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Article

Philosophical Implications of the Discrete Extramental Clock Law: The Non-Existence of Absolute Newtonian Time in Extramental Reality

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Abstract

The recent proposal of the “Discrete Extramental Clock Law” (1) posits that objective time—extramental, independent of subjective perception—advances in a discrete and variable manner in chaotic complex systems, modulated by a gating function dependent on the system’s criticality state. This law implies that absolute Newtonian time—uniform, continuous, and universal—does not exist in extramental reality, reducing it to a perceptual illusion or emergent approximation. In this revised work, we explore the ontological, epistemological, and metaphysical consequences of this thesis, connecting it to classical debates on temporal flow (3; 4), Einsteinian relativity, and the philosophy of chaotic complexity. The perspective challenges strict block eternalism, supports a temporally open structure with futuribles (possible futures), and relaxes the irreversibility of causality, with positive implications for free will and the nature of becoming.

Keywords: extramental time; temporal discreteness; chaos; ontology of time; Newtonian illusion; temporal openness; futuribles; retrocausality; kairos; chronos

1. Introduction

Newtonian time, described in the *Principia Mathematica* as “absolute, true, and mathematical” flowing “uniformly without relation to anything external,” has been the dominant intuition in classical physics and everyday experience. However, modern proposals—from special relativity to chaos models and quantum gravity—have eroded its ontological status.

In a recent preprint, (1) mathematically derives a “Discrete Extramental Clock Law,” where the objective temporal evolution is expressed as:

$$t_{n+1} = t_n + \Delta t \cdot g(\tau_s) \tag{1}$$

where $g(\tau_s)$ is a gating function ranging from -1 (local retrogradation) to +1 (Newtonian approximation), reaching minimum values (~ 0.786) at criticality peaks, linked to the Feigenbaum constant ($\delta \approx 4.669$).

This modulation implies that extramental time is neither uniform nor continuous, but discrete and contextual to the system’s chaotic state. The central consequence: absolute Newtonian time does not really exist outside the subject’s mind; it is an illusory construction adapted to stable regimes.

2. The Illusion of Extramental Newtonian Time

Newton postulated absolute time as an immutable background. Einstein relativized it: time dilation demonstrates that there is no universal rhythm.

Padilla-Villanueva’s proposal radicalizes this: even at classical scales, in chaotic systems (brain, climate, societies), objective time slows or freezes at criticality, or even retrogrades locally, without an external absolute clock.

Ontologically, the uniform continuum is a mere macroscopic approximation; extramental reality is discrete, variable, and allows for local invertibility.

3. Ontological Implications: Toward a Discrete Open Temporalism

McTaggart (3) argued the logical incoherence of the A-series (past/present/future with flow); only the B-series (before/after relations) is coherent in stable regimes. However, if extramental time is discrete, variable, and allows for local retrogradation, strict block universe eternalism is challenged.

"Becoming" is not entirely illusory but is emergent and contextual: the past and present have full ontological status, while the future exists as a mosaic of **futuribles** (branched or possible advances) modulated by irregular and invertible "ticks." The advance toward any particular future is not guaranteed; it depends on chaotic criticality states.

Bergson (4) distinguished *durée* (lived time) from spatialized time (Newtonian); here, discrete extramental time renders the uniform a subjective projection and opens the temporal structure to branching or invertible paths in chaotic states.

The perspective of Prigogine (6; 7) reinforces this open temporal ontology. In far-from-equilibrium dissipative systems, bifurcations introduce a branching of paths where amplified fluctuations probabilistically determine the future, inscribing a constructive arrow of time that emerges from chaos but allows for local elements of reversibility or ambiguity. This aligns with the discrete modulation of $g(\tau_s)$ and the existence of futuribles in critical states, where irreversibility is global but locally relaxed, favoring evolutionary creativity and genuine novelty.

In contraposition to the Greek *chronos*—sequential, quantitative, and uniform time—and its modern analog in Newtonian absolute time, the ancient Greek concept of *kairos* denotes the opportune, qualitative moment of decision and possibility. The Discrete Extramental Clock Law recovers a kairotic dimension in extramental reality: critical states act as kairotic thresholds where time slows or branches, generating genuine openings for futuribles rather than a predetermined flow. In Catholic theology, *kairos* further signifies the plenitude of time fulfilled by divine grace and human response (e.g., "the time is fulfilled" in Mark 1:15), emphasizing an open future accessible to freedom and novelty, fully compatible with the temporal openness emerging from chaotic modulation (10; 11).

4. Consequences for Causality, Free Will, and the Arrow of Time

If $g(\tau_s)$ allows negative values (local retrogradation), entropic irreversibility is not absolute. The arrow of time emerges globally but is locally invertible, permitting retrocausality in critical regimes.

Free will benefits from this openness: in a discrete-variable structure with futuribles, decisions can genuinely branch from slowed or invertible critical states, supporting an open "now" at chaotic thresholds.

5. Discussion and Limitations

This revised analysis assumes future empirical validation of the proposed law (still a preprint). It connects to debates in the philosophy of science on chaos and discrete time (5), emphasizing temporal openness over strict eternalism.

Furthermore, the proposed temporal openness finds resonance in Leonardo Polo's transcendental anthropology (8; 9), where the human person is characterized as a radically open being, with personal transcendentals (co-existence, transcendental freedom, personal knowledge, and donative love) that imply unrestricted growth and an intrinsic orientation toward an open future. Polo describes the human being as a "spirit in time" whose freedom and hope invent genuine possibilities, preventing the closure of a fixed future and aligning with the mosaic of futuribles modulated by chaotic criticality.

Extensions: applications to cosmology (variable time in chaotic Big Bang) or consciousness (perception as averaging irregular ticks, with branching possibilities).

6. Conclusions

The non-existence of Newtonian time in extramental reality forces a humble ontology: real time is discrete, variable, and chaos-dependent, with only futuribles rather than a fixed future. Uniform flow is an evolutionary illusion, collapsing under complexity. This challenges strict eternalism, supports temporal openness, and invites rethinking being in a universe without an absolute clock but with genuine possibilities.

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