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Autaxys and its Generative Engine

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ABSTRACT

Autaxys and its Generative Engine: Foundations for a New Way of Seeing Reality *Rowan Brad Quni, QNFO*

Prevailing foundational paradigms in science and philosophy encounter significant limitations when addressing the ultimate origin of order, the nature of physical laws, and the genesis of patterned reality from first principles. This article introduces **autaxys** as a candidate fundamental principle addressing these lacunae. Autaxys is defined as the intrinsic capacity of reality for self-ordering, self-arranging, and self-generating patterned existence, operating without recourse to external agents or pre-imposed rules. The framework posits that autaxys functions via an inherent “generative engine,” characterized by core operational dynamics (Relational Processing, Spontaneous Symmetry Breaking, Feedback Dynamics, Resonance, Critical State Transitions) and guided by intrinsic meta-logical principles (Intrinsic Coherence, Conservation of Distinguishability, Parsimony in Generative Mechanisms, Intrinsic Determinacy/Emergent Probabilism, and Interactive Complexity Maximization). [...]

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Autaxys and its Generative Engine: Foundations for a New Way of Seeing Reality

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Abstract

Prevailing foundational paradigms in science and philosophy encounter significant limitations when addressing the ultimate origin of order, the nature of physical laws, and the genesis of patterned reality from first principles. This article introduces **autaxys** as a candidate fundamental principle addressing these lacunae. Autaxys is defined as the intrinsic capacity of reality for self-ordering, self-arranging, and self-generating patterned existence, operating without recourse to external agents or pre-imposed rules. The framework posits that autaxys functions via an inherent “generative engine,” characterized by core operational dynamics (Relational Processing, Spontaneous Symmetry Breaking, Feedback Dynamics, Resonance, Critical State Transitions) and guided by intrinsic meta-logical principles (Intrinsic Coherence, Conservation of Distinguishability, Parsimony in Generative Mechanisms, Intrinsic Determinacy/Emergent Probabilism, and Interactive Complexity Maximization). These elements synergistically drive the emergence of all discernible phenomena, including matter, energy, spacetime, and physical laws, as complex patterns. By shifting from substance-based ontologies to a process-pattern perspective grounded in autaxys, this framework offers a “new way of seeing” reality, aiming to provide a more coherent and generative understanding of the cosmos. **Autology** is proposed as the interdisciplinary field dedicated to the systematic study of autaxys and its manifestations. This article elucidates the core tenets of autaxys and its generative engine, laying the groundwork for this novel approach to foundational inquiry.

Keywords: Autaxys, Autology, Generative Principle, Pattern-Based Reality, Emergence, Self-Organization, Foundational Ontology, Meta-Logic, Operational Dynamics, Process Philosophy, Intrinsic Order, Spontaneous Symmetry Breaking, Relational Processing.

1. Introduction: The Imperative for a New Foundational Principle

1.1. Limitations of Current Ontological Frameworks The quest to understand the fundamental nature of reality has led to remarkable scientific and philosophical advancements. However, prevailing ontological frameworks, often rooted in substance-based metaphysics or naive realism, encounter significant limitations when confronted with the deepest questions of existence, particularly the origin of order, the nature of physical laws, and the genesis of complex phenomena from first principles (Quni, 2025a; Quni, 2025b). Conventional physics, for instance, often takes fundamental particles and laws as axiomatic starting points, describing their interactions with extraordinary precision but offering limited insight into their ultimate origin or the reasons for their specific characteristics. The conceptualization of reality based on “particles as things” can obscure a potentially more fundamental layer of pattern-based dynamics (Quni, 2025a, Ch. 1). Furthermore, existing terminology, such as “information” or “logos,” while rich in connotation, often proves insufficient to precisely denote a naturalistic, immanent, and intrinsically self-generating principle capable of giving rise to the patterned reality we observe (Quni, 2025b, Sec. 2). This terminological and conceptual gap highlights the need for new foundational thinking.

1.2. The Need for a Generative, Pattern-Based Ontology The limitations of current paradigms suggest an imperative to explore alternative ontological foundations. A promising avenue lies in shifting from a view of reality constituted by static “things” to one grounded in dynamic processes and emergent patterns. Such an ontology would seek to explain how complexity, structure, and even the perceived “laws” of nature arise intrinsically from a fundamental generative source, rather than being imposed externally or existing as unexplained brute facts. This approach prioritizes understanding the *genesis* of phenomena, aiming to provide a more coherent and unified account of a universe that appears inherently ordered and capable of evolving immense complexity.

1.3. Introducing Autaxys and Autology as a Response In response to this need, this article introduces **autaxys** as a candidate fundamental principle. Autaxys, derived from the Greek *auto* (self) and *taxis* (order/arrangement), signifies a principle of intrinsic self-ordering, self-arranging, and self-generating patterned existence (Quni, 2025b, Sec. 3). It is posited as the inherent dynamic process by which all discernible structures and phenomena emerge without recourse to external agents or pre-imposed rules. **Autology** is consequently defined as the interdisciplinary field dedicated to the systematic study of autaxys, its manifestations, and its implications (Quni, 2025b, Sec. 4). This framework proposes a “new way of seeing” reality, one that emphasizes generative principles and the primacy of pattern.

1.4. Article Aims and Structure This article aims to provide a foundational exposition of autaxys and its “generative engine”—the intrinsic mechanisms by which it operates. Section 2 will formally define autaxys and delineate its key characteristics. Section 3 will detail the core operational dynamics and meta-logical principles that constitute its generative engine, drawing heavily on the conceptual framework presented in *A New Way of Seeing* (Quni, 2025a, Ch. 8). Section 4 will briefly discuss how this framework offers a “new way of seeing” reality. Finally, Section 5 will offer a brief discussion of autaxys in relation to existing concepts and outline future research directions, followed by a conclusion. Through this exposition, we seek to establish autaxys as a robust candidate for a foundational principle capable of grounding a more unified and generative understanding of the cosmos.

2. Autaxys Defined: The Principle of Intrinsic Self-Generation and Patterned Order

2.1. Etymology and Rationale for the Term “Autaxys” The introduction of a new foundational principle necessitates careful terminological consideration to avoid the ambiguities associated with repurposing existing terms (Quni, 2025b, Sec. 1). The term **autaxys** is a neologism specifically constructed to encapsulate the core attributes of the proposed principle. It derives from two Greek roots: *auto-* (αὐτός - autos), signifying “self,” “spontaneous,” or “by oneself,” which emphasizes inherent self-causation, self-generation, and intrinsic dynamics; and *taxis* (τάξις - taxis), meaning “arrangement,” “order,” “system,” or “due classification,” conveying a structured, rule-governed, and systemic quality (Quni, 2025a, Ch. 7; Quni, 2025b, Sec. 3). The inclusion of ‘y’ instead of ‘i’ in “autaxys” is a deliberate choice, signifying its conceptualization as an encompassing **system** of self-generating patterns and processes, rather than merely a singular, abstract quality of order (Quni, 2025a, Ch. 7). Combined, autaxys is intended to denote a

fundamental principle characterized by *self-ordering, self-arranging, and the capacity of a system to generate its own structure and dynamics intrinsically*. This term is chosen to fill the identified conceptual void for a principle that is naturalistic, immanent, and fundamentally self-generating, responsible for the origin and ongoing evolution of all order and pattern in reality (Quni, 2025b, Sec. 3).

2.2. Formal Definition of Autaxys Building upon its etymological roots and the identified need for a principle that transcends substance-based ontologies, autaxys is formally defined as:

The fundamental principle of reality conceived as a self-ordering, self-arranging, and self-generating system. It is the inherent dynamic process by which patterns emerge, persist, and interact, giving rise to all discernible structures and phenomena. These phenomena include what is perceived by observing systems as information, as well as the regularities interpreted as physical laws, and the complex, stable patterns identified as matter, energy, space, and time. A core tenet is that autaxys operates without recourse to an external organizing agent or pre-imposed set of rules; the principles of its ordering and generation are intrinsic to its nature (Quni, 2025a, Ch. 7; Quni, 2025b, Sec. 3).

This definition positions autaxys not as a static substance or a fixed entity, but as the foundational *activity* or *dynamic potentiality* from which all structured existence arises. It is both the ultimate source of order and the ongoing process of that order manifesting and evolving. The emphasis on “system” highlights its interconnected and rule-governed nature, while “self-generating” points to its capacity to bring forth novelty and complexity from its own internal dynamics. The patterns generated by autaxys are its primary mode of expression and the basis for all knowable reality.

2.3. Key Characteristics of Autaxys To further elucidate the concept of autaxys, several key characteristics define its operational nature and ontological status. These attributes collectively distinguish autaxys as a foundational, pattern-generating principle (Quni, 2025a, Ch. 7; Quni, 2025b, Sec. 3).

2.3.1. Ontological Primacy: Autaxys is posited as possessing ontological primacy. It is the ultimate ground of being from which all other aspects of reality—including matter, energy, spacetime, information, and physical laws—emerge as patterned manifestations. This addresses the limitations of ontologies that take these emergent phenomena as fundamental or irreducible.

2.3.2. Dynamic and Processual Nature: Autaxys is inherently dynamic and processual. It is not a static entity but an ongoing process of self-unfolding, pattern generation, and transformation. Reality, from this perspective, is in a constant state of becoming, a continuous flux of emergent patterns.

2.3.3. Intrinsic Rationality and “Meta-Logic”: While self-generating, autaxys is not arbitrary or chaotic. It operates according to intrinsic principles of coherence and order, described as a “meta-logic” that is more fundamental than human-derived logical systems. This inherent rationality provides the basis for the observed lawfulness and intelligibility of the universe.

2.3.4. Pattern-Generating Capacity: The primary mode of autaxys’ manifestation is as a pattern-generating principle. It creates the discernible regularities, structures, and forms observed at all scales of existence. This characteristic provides the direct foundation for a pattern-based ontology.

2.3.5. Foundation for Information (Derivative Sense): Autaxys serves as the ontological foundation for information. Information, in this context, arises when autaxys-generated patterns are registered, differentiated, or interact within a system. Information is thus a derivative aspect of autaxys, characterizing its patterned expressions rather than being the primary substance of reality (Quni, 2025a, Ch. 9).

2.3.6. Self-Articulation/Self-Description: Autaxys exhibits self-articulation or self-description, meaning the dynamic unfolding of its patterns *is* its expression. The structure and evolution of reality are the articulation of autaxys, emphasizing its immanence and completeness as both source and expression.

2.3.7. *Acausal Origin (No External Agent)*: A defining feature of autaxys is the acausal origin of its fundamental ordering principles. These principles are intrinsic to its nature and are not imposed by any external agent or pre-existing set of laws. Autaxys is self-sufficient in its capacity to generate order.

2.3.8. *Conceptual Aspiration for Transcending Gödelian Limits*: While any human formal description or model of autaxys will inevitably be subject to Gödelian incompleteness, autaxys itself, as the ultimate *territory-generator*, is conceived as operationally complete and consistent in its generative capacity. This reflects an aspiration for the principle to provide a framework that, while describable, is not ultimately constrained by the limits of formal descriptive systems.

These characteristics collectively define autaxys as a unique ontological primitive, proposed as the active, self-organizing, pattern-generating foundation of all reality.

3. The Generative Engine of Autaxys: Intrinsic Meta-Logic and Operational Dynamics

3.1. The “Generative Engine”: Conceptual Metaphor and Function To understand how autaxys, as a fundamental principle, gives rise to the structured and evolving universe we observe, it is useful to employ the conceptual metaphor of a “generative engine” (Quni, 2025a, Ch. 8). It is crucial to emphasize that this “engine” is not a literal machine with distinct parts, nor is it an entity separate from or acting *upon* autaxys. Rather, the generative engine *is* the dynamic, processual nature of autaxys itself. It is a coherent, interdependent set of fundamental processes (termed operational dynamics) and inherent regulative principles (termed meta-logic) that collectively describe the intrinsic *modus operandi* of autaxys—the articulation of *how autaxys is and does* (Quni, 2025a, Ch. 8).

The singular, overarching function of this generative engine, from which all its specific operations and emergent phenomena derive, is to spontaneously and continuously generate all discernible order, complexity, and patterned phenomena from an initially undifferentiated state of pure potentiality. This generation occurs without recourse to external input, pre-existing blueprints, or imposed laws; the rules and impetus for creation are immanent within autaxys. The generative engine is thus self-sufficient and its operational principles are intrinsic to its being. The subsequent sections will detail the core operational dynamics and meta-logical principles that constitute this engine, providing the mechanistic foundation for autaxys’ pattern-generating capacity.

3.2. Core Operational Dynamics of the Autaxic Generative Engine: The Verbs of Creation The operational dynamics are the fundamental ways in which autaxys acts and interacts with itself to produce patterned reality. These represent the core processes identified by autology as essential for generation (Quni, 2025a, Ch. 8).

3.2.1. *Dynamic I: Relational Processing—The Primordial Act of Differentiation and Connection*. At the heart of autaxys’ operation is **relational processing**. This is defined as the continuous creation, propagation, interaction, and transformation of *distinctions* and *relations*. Autaxys does not begin with “things” that then relate; rather, autaxys *processes relationships*, and persistent “things” (process-patterns) emerge as stabilized configurations of these relational dynamics. The most elementary autaxic act is a minimal act of differentiation or relation-forming. This dynamic forms the basis for all interaction, grounds the autaxic concept of information (as discernible patterns of relational distinctions), and is foundational to the emergence of spacetime as a relational order (Quni, 2025a, Ch. 8, Ch. 9, Ch. 12).

3.2.2. *Dynamic II: Symmetry Realization and Spontaneous Symmetry Breaking (SSB)—The Genesis of Form and Specificity*. Primordial autaxys is characterized by maximal symmetry (undifferentiated potentiality). As patterns emerge, they may exhibit **realized symmetries**, which lead to conservation laws. **Spontaneous symmetry breaking (SSB)** is a primary autaxic generative mechanism, describing the inherent instability of perfect symmetry within a dynamic system like autaxys. Driven by intrinsic dynamism, autaxys transitions from states of higher symmetry to

those of lower symmetry, spontaneously creating specific forms, distinctions, and structures. SSB is the origin of diverse particle-patterns and the differentiation of fundamental forces, representing autaxys “choosing” paths of actualization (Quni, 2025a, Ch. 8, Ch. 11).

3.2.3. *Dynamic III: Feedback Dynamics (Amplification and Damping)–The Sculptor of Stability and Complexity.*

Feedback dynamics are intrinsic processes where the current state or output of an autaxic pattern influences its own subsequent evolution or that of interconnected patterns. **Positive feedback** involves selective amplification and stabilization of nascent, coherent patterns, crucial for the emergence of new, stable orders. **Negative feedback** involves regulation, damping, and constraint, suppressing unstable or incoherent patterns and maintaining systemic stability. These dynamics explain the stability of fundamental particles and are fundamental to the formation and persistence of complex adaptive systems and the selection of physical laws as stable meta-patterns (Quni, 2025a, Ch. 8, Ch. 10).

3.2.4. *Dynamic IV: Resonance and Coherence Establishment–The Basis for Harmony and Integrated Structures.*

Resonance within autaxys refers to the intrinsic tendency of autaxic processes or patterns to selectively amplify, synchronize with, or stably couple to others sharing compatible dynamic characteristics (e.g., analogous frequencies, structural motifs). **Coherence establishment** is the dynamic process by which autaxys achieves internal self-consistency and harmonious interrelation among constituent sub-patterns. These dynamics explain the quantized nature of particle properties (as specific resonant modes), the formation of bound states (atoms, molecules), and the emergence of large-scale order and synchrony (Quni, 2025a, Ch. 8).

3.2.5. *Dynamic V: Critical State Transitions and Emergent Hierarchies–The Architecture of Evolving Complexity.*

Criticality within autaxys refers to states where the system is poised at a threshold, such that small fluctuations can trigger large-scale, qualitative transformations, leading to new levels of organization and complexity (analogous to phase transitions). These transitions, often involving SSB amplified by positive feedback and guided by resonance, are the mechanism for building nested hierarchical structures in the universe—from fundamental patterns to atoms, molecules, life, and potentially consciousness. This dynamic grounds the concept of emergence (Quni, 2025a, Ch. 8).

3.3. **Intrinsic Meta-Logical Principles of the Autaxic Generative Engine: The Guiding “Grammar” of Creation**

The operational dynamics of autaxys do not unfold arbitrarily but are inherently guided and constrained by a set of fundamental, intrinsic meta-logical principles. These principles are not external laws imposed upon autaxys but are the deepest expressions of its inherent nature, ensuring its generative output is coherent, consistent, and capable of evolving complexity (Quni, 2025a, Ch. 8).

3.3.1. Meta-Logic I: Principle of Intrinsic Coherence (Universal Self-Consistency). This principle asserts an absolute, inherent tendency within autaxys that mandates the formation and persistence of patterns that are internally self-consistent and mutually compatible. Autaxys cannot generate or sustain true logical or ontological contradictions. It acts as a fundamental selection pressure, pruning incoherent patterns and ensuring that feedback and resonance converge on viable, non-paradoxical states. The logical structure of mathematics and the consistency of physical laws are seen as reflections of this fundamental demand for coherence. This principle is the bedrock of autaxys’ inherent orderliness (Quni, 2025a, Ch. 8).

3.3.2. Meta-Logic II: Principle of Conservation of Distinguishability (Ontological Inertia of Pattern). Once a stable distinction or pattern (a form of autaxic “information”) emerges, it possesses an ontological inertia. It tends to persist or transform only in ways that conserve its fundamental distinguishability or its “transformative potential.” This imposes constraints on all autaxic transformations, ensuring that a pattern’s identity or relational capacity is not arbitrarily lost or created without corresponding transformation elsewhere. This principle underpins all specific conservation laws observed in physics (e.g., conservation of energy-momentum, charge-analogue), explaining *why* such laws exist (Quni, 2025a, Ch. 8).

3.3.3. Meta-Logic III: Principle of Parsimony in Generative Mechanisms (Intrinsic Elegance). Autaxys inherently operates via a minimal, yet sufficient, set of fundamental generative rules (its core dynamics and meta-logic) that can produce the entire diversity of emergent phenomena through iterative application and hierarchical nesting. This is not an external aesthetic preference (like Occam’s Razor) but an intrinsic feature of how autaxys achieves maximal generative output from minimal foundational complexity. It favors universal dynamics over ad-hoc rules, grounding the scientific pursuit of unifying theories and explaining the perceived elegance of fundamental physical laws (Quni, 2025a, Ch. 8).

3.3.4. Meta-Logic IV: Principle of Intrinsic Determinacy and Emergent Probabilism (Autaxic Causality). Every emergent pattern or transformation within autaxys arises as a necessary consequence of the system’s prior state and the rigorous operation of its intrinsic dynamics and meta-logic; there are no uncaused events at this fundamental operational level. This ensures a causally connected and intelligible universe. Apparent probabilism (e.g., in quantum mechanics) is an **emergent feature**, arising from the complex interplay of myriad underlying deterministic autaxic processes, particularly at points of critical transition or SSB from a multi-potential state, or due to inherent limitations of finite observers to grasp the totality of influences. Probability reflects branching possibilities, with the selection of a specific branch determined by the totality of autaxic conditions (Quni, 2025a, Ch. 8, Ch. 11).

3.3.5. Meta-Logic V: Principle of Interactive Complexity Maximization (The Drive Towards Richness, Constrained by Stability). Autaxys exhibits an inherent, non-teleological tendency to explore and actualize configurations of increasing interactive complexity, provided such configurations can achieve and maintain stability through its other dynamics and principles (especially coherence and parsimony). This acts as a directional influence, “pushing” the system to generate patterns that allow for richer sets of interactions and emergent functionalities, increasing the universe’s overall capacity for patterned expression. This principle provides an intrinsic driver for the observed complexification of the universe over cosmic time, without invoking external design (Quni, 2025a, Ch. 8).

3.4. Synergy and Operation: The Generative Engine as a Coherently Functioning Unified System The operational dynamics and meta-logical principles of autaxys, detailed above, are not a mere list of independent features. They form a deeply interconnected, synergistic system—the generative engine itself—where each element influences and is influenced by the others, ensuring autaxys functions as a coherent, self-regulating, and creatively evolving system (Quni, 2025a, Ch. 8).

The interplay between dynamics and meta-logic is indivisible: the meta-logic serves as the inherent “grammar” shaping how the dynamics *must* operate, while the dynamics are the “verbs” through which the meta-logic expresses itself. For instance, **Intrinsic Coherence (Meta-Logic I)** guides **Feedback Dynamics (Dynamic III)** and **Resonance (Dynamic IV)** towards stable, self-consistent patterns. The **Principle of Conservation of Distinguishability (Meta-Logic II)** constrains the outcomes of **Spontaneous Symmetry Breaking (Dynamic II)**. The **Principle of Parsimony in Generative Mechanisms (Meta-Logic III)** influences the universality of emergent dynamics arising from **Relational Processing (Dynamic I)**. The **Principle of Interactive Complexity Maximization (Meta-Logic V)** biases **Critical State Transitions (Dynamic V)** towards richer, yet stable, organizational forms.

Conceptually, the engine’s operation can be traced from undifferentiated potentiality to patterned reality in a continuous, iterative process:

Primordial Autaxys: A state of undifferentiated potentiality, maximal symmetry, latent relational processing, and inherent meta-logic.

Initial Differentiation: Intrinsic fluctuations trigger **Spontaneous Symmetry Breaking (Dynamic II)**, creating nascent distinctions.

Pattern Selection & Stabilization: **Feedback Dynamics (Dynamic III)** amplify coherent patterns, while unstable ones are damped. **Resonance (Dynamic IV)** selects for compatible dynamics. **Intrinsic Coherence (Meta-Logic I)** ensures self-consistent stability.

Growth of Complexity & Hierarchical Structuring: Stabilized patterns become building blocks for further complexification. The **Principle of Interactive Complexity Maximization (Meta-Logic V)**, in conjunction with **Critical State Transitions (Dynamic V)**, drives the emergence of hierarchical structures.

The Emergent Universe: The ongoing, iterative operation of this engine results in the self-consistent, evolving cosmos, with its array of patterns and apparent physical laws.

This self-organizing and self-constraining nature of the autaxic generative engine also offers a novel perspective on the “fine-tuning” problem of cosmic parameters. Rather than requiring an external tuner or invoking anthropic arguments, autaxys, guided by its meta-logic (particularly **Intrinsic Coherence (Meta-Logic I)**, **Resonance (Dynamic IV)**, **Parsimony (Meta-Logic III)**, and **Interactive Complexity Maximization (Meta-Logic V)** under the constraint of stability), inherently “tunes itself.” It naturally explores its generative landscape and settles into parameter regimes and structural configurations that are self-consistent, stable, and supportive of complex pattern formation. The observed “constants” of nature are thus reinterpreted as emergent, interdependent parameters of this globally harmonized, self-generated system (Quni, 2025a, Ch. 8).

4. Autaxys as a “New Way of Seeing”: Implications for Foundational Understanding

The introduction of autaxys and its generative engine is not merely an academic exercise in defining new terms or principles; it aims to cultivate a fundamental shift in perspective—a “new way of seeing” reality (Quni, 2025a). This new lens has profound implications for our foundational understanding of the cosmos, moving beyond traditional dichotomies and offering a more integrated and generative worldview.

4.1. Shifting from Substance-Based to Process-Pattern Ontologies A core implication of the autaxic framework is the transition from substance-based ontologies, which posit fundamental “stuff” (like matter or mind) as primary, to a process-pattern ontology. In this view, reality is not composed of static entities possessing inherent properties, but is an ongoing, dynamic unfolding of autaxys. What we perceive as stable “things”—particles, objects, even physical laws—are understood as persistent, emergent patterns of autaxic activity and relational dynamics (Quni, 2025a, Ch. 7, Ch. 11). This perspective seeks to dissolve the conventional separation between entities and their behaviors, or between objects and the space they occupy, by grounding them all in the singular, unified generative activity of autaxys. The focus shifts from “what things are made of” to “how patterns emerge, persist, interact, and evolve” from a fundamental generative principle.

4.2. Grounding Emergence and Complexity in Intrinsic Dynamics Autaxys provides a naturalistic and intrinsic grounding for the phenomena of emergence and the evolution of complexity. The generative engine, with its interplay of operational dynamics (such as Spontaneous Symmetry Breaking, Feedback, Resonance, and Critical State Transitions) and guiding meta-logical principles (like Intrinsic Coherence and Interactive Complexity Maximization), offers a framework for understanding how novel structures and behaviors can arise spontaneously from simpler antecedents without external design or intervention (Quni, 2025a, Ch. 8). Complexity is not an anomaly to be explained away but an expected outcome of autaxys’ inherent tendency to explore its generative potential and stabilize intricate, interactive configurations. This offers a path to understanding the hierarchical nature of reality, from fundamental patterns to cosmic structures and potentially life and consciousness, as different strata of autaxic emergence.

4.3. Autology: The Mode of Inquiry into Autaxic Reality The systematic investigation of autaxys and its manifestations defines the field of **autology** (Quni, 2025b, Sec. 4). Autology is conceived as an interdisciplinary mode of inquiry that seeks to understand the core characteristics and intrinsic dynamics of autaxys, elucidate the general

principles of pattern genesis and complexification, and explore the epistemological and ontological implications of this framework. It aims to move beyond merely describing observed patterns to understanding their generative source in autaxys. This involves developing formal models of autaxic processes, seeking empirical correlates, and critically re-evaluating existing scientific and philosophical concepts through the autaxic lens. Autology thus represents the active pursuit of this “new way of seeing,” striving to build a more coherent and generative understanding of existence.

5. Discussion

The introduction of autaxys and its generative engine offers a novel framework for foundational inquiry. This section briefly discusses autaxys in relation to some existing concepts, highlights its potential for unifying disparate phenomena, and acknowledges the challenges and future research directions inherent in developing autology.

5.1. Autaxys in Relation to Existing Concepts To clarify its conceptual space, autaxys must be distinguished from several influential terms (Quni, 2025b, Sec. 5):

Information: While autaxys generates all discernible patterns (which, when registered, constitute information), autaxys is ontologically prior. Shannon information quantifies aspects of pattern transmission but not their genesis. Broader concepts like Bateson’s “a difference that makes a difference” (Bateson, 1972) describe relational properties emerging from autaxys-generated patterns, whereas autaxys is the generative system itself.

Classical Logos: While sharing connotations of order and cosmic principle, autaxys emphasizes a *naturalistic, self-generating, and systemic* nature, distinct from many theological or abstract philosophical interpretations of *logos* that posit external or transcendent ordering.

Matter/Energy as Primary Substance: Materialism posits matter/energy as fundamental. Autaxys reverses this, viewing matter and energy as stable, complex patterns generated by its own dynamics. Physicality is an emergent quality of these robust patterns.

Mind/Consciousness as Primary: Idealist philosophies posit mind as fundamental. Autaxys, while non-material, is not inherently mentalistic. Mind and consciousness are viewed as exceptionally complex emergent phenomena arising within specific types of autaxys-generated patterns.

Autology, as the study of autaxys, therefore seeks to provide a deeper ontological grounding for concepts explored in physics (patterns, laws), information science (source of information), systems theory (the ultimate self-organizing system), and philosophy (metaphysics, epistemology) (Quni, 2025b, Sec. 5.5).

5.2. Potential for Unifying Disparate Phenomena A significant aspiration of the autaxic framework is its potential to unify phenomena that appear disparate or paradoxical within current paradigms (Quni, 2025b, Sec. 6.3): - *Wave-particle duality:* May be understood not as a contradictory nature of “things,” but as different modes of manifestation of underlying autaxys patterns, contingent on observational context. - *Quantum measurement problem:* Could be reframed as an interaction actualizing a determinate pattern from a spectrum of autaxic potentialities. - *Origin of physical laws and constants:* May be explored as emergent, stable regularities and parameters arising from autaxys’ self-organizing and self-tuning dynamics, rather than unexplained givens. - *Emergence of complexity:* The hierarchical structuring of reality, from fundamental patterns to life, can be seen as a continuous expression of autaxys’ generative engine.

By seeking a common generative root in autaxys, this framework aims for a more integrated and parsimonious understanding of the universe.

5.3. Challenges and Future Research Directions within Autology The development of autology presents considerable challenges and defines a rich research program (Quni, 2025b, Sec. 6.2):

- *Formalization:* A primary task is developing formal

mathematical or computational models of autaxys' generative engine to move from conceptual articulation to predictive theory. - *Empirical Contact*: Deriving specific, testable predictions, especially for phenomena that may not manifest as conventional particles or forces, requires innovative methodological thinking. This includes re-evaluating existing anomalies through the autaxic lens. - *The Autaxic Table of Patterns*: A systematic classification of fundamental patterns generated by autaxys, analogous to the periodic table, is a key research goal. This involves deriving their properties from autaxys' dynamics. - *Consciousness*: Elucidating the specific organizational and dynamic properties of autaxys-generated patterns that correlate with subjective experience remains a profound frontier. - *Cosmology*: Developing autaxic models that can account for large-scale structures, cosmic evolution, and phenomena currently attributed to dark matter/energy from first principles.

Addressing these challenges will require interdisciplinary collaboration and a commitment to exploring this “new way of seeing” reality.

6. Conclusion

This article has introduced **autaxys** as a fundamental ontological principle, defined by its intrinsic capacity for self-ordering, self-arranging, and self-generating patterned existence. We have detailed its “generative engine,” a synergistic complex of core operational dynamics (Relational Processing, Spontaneous Symmetry Breaking, Feedback Dynamics, Resonance, and Critical State Transitions) and inherent meta-logical principles (Intrinsic Coherence, Conservation of Distinguishability, Parsimony, Intrinsic Determinacy/Emergent Probabilism, and Interactive Complexity Maximization). Together, these elements describe how autaxys, without recourse to external agents or pre-imposed rules, gives rise to all discernible phenomena, including matter, energy, spacetime, and the regularities interpreted as physical laws, as emergent patterns (Quni, 2025a, Ch. 7, Ch. 8).

The autaxic framework offers more than just a new set of definitions; it proposes a “new way of seeing” reality. By shifting the ontological foundation from static substances or entities to dynamic processes and emergent patterns, autaxys provides a potentially more coherent and generative understanding of the cosmos. It seeks to ground the origins of order, complexity, and lawfulness in the immanent nature of reality itself, offering a unified perspective on phenomena that appear disparate or paradoxical within conventional paradigms.

The implications of this framework are far-reaching. For scientific inquiry, autology—the study of autaxys—opens new avenues for investigating foundational questions, encouraging the development of models that prioritize generative principles and the re-evaluation of existing data through a pattern-centric lens. For philosophy, it offers a novel ontological ground that can inform discussions in metaphysics, epistemology, and the philosophy of science.

While the development of a full autological theory presents significant challenges, including formalization and empirical contact, the conceptual framework of autaxys and its generative engine provides a robust starting point. By positing a universe that is intrinsically creative, ordered, and intelligible, autaxys invites a deeper engagement with the fundamental nature of existence, promising a more integrated and ultimately more insightful comprehension of the cosmos and our place within it as pattern-perceiving systems. The continued exploration of autaxys holds the transformative potential to reshape our understanding of reality from its most fundamental level upwards.

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