

A New Language for the Universe: A Terminology Guide to the Unified Theory of Motion

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.

The Core Philosophy: From Spacetime to Unified Space

The advancement of theoretical physics necessitates a rigorous commitment to parsimony—the reduction of complex variables into a singular, elegant framework. For over a century, our understanding of the cosmos has been scaffolded by "spacetime," a dualistic construct that binds two seemingly different phenomena. This Unified Theory of Motion proposes a dimensional reduction: the elimination of "time" as an independent entity in favor of a singular, fundamental substrate: **Space**.

By distilling the universe to this primary spatial substrate, we resolve the unnecessary complexity inherent in traditional models. Replacing the abstract fourth dimension with observable spatial dynamics provides a more direct inquiry into the physical world, treating all phenomena not as events occurring *within* a fabric, but as *varying* states of the fabric itself.

This framework serves as a conceptual extension of Albert Einstein's legacy. While Einstein revolutionized our understanding by merging dimensions, the objective here is to complete that integration. Einstein began the process of unifying space and time; this theory fulfills that trajectory by resolving them into a singular frame of reference where only space exists in varying kinetic states.

With the scaffolding of this single-substrate philosophy established, we can now categorize the observable universe into its four primary architectural states.

The Taxonomy of the Four States of Space

To navigate this unified landscape, we must redefine our terminology to reflect a universe composed entirely of space in different configurations of motion and density.

State of Space	Traditional Physics Term	The Unified Definition
Empty Space	Vacuum / Expansion	The fundamental spatial substrate in its unfilled state.
Filled Space	Mass / Matter	Space that possesses physical substance and density.
Space in Motion	Time	The transitional mechanism of empty space as it expands across eons.
Stationary Space	Singularity	The boundary state where all spatial movement ceases.

- The Primary Catalyst: Motion** serves as the fundamental variable that differentiates these states. It acts as the transitional mechanism: motion defines the expansion of Empty Space (Time) and characterizes the kinetic interaction of Filled Space (Gravity). The presence or absence of motion determines whether a region of space exists within the Relativistic or Quantum domain.

This taxonomic shift allows us to recognize that what we once perceived as a temporal flow is actually a specific kinetic condition of the spatial vacuum.

Redefining 'Time' as Empty Space in Motion

In a unified spatial framework, time is stripped of its status as a separate phenomenon. It is revealed to be **empty space in motion**. While humanity has engineered sophisticated tools to "tell time", these instruments do not measure a hidden dimension; rather, they quantify the literal expansion of the universe. We are simply measuring the ever-increasing dimension of empty space as it stretches across the eons.

- Traditional View:** Time is a distinct 4th dimension that acts as a container for spatial events.

- **Unified View:** Time is a redundant concept; it is merely the observable movement and constant expansion of the empty spatial substrate.

For the learner, this realization provides an immediate benefit of theoretical clarity. By removing the dualism of "space and time," we find a more parsimonious path to understanding the universe. Nothing is truly at rest in the relativistic world; what we call "the passage of time" is simply the perpetual motion of empty space.

Having established the nature of empty space, we must now define the state of space that constitutes the tangible objects of our reality.

Redefining 'Mass' as Filled Space

"Filled Space" is the architectural term for what traditional physics labels as mass. In this framework, mass is not an external object occupying a spatial container; rather, it is a specific state of space itself. It is space that is "made of something," possessing density and physical substance.

- **Examples of Filled Space:**
 - Biological entities (You and me)
 - Planetary bodies
 - Stellar structures
 - All particulate matter

The significance of this definition lies in its rejection of dualism. Mass does not exist *in* space; mass *is* space in a "filled" state. Once we recognize that the universe is composed of these two states—Empty and Filled—we can analyze the kinetic interaction that occurs when they meet.

Redefining 'Gravity' as a Spatial Interaction

Gravity is not an invisible "force" acting at a distance; it is the inevitable **interaction between filled space and empty space**. When these two states of the same substrate engage kinetically, the result is the phenomenon we experience as gravitational pull.

The sequence of this interaction follows a precise logical order:

- **Motion:** Filled space (mass) traverses through the substrate of empty space.

- **Warping:** This movement causes the surrounding empty space to become warped by the presence of the moving filled space.
- **Intensity:** As filled space increases in density, the interaction with empty space becomes more profound.
- **The Ultimate Consequence:** When this interaction reaches a critical threshold of intensity, the space becomes so dense that it collapses under its own weight. This extreme result of gravity leads to the formation of a black hole and, ultimately, a singularity.

This transition from intense motion to total collapse leads us to the final boundary where the rules of the moving universe no longer apply.

The Boundary: Stationary Space and the Quantum Level

While the relativistic universe is defined by constant movement, there exists a physical state where motion stops. This is **Stationary Space**. This state is found exclusively within singularities, where the expansion and kinetic interactions of the universe reach a point of absolute rest.

This distinction creates a clear structural division between two scales of physical inquiry:

- **Relativistic Level:** Defined by **space in motion**. This encompasses the expansion of empty space (Time) and the interaction of filled space (Gravity).
- **Quantum Level:** Defined by **space at rest**. This is the domain of Stationary Space found within singularities.

The universe is characterized by a transition from empty space to filled space, governed by the catalyst of motion. The quantum level is reached only at the moment that motion ceases.

Summary

The universe is a singular, fundamental entity—Space—manifesting in four interconnected states determined by the catalyst of motion. What we traditionally label as "Time" is the expansion of empty space, while "Mass" is space in its filled state. "Gravity" is the kinetic interaction and subsequent warping that occurs when filled space moves through empty space, a process that can reach an extreme intensity resulting in the "Stationary Space" of a singularity. By adopting this unified vocabulary, we replace the dualistic complexity of

spacetime with a streamlined, parsimonious understanding of a single spatial substrate in varying degrees of motion.