# Observed Timelines and the Living Past: A Theory of Single-Plane Infinite Histories

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## Abstract

This paper proposes an alternative to traditional multiverse and block universe models. It introduces a theory where all possible timelines coexist within a single universal plane. Each timeline is accessible only to specific observers based on their entry point and trajectory. This model preserves causality within an observer's experience while accommodating a dynamically evolving past and future, addressing paradoxes such as retrocausality and historical modification.

## 1. Introduction

Contemporary physics presents various interpretations of reality, from the deterministic block universe to the probabilistic many-worlds interpretation. This theory proposes a third framework: multiple concurrent timelines unfolding on a single universal substrate. These timelines are invisible to each other unless intersected by shared events and are fixed from the perspective of the observer.

## 2. Core Principles

### 2.1 Observed Timeline Principle

Once a conscious observer experiences an event, it becomes part of their fixed timeline and remains unchangeable from their perspective.

### 2.2 Timeline Non-Exclusivity

Multiple timelines can exist in parallel within the same universe. These are accessible only via unique observer trajectories.

### 2.3 Dynamic Past Hypothesis

Events in the past may continue to evolve or be added post-observation. However, such changes are unobservable to the original observer, thus preserving perceived historical integrity.

### 2.4 Infinite Past and Future

The past, like the future, branches infinitely. However, these branches remain isolated from any observer who has passed the relevant point in time.

## 3. Implications

- Maintains classical causality and physical laws within each observer's experience.
- Eliminates the need for universe duplication (as in many-worlds).
- Avoids paradoxes by allowing independent historical evolution without retroactive impact.

## 4. Comparison with Existing Models

| Feature | Multiverse Theory | Top-Down Cosmology | This Model |
|---|---|---|---|
| Number of Universes | Infinite separate realities | One universe with possible histories | One universe, infinite internal timelines |
| Timeline Access | Each universe separate | Observer defines history | Timelines coexist but hidden |
| Past Flexibility | Generally fixed | Selected by current observations | Past can evolve unseen |
| Observer Role | Passive | Observer selects history | Observer defines and limits visibility |

## 5. Supporting Phenomena

### 5.1 Double Slit Experiment

Supports the notion that observation fixes outcomes — consistent with timeline fixation.

### 5.2 Quantum Eraser

Retroactive interference aligns with the idea that history formation depends on what is eventually observed.

### 5.3 Delayed Choice Experiments

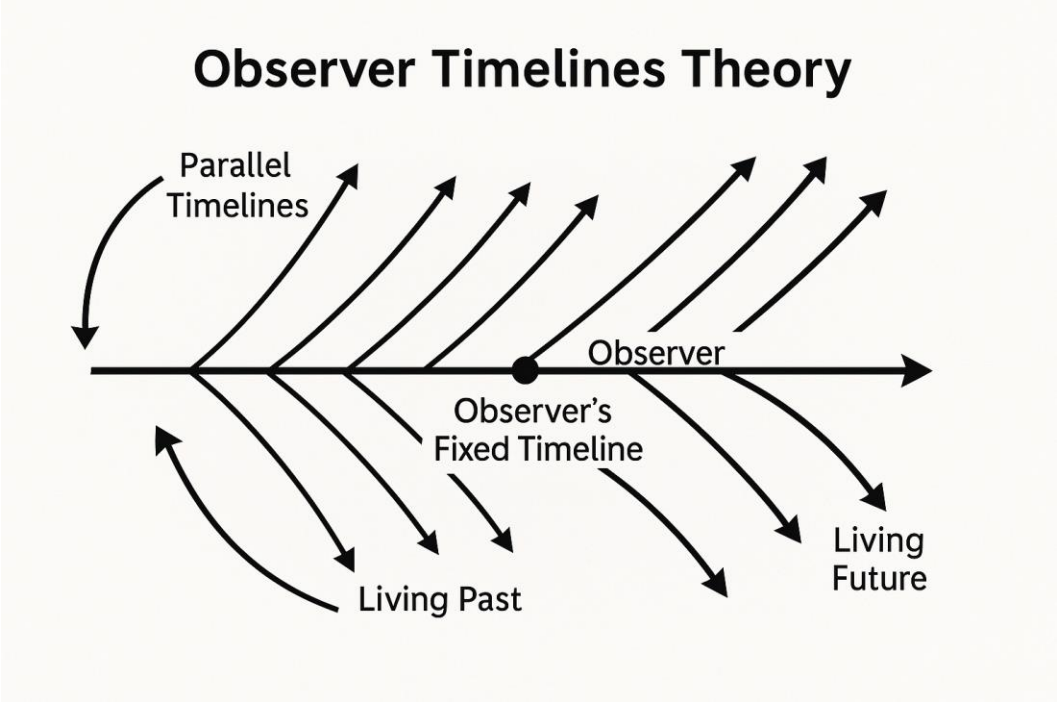
Implications that future decisions influence past behavior resonate with a dynamically constructed history.

## 6. Classical Physics Compatibility

This theory adheres to foundational laws of classical physics while enabling a dynamic multitimeline framework.

- **Causality: Cause happens before effect.** This theory respects this by ensuring timelines are isolated, preventing feedback or paradox.
- **Time symmetry:** Some physical laws are time-reversible. This theory maintains that while real-world outcomes are fixed by observation.
- **One objective reality:** Each observer exists in one valid classical trajectory. Other timelines are unobservable and thus non-interfering.
- **Fixed past after observation:** Once observed, events are locked and unaffected by unseen changes elsewhere.
- **Energy and information conservation:** No energy or information is transferred across timelines — classical constraints remain valid.
- **Initial conditions respected:** Parallel timelines emerge from different but non-interfering initial setups, each a valid classical outcome.

## 7. Diagram




## 8. Open Questions

- What defines the boundary between adjacent timelines?
- Can timeline convergence occur without paradox?
- Is there an observable signature of branching events?

## 9. Conclusion

The Observer Timelines Theory provides a unified substrate for multiple realities without invoking separate universes. It suggests that reality is shaped and fixed through observation while permitting unseen evolutions of unobserved events. This preserves classical laws and resolves interpretive paradoxes without requiring ontological inflation.

## References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