Dimensional Unification Theory of Consciousness (DUTC)

This paper proposes a new hypothesis — Dimensional Unification Theory of Consciousness (DUTC) — suggesting that consciousness constitutes a fifth dimension integrated with the four known space-time dimensions. This new framework could provide a pathway to unify General Relativity, Quantum Mechanics, and String Theory by embedding consciousness as a fundamental coordinate in the structure of reality, analogous to space-time. I explore the geometric structure of this proposed dimension, its perceptual implications, and potential ways to test this hypothesis experimentally.

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Core hypothesis of Dimensional Unification Theory of Consciousness (DUTC)

Consciousness remains one of the deepest and most unresolved mysteries of modern science.

Currently, there is no widely accepted evolutionary theory that can convincingly explain the adaptive value of consciousness for living organisms. From a biological survival standpoint, consciousness is not a necessary condition: all vital tasks — even complex mathematical calculations — can be effectively carried out without the involvement of consciousness. This is clearly demonstrated by the development of artificial intelligence, which is capable of solving mathematical equations, recognizing patterns, and adapting to new environments without possessing consciousness.

This challenges the idea of consciousness as a direct product of natural selection. As an alternative, some hypotheses suggest that consciousness is a byproduct (an epiphenomenon) of increasing complexity in neural structures, rather than a targeted outcome of evolution. However, this view remains speculative and lacks strong empirical evidence. None of the existing theories provide a comprehensive explanation of the nature of consciousness, its mechanisms, or its functional significance.

Thus, the question of what consciousness is, why and under what conditions it arises, and what role it plays in an evolutionary context remains open.

While most modern theories view consciousness as a product of biological evolution or a side effect of neural complexity, I propose an alternative, more fundamental perspective: What if consciousness is not a derivative but an intrinsic property of the universe—not a result, but a foundation?

Imagine that consciousness is not a function of the brain or a phenomenon arising in living organisms, but a basic category of reality, akin to space and time. According to my hypothesis, after the Big Bang, the universe began expanding not in four dimensions (as per Einstein's theory of relativity), but in five: three spatial, one temporal—and one conscious. In this case, consciousness does not belong to any individual, is not created by neural activity, but exists as a universal field or dimension inherent to the very fabric of reality.

This perspective changes everything. Consciousness becomes not a subjective experience but an objective component of the world. Just as we sense time and space—not because they arise within us, but because we are embedded within them — we may sense

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consciousness because it is simply another coordinate in the five-dimensional space-timeconsciousness continuum, alongside the four dimensions described by Einstein's relativity. From this standpoint, subjective experience is not an illusion or a byproduct of evolution, but a way of perceiving one of the dimensions of the universe.

The disappearance of an observer (for example, after death or before birth) does not imply the cessation of consciousness in the universe, since in this model, consciousness is not a derivative of the observer or something inherent to a specific individual. We also stop perceiving time and space, yet no one believes that time or space ceases to exist. Their existence does not depend on the observer—and if consciousness is a fundamental dimension, then it too does not require an observer to be.

This concept opens the door to a new synthesis of physics and cognitive science. If consciousness is an inseparable part of the universe, then the task of science is not to explain how it emerged, but to understand its geometry and interaction with the other (spatiotemporal) dimensions. This will require not just new equations, but a new way of thinking about reality—where the subjective and the objective are no longer opposites, but two aspects of the same multidimensional space-time-consciousness.

This theory proposes that consciousness is a physical dimension analogous to time and space, which we perceive differently due to its unique geometric or energetic properties. Just as time is considered the fourth dimension in Einstein's theory of relativity mathematically equivalent to spatial dimensions but subjectively experienced as a flow consciousness may be the fifth dimension, influencing motion through the space-timeconsciousness continuum and itself influenced by movement. The DUTC (Dimensional Unification Theory of Consciousness) suggests that by including consciousness as a dimension, we may potentially unify relativity, quantum mechanics, and string theory within a new geometric model.

Background and motivation

Modern physics relies on several successful but incompatible theoretical frameworks:

• Relativity, which describes the universe on a large scale with a continuous spacetime continuum;

- Quantum mechanics, which governs the behavior of particles on a microscale and shows observable effects;
- String theory, which adds extra spatial dimensions but does not account for consciousness or perception.

None of these theories explain consciousness or the subjective perception of time. Meanwhile, consciousness plays a key role in the observer effect and in our perception of physical reality.

We perceive the flow of time, but not space, in the same way. During altered states of consciousness (such as sleep, meditation, coma, the influence of psychedelics, etc.), our perception of time changes — simultaneously with changes in our perception of consciousness itself. For example, during sleep, we experience time differently than when we are awake, and our sense of consciousness also shifts between these two states. This may not be a mere coincidence, but a result of changes in the trajectory of motion through the space-time-consciousness continuum, while the external world continues to exist independently.

Examples:

- Sleep: During REM sleep, hours may feel like minutes.
- Coma and anesthesia: significant amounts of time pass without subjective awareness of its passage.
- Psychedelics: time may feel stretched or compressed.

These changes in time perception may be evidence that movement through *c* changes the perception of *t*. That is: $\Delta t' = \Delta t^* f(c)$, where $\Delta t'$ is perceived time, Δt is physical time, and f(c) represents a modulation of consciousness.

Biological evidence suggests that sleep slows aging in ways that are not fully explained by known chemistry. Nor is there a widely accepted evolutionary explanation for the biological need for sleep, despite its risks. These mysteries suggest that our experience of consciousness may be tied to movement in space-time-consciousness.

Proposal: Consciousness as a dimension

Consciousness is a dimension, similar to time and space. Just as in Einstein's theory of relativity, time slows down at high velocities due to acceleration in the spatial direction — altering the trajectory of an object from the time coordinate toward the spatial ones — and similarly in strong gravitational fields where space-time is stretched by the presence of

massive objects, we can hypothesize that if consciousness is the fifth dimension in a spacetime-consciousness continuum, then it, too, can be traversed and subjected to curvature and distortion.

This could explain why time is perceived differently during sleep, meditation, and other altered states, and why the rate of biological aging may also vary across these states.

In this model, motion through the consciousness dimension alters time perception and may influence biological aging. An event in the universe is described by the coordinates (x, y, z, t, c), where x, y, z represent space, t represents time, and c represents the consciousness coordinate.

Geometry and dynamics of the consciousness dimension

In modern physics, time is considered the fourth dimension, orthogonal to the three familiar spatial dimensions. Relativity has shown that the geometry of space-time can be curved by mass and energy, and that the flow of time is not absolute. Quantum theory has revealed the probabilistic, non-deterministic nature of the microscopic world. Despite these insights, consciousness remains largely excluded from physical models.

I propose a theory in which consciousness is modeled as an additional, fifth dimension: the consciousness dimension (c).

I define the consciousness dimension as a real, geometric, and measurable axis, orthogonal to the known coordinates of space-time. In this extended model, the universe consists of a five-dimensional curved space-time-consciousness continuum: $M^{(4+1)} = \{x, y, z, t, c\}$, here, *c* represents the coordinate of the consciousness dimension.

The three spatial dimensions are directly perceived by humans through movement and spatial awareness. The temporal dimension, although not directly observable, is experienced as a sequence of changes or events. Modern science still lacks a widely accepted explanation for why space is perceived differently from time, even though, according to Einstein's special theory of relativity, they are fundamentally the same. I propose the hypothesis that this difference in perception is due to the relative geometric scale of each dimension:

- Spatial dimensions: medium scale, macroscopically extended.
- Time dimension: larger structure, perceived as directional flow.
- Consciousness dimension: extremely small perhaps at the Planck scale perceived as consciousness.

If the dimension of consciousness is extremely small, compressed, or curved like the other dimensions proposed in string theory, this could explain why it has no visual or spatial manifestation, despite having real effects that can be physically measured. Let the metric of extended 5D spacetime-consciousness be written as:

$$ds^{2} = -f(c)dt^{2} + dx^{2} + dy^{2} + dz^{2} + g(c)dc^{2}$$

Here:

- f(c): Modulates the perception of time depending on location in the dimension of consciousness.
- g(c): Defines geometric behavior within a dimension.
 According to this:
- Rapid motion in c (sleep, meditation, etc.) slows down perceived time i.e. "time flows quickly".
- Slow motion in *c* (waking, intense concentration on something) speeds up perceived time i.e. "time drags on".

I postulate a relationship:

$$v_c \propto \frac{1}{v_t}$$

where:

- v_c : speed through the dimension of consciousness.
- v_t : speed in time dimension.

This would offer a unified explanation for the biological necessity of sleep as a rebalancing mechanism in response to excessive movement through time.

From an evolutionary perspective, sleep remains a paradox. Organisms are vulnerable while asleep, receive no direct sensory input, and are externally inactive. Yet, all complex life depends on sleep. Within the framework of this model, the paradox is resolved: sleep enables the organism to move more rapidly through the consciousness dimension, which slows down the passage of time and helps preserve biological integrity.

During wakefulness, constant movement through the temporal and spatial axes accelerates aging. Sleep or altered states of consciousness—such as deep meditation function as temporal buffers, slowing subjective time by increasing movement along the consciousness dimension.

By proposing consciousness as a fifth, compact, geometrically real dimension, I offer a potential solution to several long-standing mysteries: the function of sleep, the subjectivity of time, and the profound connection between awareness and physical reality. This concept extends the principles of relativity, quantum mechanics, and string theory by integrating consciousness as a physical component of the universe, rather than merely a biological or philosophical construct.

Further mathematical formulation and empirical investigation are needed. Yet, just as Einstein unified space and time, we may now be poised to take the next step—toward a unified model of space, time, and consciousness.

Link to existing theories

- Theory of Relativity: consciousness can subject to curvature or distortion under the influence of certain factors acting upon the space-timeconsciousness continuum, analogous to how massive objects curve space-time in general relativity. In this extended framework, the consciousness coordinate is not static but dynamic—motion through it is possible, just as through spatial and temporal dimensions.
- String Theory: consciousness may correspond to one of the "compactified" dimensions—directly unobservable due to its microscopic scale, yet exerting measurable physical effects. This interpretation aligns with string theory's prediction of hidden dimensions that influence the universe despite their imperceptibility in everyday experience.

Dark matter and energy

In modern cosmology, dark matter is a form of matter that cannot be directly observed, but its existence is confirmed through gravitational effects on galaxies and galaxy clusters. It prevents galaxies from "falling apart" by counteracting centrifugal forces. Dark matter accounts for about 27% of the mass-energy content of the Universe. Dark energy is an even more mysterious form of energy responsible for the accelerated expansion of the Universe. It is uniformly distributed, does not clump together, and makes up approximately 68% of the Universe's energy. We observe its effects, yet its true nature remains unknown. According to my proposed model of a five-dimensional continuum—space–time–consciousness (STC) — consciousness is a geometrically real dimension, just like time and the three known spatial dimensions. Unlike spatial coordinates, which are accessible through

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direct sensory perception, the consciousness dimension has a significantly smaller scale. This is why we perceive it differently from the spatial dimensions (in the same way that time, although real, is perceived differently according to the theory of relativity). Its compact scale renders it unobservable, similar to the compactified dimensions in string theory. Based on this, I propose the hypothesis that dark matter and dark energy are primarily localized in the consciousness dimension rather than in classical spatial dimensions. This offers an explanation for several key observational paradoxes:

- Gravitational effects of dark matter: We observe the influence of dark matter on galaxy rotation curves, gravitational lensing, and the large-scale structure of the Universe. These effects may result from the presence of mass in the fifth dimension, which distorts the space-time-consciousness metric while remaining invisible in classical spatial dimensions.
- Absence of electromagnetic signal: Current methods of detecting dark matter focus on its traces in spatial coordinates—such as photons, particle annihilations, and collisions. However, if this form of matter exists outside of spatial dimensions, specifically in the consciousness dimension (denoted as c), it would be fundamentally unobservable through spatial coordinates (x, y, z) and thus undetectable by conventional instruments.

Thus, it can be proposed that the reason we do not "see" dark matter and energy is not due to their invisibility per se, but because we are searching for them within the wrong dimensions. If the dark components of the Universe are indeed localized outside of spatial dimensions, then attempting to detect them using spatially constrained experiments—such as particle detectors or astronomical observations—is inherently destined to fail. Their gravitational and cosmological effects, on the other hand, are consistent with a model in which the density of this matter resides in the fifth dimension.

This hypothesis requires further theoretical development and experimental investigation. If dark matter and energy are indeed situated within the consciousness dimension, it raises the possibility that consciousness itself may interact with them. Such a prospect opens a path toward physically demonstrating the existence of the consciousness dimension and its fundamental role in the structure of the Universe.

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Laws of DUTC

Dimensional Unification Theory of Consciousness (DUTC) postulates that all objects in the universe move at a constant total velocity through a unified five-dimensional spacetime-consciousness continuum. This principle, grounded in the constancy of the speed of light from special relativity, serves as the geometric and physical foundation of DUTC.

Fundamental Law of DUTC:

All entities in the universe move with a constant total velocity through the unified five-dimensional space-time-consciousness manifold. The magnitude of this velocity is invariant; only the direction of motion within the five-dimensional continuum may change:

- When a body moves faster through space, its movement through time and consciousness slows down.
- When a body moves faster through time, it moves slower through consciousness and space.
- When a body moves faster through consciousness, it moves slower through time and space.

This is a reflection of the phenomena observed in Einsteinian physics, now expanded to a five-dimensional structure:

$$v_c^2 + v_t^2 + v_s^2 = c^2$$

Here:

 v_c is the component of speed along the dimension of consciousness.

 v_t is the component of speed in the time dimension.

 v_s is the component of speed in three-dimensional space.

c is an invariant quantity of the total motion through space-time-consciousness (analogous to the speed of light).

This preservation of full motion provides a link between consciousness, time and space. Changes in speed in one dimension require adjustments in others.

This formulation provides an explanation for the following phenomena:

- Relative time dilation: when v_s speeds up, v_t slows down, consistent with Einstein's special theory of relativity.
- Altered states of consciousness: during sleep, meditation, or coma, v_c speeds up, implying a slowing down of v_t, possibly explaining altered perception of time and different rates of aging.

This law creates a new way of thinking about movement, perception and interaction, suggesting that the nature of consciousness may be as fundamental and structured as space and time themselves.

Proposed experiments

The connection between time perception, states of consciousness, and cellular aging may prove that consciousness is part of the conscious space-time continuum.

To test this theory, it is necessary to design an experiment that isolates the effects of consciousness from chemical and neurological processes.

How this can be done:

- An experiment with genetically identical animals: the first group has normal sleep, the second group is deprived of sleep. It is necessary to measure telomere shortening, oxidative stress levels, and aging biomarkers. During the experiment, identical nutrition, temperature, and stress levels must be maintained. The second group should be given substances that mimic the chemical environment of sleep without actual sleep.
- In humans, subjective time perception tasks can be used before and after altered states of consciousness (e.g., deep meditation, sleep, anesthesia). If the link between biological aging and subjective time perception remains regardless of known biochemical effects, this may support the idea of movement in the consciousness dimension.
- An addition to Einstein's theory of relativity: an observer moving at speeds close to the speed of light should experience not only time dilation but also altered states of consciousness, possibly revealing new mental phenomena.

- Quantum interactions: elementary particles may oscillate in the consciousness dimension, creating interference or tunneling patterns not fully explained by standard four-dimensional quantum mechanics.
- Neural activity and spatial movement: brain wave frequencies and their transitions (alpha, beta, theta, delta) may reflect different velocities in the consciousness dimension.

Conclussion

In the DUTC model, consciousness is considered a physical fifth dimension interacting with space and time. When a person is awake, their consciousness is active constantly processing information, making decisions, and responding to stimuli. In this state, the theory suggests that the trajectory through the consciousness dimension slows down or curves, causing the trajectory through time to speed up—resulting in normal or even accelerated perception of time and metabolic aging.

When a person enters sleep, meditation, coma, etc., their conscious activity sharply decreases or even stops. According to the DUTC model, this can be interpreted as the person moving faster through the consciousness dimension—similar to how, according to special relativity, we move faster through time when standing still in space. This faster movement through consciousness may correspond to slower movement through time, thereby explaining why metabolic processes—and potentially aging—slow down.

This idea aligns with observations that patients in coma exhibit less physical aging than expected during the time they were unconscious. The DUTC model provides a possible geometric and dimensional explanation for this.