Temporalised Hyperobjects and Affective Play in *Outer Wilds*

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EXTENDED ABSTRACT

This paper examines how *Outer Wilds* (Mobius Digital 2019) renders incomprehensible cosmic phenomena emotionally accessible through the concept of "temporalised hyperobjects". Drawing on Timothy Morton's (2013) concept of hyperobjects—phenomena so massively distributed across time and space that they exceed human perceptual grasp, such as climate change or nuclear radiation—this study argues that *Outer Wilds* translates stellar evolution, planetary collapse, and cultural extinction into embodied experiences structured through temporal design.

Morton identifies five defining traits of hyperobjects: viscosity, nonlocality, temporal undulation, phasing, and interobjectivity. This study demonstrates how *Outer Wilds* makes each trait experientially perceptible through three interlocking temporal structures: recursive, diasporic, and entropic. These structures are conceptualised through Hanson's (2018) theorisation of temporal recursion as a repetitive, loop-based temporal logic embedded within the game world; Chang's (2019) mesocosm framework, where entropic systems manifest degradation, scarcity, and collapse as systemic externalities; and Huyssen's (2003) work on memory and the palimpsest, which informs culturally grounded perspectives on dispersed histories. Together, these lenses clarify how these temporal structures cultivate distinct modes of temporal engagement grounded in affective, embodied play.

Methodology

This analysis integrates three complementary theoretical approaches. First, phenomenological methods foreground situated, embodied experience. In contrast to interpretative phenomenological approaches that rely on post-play interviews (Bakels 2021) and kinaesthetic phenomenology (Bakels 2021), which emphasise bodily movement, this study draws on Keogh's embodied phenomenology (2018) and Droumeva's playthrough poetics (2024). Keogh positions the player as a partial posthuman subject engaged in 'embodied textuality,' while playthrough poetics treats gameplay as lived performance and digital autoethnography, attending to how engagement with dynamic systems generates knowledge, feeling, and sense-making in real time.

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Second, the affective turn in game studies (Aubrey 2018) frames play as the modulation of capacities to affect and be affected. In *Outer Wilds*, affective design unfolds through shifts in attunement—from curiosity to awe, melancholy, and acceptance—as players gradually comprehend the solar system's inevitable collapse, producing ambivalent and relational affective states (Ngai 2005).

Third, posthuman approaches to gaming (Wilde 2024) and accounts of play as 'intra-action' (Janik 2021) situate players within ecological systems, emphasising mutual becoming between player and game. These perspectives foreground how temporal structures do not merely shape experience but emerge through ongoing entanglements between human and nonhuman agencies.

Temporal Structures as Hyperobject Operations

Recursive Temporality builds on Hanson's concept of temporal recursion, where players develop sophisticated, embodied relationships with time beyond mere repetition. While many games use loops to extend play or train skill, *Outer Wilds'* 22-minute cycle transforms repetition into meaningful engagement. Each loop erases material progress, yet knowledge persists and is accessible through the spaceship's interface, where discovered information, tools, and planetary data are recorded, allowing players to anticipate, experiment, and explore systemic patterns. The *Scout Launcher* further supports recursive operation by enabling temporal exploration of areas otherwise unreachable within a loop, allowing players to accumulate insights for future cycles. Recursion becomes a mode of cosmological attunement: players inhabit planetary rhythms, experiencing cycles not as constraints but as lived, affective practices that scaffold understanding of vast, interlocking systems.

Entropic Temporality draws on Chang's mesocosm framework, emphasising systemic externalities and irreversible processes of degradation, scarcity, and collapse. Time flows inevitably from order to disorder, manifested in planetary decay, shifting gravity, collapsing terrain, and turbulent oceans. The limited oxygen supply in the spacesuit phenomenologically embodies entropic pressure, representing finite resources and mortality and making premature loop termination a constant possibility. The *Signal Scope* reveals dynamic astronomical phenomena and transient planetary signals, cultivating attunement to impermanence and the aesthetics of systemic processes. Billions of years of stellar evolution condense into the sun's supernova, fusing cosmic vastness with intimate perception. Repetition fosters entropic attunement: players find pleasure not in mastery, but in resonance with processes beyond control, developing an embodied awareness of impermanence and systemic beauty.

Diasporic Temporality emerges through the scattered remnants of the *Nomai* civilisation across multiple planets. Anchored in dispersed cultural traces and historical inscriptions, this temporality draws on Huyssen's work on memory and the palimpsest, shaping how players reconstruct meaning from a past that exists only in fragments. The player's archaeological work renders the solar system a mnemonic palimpsest: the *Nomai's* dispersed history isn't merely found but reconstructed through non-linear navigation, embodying Huyssen's notion of engaging fragmented pasts. The *Translator* enables players to piece together ruins and artefacts across worlds. This lens foregrounds relationality, memory, and loss, cultivating curiosity and empathy while rendering cultural extinction and vanished worlds affectively tangible.

Mapping Temporal Structures to Hyperobject Traits: The 22-minute recursive loop renders ‘viscosity’ tangible, binding players to the solar system through repeated return and renewed engagement. Diasporic temporality makes ‘nonlocality’ perceptible, the fragmented Nomai ruins require traversal across multiple planets and epochs to piece together meaning. ‘Temporal undulation’ emerges through the system's entropic processes, with stellar ageing and the final supernova compressing vast cosmic timescales into perceptual, intimate experience. Finally, ‘phasing’ and ‘interobjectivity’ surface as players recognise the mutual dependence of planetary systems and observe their slow, inevitable synchronisation toward collapse—an unfolding that entwines understanding, emotion, and embodied presence.

Conclusion

This analysis of *Outer Wilds* reflects its designer Alex Beachum’s philosophy of ‘knowledge over agency’ (2013), which prioritises player understanding over instrumental control. Temporal structures are designed to cultivate ecological attunement, guiding players to engage with systems beyond human comprehension and apprehend interdependence, impermanence, and systemic complexity.

The study offers two key contributions. First, it introduces ‘temporalised hyperobjects’ as a conceptual lens for understanding how games render vast, incomprehensible systems affectively legible, making phenomena such as stellar death, cultural extinction, and planetary decay experientially tangible through temporal design. Second, it shows how deliberately structured temporal mechanics can foster ecological consciousness and enable gameplay that treats interdependence, entropy, and impermanence not as abstract concepts but as lived, embodied conditions.

Keywords

Temporalised hyperobjects, Entropic temporality, Affective play, Ecological game studies, Posthuman game studies, Outer Wilds, Game Time

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