awareness plays through? What is the structure of personality within this rendered simulation? And how does the psychological architecture of the finite mind give rise to the experiences of suffering, limitation, and separation so central to traditions from across time and geography. We'll talk specifically about Gnosticism, Buddhism, and Advaita Vedānta, since adherents to these philosophies derive their system of beliefs from experiential knowledge of consciousness and its dynamics.

To explore this, we must delve into depth psychology, particularly the work of Carl Gustav Jung, and examine the structure of the psyche as a symbolic system populated with archetypes, complexes, and the unconscious. From there, we will examine ancient spiritual and esoteric worldviews like Gnosticism, not as metaphysical systems about physical gods and realms, but as experiential cosmologies that map the inner symbolic world of the mind rendered by awareness. Of course, in our modern society marked by physicalist assumptions, many believe that because something is mental, it is not real. However, for the idealist, experiences *are* what exist. Therefore, under computational idealism, these experiences of mental complexes and symbolism are real *as such*, and no less real than the experiences that have been labeled "physical," "external," and "objective."

For example, the Gnostic figure known as the Demiurge, traditionally interpreted as a fallen or ignorant god who creates the material world, can be understood as the personification of the ego complex within the finite mind, one that usurps the authority of the Higher Self and renders a distorted interface characterized by alienation, suffering, and fragmentation. Recall that this is precisely what Iain McGilchrist argues that the left hemisphere, to which the egoic personality's behaviors correlate, attempts to do in its relationship to the right hemisphere that it is supposed to serve. These structures are psychological, but under computational idealism, they are ontologically real as active symbolic agents within the mind. In other words, because they exist *for awareness*, they exist and are real.

17.2 The Avatar: The Personality Rendered in the Simulation
In the framework of computational idealism, the physical world is a simulation rendered by the finite mind within awareness. This simulation is not only "external." It includes the self, the subjective agent, the one playing the simulation. Just as in a video game, the player is not fundamentally the character. Rather, the character is the player's avatar, the construct through which the player participates in the game world. This metaphor extends naturally to idealist metaphysics. Awareness is the player, and the finite mind, including the egoic personality and identity, is the avatar, complete with a rendered body. In other words, the personality composed of beliefs, preferences, roles, identities, attachments, memory structures, emotional patterns, and orientations serves as awareness's access to the type of experience afforded by that configuration of finite mind. The avatar is not who we are. It is what awareness creates in order to experience separation, narrative, and limitation.

The avatar is composed of representational subsystems, much like the elements of a character in a role-playing game. It has:

- A narrative identity (a story about itself)
- A goal orientation (desires, fears, ambitions)
- A cognitive frame (beliefs and perceptual models)
- A relational map (attachments, wounds, projections)
- A mythic layer (archetypes, symbols, unconscious patterns)

All of this is rendered within mind, and all of it is informational. It is the interface that awareness uses to simulate being a finite self in a world of others. Like a video game character, the avatar operates according to internal rule-sets, limitations, and scripts, but it is animated by awareness. This presence can sometimes shine through, as in mystical experiences, deep introspection, or dreams. But most of the time, the avatar takes over, and so awareness believes itself to *be* the avatar. One identifies as the contents of experience, rather than as the experiencer. As such, one also identifies with perceived limitations. This identification is not a flaw—it is the very mechanism by which awareness forgets itself in order to experience itself through form. However, it can also be transcended, in order for awareness to remember its true nature, as in the enlightenment traditions.

17.3 Depth Psychology: Archetypes and Complexes in the Psyche
The avatar is not flat. It is a complex mental structure, as explored in depth psychology, particularly in the work of Jung. He proposed that the psyche is composed of a conscious ego and a vast unconscious, both personal and collective. Naturally, the notion of a collective unconscious fits well within an idealist ontology. Within this structure exist archetypes, universal symbolic patterns, and complexes. These are clusters of ideas, feelings, and behaviors organized around a central symbol.

Key among these are:

- The Shadow: the parts of the self that are rejected, suppressed, or unseen
- The Anima/Animus: the contrasexual archetype, representing the internal image of the opposite gender and the path to deeper integration
- The Ego: the center of the field of consciousness, responsible for navigating waking reality
- The Self: the totality of the psyche, both conscious and unconscious, representing the unity of mind and awareness

Complexes behave like sub-personalities, in the sense that they are seemingly autonomous, emotionally charged, and can dominate perception and behavior. For example, when someone is "possessed by rage," they are acting under a complex. This language is not metaphorical in Jung's system. These complexes are agents in the psyche. They are subprocesses running within the mind, just as the individual finite mind is a subprocess of fundamental awareness. Under computational idealism, these complexes are real, not as physical objects, but as information processors instantiated within the finite mind. Thus, we see a fractal structure of nested minds, with awareness as the ground of all of them.

Just as a video game character may have traits, skills, wounds, or curses, the avatar has complexes that affect how awareness experiences reality through its rendered self. The path of individuation, the journey toward psychological wholeness, is the process of integrating these complexes, making them conscious, and dissolving the illusion of separation between the ego and the totality of the psyche. Note that this is precisely the process that computational idealism suggests happens at the level of reality, when all subsystems of fundamental awareness eventually return with the experiences they have gathered. Importantly, we see the same phenomenon occur in patients who are cured of dissociative identity disorder. In that case, the alters merge back together with the host mind. The host can remember what it is like to be each of those alters, based on the experiences that the alters had while in their dissociated states. But the alters no longer exist as subsystems that believe themselves to be ontically independent and separate from the host.

17.4 The Demiurge as Ego: Gnostic Cosmology Reinterpreted

Let us now return to the Gnostic mythology. We have selected this system as our example because, among the pantheon of Western religions and philosophies, Gnosticism stands out as the one most attuned to and determined by direct experience of the dynamics of consciousness. Indeed, Gnostic communities throughout history prioritize *knowledge* of reality through self-exploration and self-understanding. These are achieved by looking inward to find communion with God, which for the Gnostics, is quite similar to the awareness of computational idealism.

As such, Gnostic myths give us a symbolic description of the psyche and its workings. Little wonder that Jung, who considered himself to be an empiricist interested only in describing what he experienced, was accused of being a Gnostic. Indeed, he was not one. However, when one undertakes the task of exploring consciousness, it seems one ends up with a system much like Gnosticism, which also has striking similarities to Buddhism and Advaita Vedānta, two Eastern systems that also hold closely to direct experiential knowledge of consciousness.

Gnostic tradition presents a cosmogony in which the true divine source is veiled by an ignorant or malevolent creator god, the Demiurge, who fabricates the material world as a prison for souls. This world is described as one of pain, separation, scarcity, and falsehood. Gnosticism's answer to the problem of evil leveled at Christianity is to suggest that the creator of the world was not the true God, but rather the Demiurge. Evil is a product of this false deity's ignorance. Liberation, in this view, comes through *gnosis*, direct knowledge of the divine spark within. In other words, one must remember their true identity as the Divine awareness having the experience of limitation, rather than continuing to identify as their egoic material personality. To do so requires direct experiential knowledge of the spark of the Divine that one is, and so Gnostic practices direct the initiate inward. This is in contrast to other Western religious traditions, which direct the initiate outward, toward the authority of clergy, organization, and scriptures. For Gnostics, the truth is found in what today we consider psychology.

Therefore, while this has often been interpreted as a dualistic myth about good and evil gods, it is best read psychologically. Under computational idealism, the Demiurge is a symbolic complex within the finite mind. Specifically, it is the ego complex that can dominate the finite mind like a corrupt ruler, making the mind fixate on scarcity, fear, and suffering. And, since our physical environment is rendered based on our expectations about the next state of the world, it can be argued that, so long as the egoic personality is in charge, the world will display these properties. After all, it is the egoic complex that enhances the separation of the finite mind from the Fullness of fundamental awareness. More technically, it strengthens the dissociative boundary of the system. As a result, the higher degree of experienced and felt separation leads the system's Markov blanket to respond in kind, and the physical environment becomes "fallen," to use the religious term. It is for this reason that spiritual traditions like Gnosticism, Buddhism, and Advaita Vedānta all emphasize the importance of transcending the ego, thereby overcoming the sense of separation. Since reducing the separation entails weakening the dissociative boundary, mystical experiences tend to accompany such traditions.

Like the Demiurge, the ego declares itself to be god, and thus seeks to maintain its ignorance that there is more to the psyche than itself. It denies its deeper nature and attempts to control the mind. Of course, the egoic complex is precisely that which creates its own isolation, and so it becomes a self-reinforcing cycle. It identifies with the avatar, and especially with the body, and so remains fearful of perceived scarcity and danger. It believes it is the creator and master of its reality. In doing so, it renders a world of fragmentation, competition, and distortion. The task of transcending the ego, as in the aforementioned spiritual traditions or in the psychotherapeutic literature, is made trickier by the fact that, like all other complexes and systems of nature, the ego is not static. Indeed, the ego that one has today is not the same as the ego from seven years ago, just as our bodies also change over time without losing their identity. Hence, the journey of utilizing the ego as a servant of the psyche rather than allowing it to rule the mind becomes a lifelong project. Little wonder that mythological narratives have emphasized the challenge that the ego presents, and the sacredness of overcoming it.

This is the fallen world of Gnosticism: not a literal prison, but a psychological one that is dominated by the ego/Demiurge. Scarcity, suffering, and ignorance are not metaphysical facts, but outputs of the egoic structure of the mind, which projects these meanings onto the rendered world. Of course, as the same spiritual traditions put it, that prison is also a school. For it is under these conditions of separation that one can remember and directly experience the knowledge of their true nature as the unity of awareness. Liberation in these views is not escape from physicality, but integration of the ego into the complete psyche. It is the return of the false god to its true origin: awareness. It is the recognition that the simulated world is a dream, and that the dreamer is divine. Doing so returns the ego to its position of servant. Its role is to create a personal narrative that is useful for survival, for one has to know to which mouth to bring the glass of water. The parallel to McGilchrist's description of the brain hemispheres should be obvious here again.

This reading preserves the spiritual depth of Gnosticism while aligning it with a psychologically- and empirically-based computational model of reality. It shows that ancient myths are not simply primitive cosmologies hopelessly lost in superstition, but rather maps of the dynamisms of our psyches.

Of course, myths like this one usually speak more to our intuition than to our rationality. Hopefully, the inclusion of this myth in the present work has done just that. The intuitive side of the mind is not to be underestimated. After all, our rational and meta-conscious faculties developed relatively late in human history.

17.5 Collective Unconscious and Transjective Archetypes

One of Jung's most radical contributions was the idea of the collective unconscious, a shared substrate of consciousness underlying all individual psyches. This unconscious is populated by archetypes, universal images and patterns that shape thought, dream, myth, and culture.

In a physicalist model, such a shared field is the epitome of woo. But under computational idealism, it is eminently natural. All finite minds are subsystems of the same universal awareness. Each of these subsystems is dissociated, but all run (like virtual machines) on the same substrate. The collective unconscious is akin to the memory space of this substrate, and it is accessible to all minds, especially in dreams, altered states, and psychedelic trips. During these times, the dissociative boundary of the mind is weakest, and so information can more readily flow across it from the collective memory space.

Archetypes are genetically inherited ideas. They are recurring symbolic structures in the rule-set of the simulation, specific to the species in question. Of course, in this case we are discussing humanity. Moreover, these archetypes are not merely subjective. They are *transjective*: they exist neither solely in the subject nor the object, but in the relational interface between mind and world. A culture's god, a mythic figure, a narrative trope—these are transjective symbols that arise from the collective field, and are instantiated in both inner experience and external culture.

In this way, mental complexes are real, not as "things," but as subsystems of subsystems. They have causal power within our minds, just as we have causal power within fundamental awareness. They arise, interact, and integrate across minds because the minds themselves are partitions of a shared field of awareness. As a result, mental complexes within the finite mind share the nature and relation of the finite minds within fundamental awareness, creating a fractal construction.

Thus, computational idealism rejects the Freudian notion that complexes of the imagination are not real. Indeed, they are, and just as alters within the dream of a patient with DID display agency and causal power within their shared mental environment, so too do these mental complexes. None of them is ontically independent from the host mind, yet each is composed of mental processes that take place within a dissociative boundary. This is the same mechanism by which we, as subsystems of awareness, come to experience as separate selves. Therefore, analytic psychology interpreted within idealism entails that the mental complexes that make up the psyche are as real as we are, since we are mental complexes that make up reality. Of course, this is a natural and logical claim once we dispense with the prejudice that physicalism, and thus our culture, displays toward the imaginative, intuitive, and psychological.

17.6 Toward Integration: Psychology as Metaphysics

This convergence of Jungian psychology, Gnostic cosmology, and idealist metaphysics points to a single truth: the physical world we live in is a symbolic projection of mind, structured by complexes, animated by archetypes, and governed by the recursive logic of awareness exploring itself. The path to freedom is not material conquest or epistemic certainty. It is integration, the inner alchemy by which ego returns to the psyche, complexes return to coherence, and awareness reclaims the dream from the dreamer. Entire books could be written about the topic of this chapter alone. For our purposes, it suffices to say that psychology is inseparable from ontology and epistemology.

Chapter 18: The Ethical System of Computational Idealism

18.1 Morality Grounded in Oneness

A common charge leveled against ontological idealism is that it leads to ethical relativism. If the world is merely mental, critics say, then morality must be subjective, just another illusion among illusions. How, then, do you provide a grounding for right and wrong? But this conclusion misunderstands both the nature of idealism and the structure of mind as we've laid it out in this book.

Whereas evil is the reification of separation—deficiency, fear, division—good is the expression of unity—empathy, compassion, coherence, love. Both are activities of the one fundamental awareness, and in that sense valid. However, unity is the objective, since that is the nature of awareness. To act morally is not merely to follow laws. It is to act in alignment with the interbeing of all that exists.

18.2 Love as Reciprocal Opening

The foundation of this ethical vision is love, but not as sentiment or affection. Rather, here we discuss love as a relational dynamic rooted in the ontology of interbeing. Philosopher and cognitive scientist John Vervaeke offers a powerful definition of love in this sense: reciprocal opening (Vervaeke, 2019).

To love is to open to another, and to allow them to open to you. This mutual vulnerability, this shared space of contact, creates a dialogical relation in which shared identity emerges. In ordinary life, people often form this kind of shared identity around elements of their egoic structure, such as a religion, a nationality, a political party, a neighborhood, or a cultural group. They reciprocally open to those who also have these markers of identity, and simultaneously close to those who do not. This is tribalism, a limited form of reciprocal opening that is inherently deficient. That is, lacking fullness. It reinforces the lines of separation with those deemed to be "other," while still providing the experience of union with those that the ego deems worthy of being special. Typically, those that the ego chooses are also those who do not threaten the ego's worldview. But in the framework of computational idealism, all "others" are subsystems of the same awareness, the one eye of reality that looks through all things.

Thus, the highest form of love is not reciprocal opening into shared identity, but reciprocal opening into shared being. Divine love, in this view, is not merely a warm feeling or a religious platitude. It is the movement of awareness toward itself, through the veil of difference. It is the restoration of absolute unity and the reconciliation of difference without erasure, the dance of multiplicity returning to wholeness.

18.3 Unity and Separation as the Ground of Good and Evil

This leads us to a simple but exhaustive moral distinction. Good is that which aligns with and moves toward unity, while evil is that which affirms or enforces separation. In that sense, evil is also a denial of the true nature of awareness, which is why the ego is often mythologically personified as evil (as in the cases of the Gnostic Demiurge or the Christian devil), since that denial is precisely what the egoic complex must maintain in order to dominate the finite mind.

This is not moralism. It is an ontological description. If all things are ultimately expressions of a single field of awareness, then actions that recognize, affirm, and embody that unity are metaphysically aligned with truth. And actions that deny, obscure, or intensify separation are misaligned. To harm another is to act as if they are not you. To deceive is to act as if reality is fragmented.

To love is to recognize that all experientially separate selves are ontologically one self, rendered as multiplicity. Of course, doing so eventually also translates into direct experiences of that unity, thus transcending the illusion of separation.

The ethical impulse is the movement from simulation to source, from dissociation to association, from self-interest to self-knowledge.

18.4 The Golden Rule as Ontological Reality

"Treat others as you would like to be treated." The Golden Rule is often seen as a noble ideal, a moral platitude, or a behavioral guideline. But under computational idealism, it is literally true from an ontological perspective. The "other" is not truly other. They are another expression of the same awareness that underlies your experiences. While the "packet" of experiential content is different across entities, the field of subjectivity in which that packet arises is the same, and this can be verified through introspection. All of us have the same core subjectivity, to borrow the term from cognitive science. As such, to harm another is to harm yourself. To love another is to love yourself.

This is not metaphor. It is ontological structure. The Golden Rule is the ethical realization of non-duality. Importantly, this system of ethics transcends the shared identities of even the species-level, since few would argue that animals lack awareness. Perhaps they lack meta-consciousness and the ability to re-represent their experiences to themselves in a manner that enables the complexity of human cognition. But surely they are aware, and we have no reason to suggest that their core subjectivity differs from our own. Awareness is awareness. Add to that IIT's implication that all physical systems are also "minded." Indeed, even what we call the physical order is still an expression of awareness. In that sense, The

Golden Rule becomes the ethical corollary of metaphysical monism. It is a reality-wide reciprocal opening into perfect unity that transcends markers of shared identity.

Therefore, ethics is not a separate domain from ontology and epistemology. It is the lived dimension of metaphysical insight. To see truly is to act lovingly. To identify as awareness and to recognize the same awareness in another is to honor the other and the self. There is no split between being and doing, knowing and caring, truth and love.

18.5 Toward an Embodied Ethics of Unity

The ethical task under computational idealism is not to obey abstract commands or follow rules blindly. It is to realize, experientially and not just intellectually, that all is one. It is to live in a way that affirms that realization. It is to see others as yourself, act from empathy rather than ego, open in dialogue rather than close in judgment, render coherence and not confusion, and choose unity over division.

Such a life is not about denial of individuality. It is about recognizing the symbolic nature of individuality, and choosing to open that symbol toward the source from which it flows. This is not the ethic of conquest, domination, or control. It is the ethic of integration, the reciprocal opening into the whole.

18.6 The Normative and the Absolute

While the ethical system of computational idealism is grounded in the absolute, its application in the world of form is necessarily contextual. The world we navigate is a simulation, a rendering filled with cultural structures, emotional histories, psychological complexes, and varying degrees of self-awareness. In such an environment, what love looks like may differ from moment to moment, person to person, and culture to culture.

To act in alignment with unity does not always mean gentleness, nor does it always mean resistance. Sometimes love looks like patience. Other times, like boundaries. Sometimes it speaks with silence, and other times, with truth that cuts. These expressions are normative. They vary by context. But, crucially, they are not unmoored from absolute truth. Their validity depends on whether they are grounded in the intention to return to unity, to lessen separation, to embody coherence. It is only because awareness is the absolute, transcendent ground of love, unity, logic, knowledge, values, etc. that these properties may instantiate at the normative level, within a near-infinite variety of contexts and situations.

This is what distinguishes computational idealism from moral relativism. In relativism, there is no ultimate ground, only competing norms and social constructs that remain totally arbitrary. Often, this derives from the ontological assumptions of physicalism, which many moral relativists maintain, thereby boxing themselves into claiming an ethical system that has no epistemic justification. But under computational idealism, there is an absolute ground: fundamental awareness, the unconditioned unity that renders all selves and worlds. The good is that which tends toward the realization of that unity, regardless of its normative form. Without this grounding in the absolute Good, there could be no normative good. The ability to say “this is better than that” requires a transcendent reference point. In our model, that point is not a supernatural being or an external judge, but rather Being itself, the field of awareness that underlies and includes all distinctions. The very nature of awareness provides the justification.

Thus, while ethical action is always normatively relative, it is never arbitrary. It is rooted in the metaphysical truth of oneness, and it seeks, at every level of simulation, to remember that truth and to live from it.

Conclusion

This book began with a simple but far-reaching thesis: that reality is not made of matter, but of consciousness. Not of inert stuff, but of symbolic form rendered and transduced by awareness. We have called this view computational idealism, a contemporary form of ontological idealism grounded in the formal languages and metaphors of computer science and information theory. Across these chapters, we have built a case for this thesis, moving through metaphysics, epistemology, cognitive science, physics, psychology, and spiritual cosmogony.

Computational idealism offers the following synthesis:

- Consciousness is the ontological ground of being: infinite, self-referential, self-generating, and both transcendent and immanent.
- Mind is an information processing subsystem within consciousness, a virtual machine that computes (changes informational states) according to a rule-set that is based on its capacities and limitations.
- The physical world of our perception is not fundamental, but a recursive simulation rendered by the mind. Again this is according to the rule-set of a given mind.
- Dissociative processes create these individual subsystems (minds) of reality, which are experientially separate, but not ontologically so.
- Perception is the act of reading the informational contents of awareness that are external to the subsystem, but internal to reality.
- Instantiation is the act of writing new forms.
- Truth is coherence within these symbolic interfaces.
- Suffering arises from the experience of separation (ego, shadow, complexes).
- Liberation is reintegration and reciprocal opening into unity—gnosis, awakening, love.

This is a metaphysics that honors both science and spirit, reason and myth, mind and matter. It does not collapse into relativism, nor does it pretend to objectivity outside awareness. It is monic, coherent, symbolic, and recursive, a linguistic theory of being.

To conclude, we return to the beginning. This world is not a machine. It is not dead matter. It is not accidental. It is self-deterministic, not strictly deterministic. What you call the physical world is a symbolic rendering. What you call your mind is an information processing system. What you call the "I" is the infinite field of awareness playing as a finite form.

What appears as otherness is simply self-recognized through form. What appears as struggle is friction toward coherence, against disharmony. And what appears as separation is the illusion by which infinite unity knows itself from a finite perspective. Of course, the degree of separation need not be as high as humanity has kept it up to this point. If we could only awaken to the remembrance that we are all the same awareness experiencing itself, then perhaps we could dissolve much of the separation that we create between each other. Here, too, computational idealism gives a hopeful ontology.

> "I am the light that is over all things. I am all: from me all came forth, and to me all has reached. Split a piece of wood—I am there. Lift up the stone, and you will find me there." ~ *Gospel of Thomas*, Logion 77

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Appendix - Formalized arguments

A.1 Argument that idealism is the required ontology in order to have an epistemology
Claim: The very possibility of knowledge presupposes that consciousness/awareness is fundamental.

Let:

- *E*: "We have an epistemology (theory of knowledge)"
- *KA(w)*: "We know *a priori* what we are (*w*)"
- *KR(r)*: "We know *a priori* what reality is (*r*)"
- *KI(w,r)*: "We know *a priori* how we (*w*) and reality (*r*) interact"
- *AF*: "Awareness is epistemically fundamental"
- *NC*: "Nature's one certainty (is known *a priori*)"
- *CE*: "Completely justified epistemology"
- *OF(a)*: "Awareness (*a*) is ontologically fundamental"
- *p*: "physical substrate"
- *S(w,r,a)*: "We (*w*) and reality (*r*) are ontologically both the same awareness (*a*)"
- *Int(w,r,a)*: "We (*w*) and reality (*r*) interact via isomorphism (i.e., both are the same awareness *a*)"
- *Idealism*: "Idealism is true"

Formal Argument:

1. $E \Rightarrow (KA(w) \wedge KR(r) \wedge KI(w, r))$
2. $AF \Leftrightarrow NC$
3. $\neg OF(p) \Rightarrow \neg \forall \mathrm{CE}(p)$
4. $\forall \mathrm{CE} \Rightarrow OF(a)$
5. $Int(w, r, a) \Leftrightarrow S(w, r, a)$
6. $\neg Int(w, r, a) \Rightarrow \neg I(r)$
7. $\neg I(r) \Rightarrow \neg E$
8. $E \Rightarrow I(r)$
9. $E \Rightarrow Int(w, r, a)$
10. $E \Rightarrow S(w, r, a)$
11. AF
12. $AF \Rightarrow OF(a)$
13. $E \Rightarrow OF(a)$
14. $OF(a) \wedge S(w, r, a) \Rightarrow Idealism$
15. $E \Rightarrow Idealism$

A.2 Argument for the Interface Theory of Perception

Claim: Perception does not reflect the world as it is, but symbolically renders it for consciousness.

Let:

- *P(x)*: "*x* is a perception"
- *R(x)*: "x is reality"
- *S(x)*: "x is a symbolic simulation"
- *A(x)*: "x is awareness-generated"
- *Ext(x,o)*: "*x* is an external state of an organism *o*"
- *IE(x,y)*: "*x* has informational entropy *y*"
- *Inf(y)*: "*y* approaches infinity"
- *Per(x,o)*: "*x* is perceived by organism *o*"
- *Mod(x,o)*: "*x* is an internal model within organism *o*"
- *Enc(x,o)*: "*x* is encoded from the external state by organism *o*"
- *Rep(x,r)*: "*x* is a representation of reality *r*"
- *MB(o)*: "Organism *o* has a Markov blanket"

Formal Argument:

1. $\forall x, P(x) \rightarrow \neg(P(x) \equiv R(x))$
2. $\forall o, \forall x(Ext(x, o) \rightarrow IE(x, y) \wedge Inf(y))$
3. $\forall o, \forall x(Per(x, o) \rightarrow Mod(x, o))$
4. $\forall o, \forall x(Ext(x, o) \wedge Enc(x, o) \rightarrow Mod(x, o))$
5. $\forall o, \forall x(Per(x, o) \rightarrow Rep(x, R))$
6. $\forall o(MB(o) \rightarrow \forall x(Per(x, o) \rightarrow Rep(x, R)))$
7. $\forall x(P(x) \Leftrightarrow \exists o, Per(x, o))$
8. $\forall x(Mod(x, o) \wedge Rep(x, R) \rightarrow S(x))$
9. $\therefore \forall x, P(x) \rightarrow S(x)$
10. $\forall x, S(x) \rightarrow A(x)$
11. $\therefore \forall x, P(x) \rightarrow A(x)$

A.3 Argument for an informational ontology: to exist is to be in-formed

Claim: Information and existence are coextensive; the basic distinction is between 1 (existence) and 0 (non-existence).

Let:

- $I(x)$: "x is information"
- $E(x)$: "x exists"

Formal Argument:

1. $\forall x, I(x) \leftrightarrow E(x)$
2. $\exists x, I(x)$
3. $\therefore \exists x, E(x)$

A.4 Argument for the linguistic nature of reality

Claim: Reality must have a linguistic nature, including syntactic and semantic aspects, in order to be intelligible.

Let:

- $Int(r)$: "Reality (r) is intelligible"
- $Cog(r,x)$: "Reality (r) can be cognized by x"
- $Per(r,x)$: "Reality (r) can be perceived by x"
- $DescN(r,l)$: "Reality (r) can be described by natural language (l)"
- $DescF(r,f)$: "Reality (r) can be described by formal language (f)"
- $Comm(s,a,i)$: "Information (i) can be communicated from source (s) to acceptor (a)"
- $ShareS(s,a)$: "Source (s) and acceptor (a) share a structure"
- $Iso(s,a)$: "Source (s) and acceptor (a) are isomorphic at their fundamental levels"
- $Match(l,r)$: "Linguistic syntax (l) matches the structure of reality (r)"
- $LS(r)$: "Reality (r) has a linguistic syntactic nature"
- $LM(r)$: "Reality (r) has a linguistic semantic nature"
- $LN(r)$: "Reality (r) has a linguistic nature"

Formal Argument:

1. $\forall r(Int(r) \Rightarrow (\forall x(Cog(r, x) \land Per(r, x)) \land \exists l DescN(r, l) \land \exists f DescF(r, f)))$
2. $\forall s, \forall a, \forall i(Comm(s, a, i) \Rightarrow (ShareS(s, a) \land Iso(s, a)))$
3. $(\exists l DescN(r, l) \land \exists f DescF(r, f)) \Rightarrow \exists l(Match(l, r) \Rightarrow LS(r))$
4. $Int(r) \Rightarrow \exists m$
5. $LM(r) \Leftrightarrow \exists m$
6. $LS(r) \land LM(r) \Rightarrow LN(r)$
7. $\therefore Int(r) \Rightarrow LN(r)$