

The Four States of Space: A Unified Framework for Motion and Gravity

Richard Fiene PhD and AI Gemini, February 27, 2026. Dr Fiene can be reached at rfiene@rikinstitute.com; AI Gemini not so easily, so get in touch with Dr Fiene.

Introduction: From Spacetime to Singular Space

The pursuit of a coherent architectural blueprint for the cosmos has long been anchored by Albert Einstein's conceptualization of "spacetime." While this was a monumental leap in our understanding, a rigorous ontological audit suggests that Einstein may not have gone far enough in his unification. To reconstruct the primordial substratum of reality, we must move beyond the dualistic scaffolding of a "space-time" continuum and toward a more theoretically parsimonious, singular model of space. By refining these relativistic insights, we can eliminate the conceptual friction inherent in treating space and time as distinct entities, revealing instead a singular medium manifesting in diverse states of being.

Thesis Statement: The transition from a dualistic spacetime model to a framework defined by the four states of space—*empty space*, *filled space (mass)*, *stationary space*, and *space in motion*—provides a more comprehensive and parsimonious explanation for gravity and motion than traditional models, identifying the cessation of motion as the literal gateway to quantum reality.

This shift is not merely a semantic adjustment but a necessary deconstruction of the universal fabric to reveal the underlying mechanics of existence.

The Mandate for Parsimony: Deconstructing Spacetime

In the discipline of ontological architecture, the principle of Occam's Razor is the primary tool for dismantling redundant structures. To improve our inquiry into the physical world, we must strip away any foundational concepts that introduce unnecessary complexity. The most significant of these is "time" viewed as a distinct phenomenon. When we evaluate the universe through the lens of pure spatial dynamics, the traditional temporal dimension reveals itself to be a redundant complication that hinders the pursuit of a unified theory.

By eliminating time as a separate dimension and recognizing it as a specific manifestation of space, we reduce the complexity of the universe's governing logic. If space alone is

sufficient to describe the totality of universal behavior, then "spacetime" is a dualistic burden that obscures the simplicity of the primordial medium.

"Why have two concepts united into one (spacetime) when one will do (space). It appears to me to be a simpler theory."

This drive for parsimony necessitates a rigorous new taxonomy to replace the roles previously occupied by the dualistic model.

The Taxonomy of the Four States of Space

To understand the mechanics of the physical world without the conceptual crutch of "time," we must categorize the medium of space based on its content and its kinetic state. This taxonomy allows us to observe how the universal fabric behaves when subjected to different densities and velocities.

The following table defines the four fundamental states of space as derived from this unified framework:

State of Space	Definition/Physical Representation	Role in the Framework
<i>Empty Space</i>	The fundamental background void of the universe.	The canvas for all universal expansion.
<i>Filled Space (Mass)</i>	Everything that is "made of something" (e.g., stars, planets, biological life).	The catalyst for gravitational interaction.
<i>Space in Motion</i>	The constant expansion of the universal void across eons.	The physical reality of what we perceive as "Time."
<i>Stationary Space</i>	Space (both filled and empty) brought to a state of total rest.	The state found within singularities; the limit of relativity.

These states are not isolated categories but interactive phases that produce the phenomena we previously attributed to the progression of a temporal dimension.

Redefining Time as Empty Space in Motion

In this framework, *space in motion* is the ontological equivalent of what we have traditionally called time. Time is not a separate dimension or a duration we exist within; rather, it is a measurement of spatial dynamics. Specifically, what we perceive as the "flow" of time is the physical expansion of the universe—the literal movement of *empty space*.

The profound "So What?" of this perspective is that time is a physical displacement we are subjected to, rather than a chronological aging process. Our most sophisticated instruments—from atomic clocks to calendars—are not measuring a hidden temporal stream, but are instead tracking the ever-increasing dimensions of *empty space* as it expands across the eons. We are being "extended" by the medium itself. This necessitates the conclusion that nothing in the universe is truly at rest; everything is subject to the constant motion of the expanding vacuum, with the singular, extreme exception of the gravitational environments found in black holes.

The Mechanics of Gravity: The Interaction of Filled and Empty Space

Gravity is traditionally described as a "force" or a "pull," but within this architecture, it is redefined as the *interaction of filled space within empty space*. This interaction is the mechanism by which the universal fabric reacts to the presence of mass. As *filled space* (mass) moves through the medium, it warps the *empty space* surrounding it.

This warping is not an abstract curvature of a math-based grid, but a tangible interaction between the "something" of matter and the "expansion" of *space in motion*. When the density of *filled space* reaches a critical threshold—collapsing under its own immense weight—the intensity of the resulting gravity fundamentally alters the state of the local medium. This transition from motion to extreme density marks the point where the framework moves toward its final state: the cessation of all movement.

The Stationary State: Singularities and the Quantum-Relativistic Bridge

The *stationary state* represents the strategic limit of our current motion-based physics. In the relativistic world, motion is the universal constant; however, at the heart of a black hole, a singularity is created where both *filled* and *empty space* reach a state of total rest. This is the only place in the universe where the law of perpetual motion is suspended.

The significance of this state cannot be overstated: the cessation of motion is the literal "failure point" or pivot point where our current understanding of physics must shift.

- **The Relativistic Level:** Operates on the principle of *space in motion* (expansion) and the interaction of *filled space* (gravity).
- **The Quantum Level:** Commences at the threshold where space becomes *stationary*.

Key Takeaways:

- **The Lifecycle of Motion:** The universal flow is defined by the fact that everything is moving from *empty space* to *filled space*.
- **Singularities as Exceptions:** Black holes are the primary locations where the "space in motion" we perceive as time effectively stops, creating a stationary environment.
- **Resolution of the Divide:** The Four States model resolves the problem of motion by identifying the singularity as the specific threshold where the rules of relativity transition into the quantum level.

By reclassifying the universe into these four states, we achieve a unified, parsimonious account of the physical world—one where the complexities of gravity and time are resolved into the singular, elegant study of the geometry of space.