

By Prince

A Teen's Vision of Space, Time, and Dimension

1. Thread Analogy: Weaving Dimensions from Threads

What if the universe isn't made of objects and particles first-but from simple lines, threads, or even nothing more than dimensions layered on top of each other?

This hypothesis, called the Dimensional Weave Hypothesis, is an imaginative explanation of how higher dimensions might emerge from lower ones like how a cloth is made from threads. Here, I explore how 1D threads (lines) could be woven into a 2D surface, how this might happen inside a static 4D space, and what role mass, time, and energy play in making this possible-or impossible-in the real world.

1D to 2D - The Thread and Page Analogy

Imagine a thread, like a string, that only has one property-length. It doesn't have width or height. This is a 1-dimensional (1D) object.

Now imagine placing many of these threads side by side, or weaving them over and under each other like in a fabric. This creates what appears to be a 2-dimensional (2D) surface-a flat "page" made from 1D threads.

A bunch of threads (lines) crossing each other to form a grid or page.

This woven page looks like a 2D surface but is actually made up of only 1D parts. It gives an illusion of 2D, but it doesn't truly become 2D unless new rules, such as depth, interaction, and motion, are introduced.

Frozen 4D Space - No Time, No Movement

Now place this woven page inside a 4-dimensional space-not one where things move, but a static one, frozen like a photograph.

In this space:

There is no time - nothing changes.

There is no energy being transferred nothing moves or reacts.

The structure just exists, like a snapshot.

A 3D cube frozen in space, representing an object in static 4D.

In this model, the dimensional transformation (from 1D to 2D) is not real it's theoretical. It's like a blueprint or an idea, not a functioning universe.

2. Einstein and the Physics Perspective: 3D Space + Time = 4D Spacetime

Einstein's theory of relativity introduced the revolutionary idea that space and time are not separate entities but combined into a single four-dimensional continuum called spacetime.

According to Einstein:

3D space plus time combine to form 4D spacetime.

This spacetime is a smooth, continuous fabric that can be curved by mass and energy.

Dimensions in this framework are fundamental and fixed-they don't emerge from simpler building blocks.

Mass and energy affect spacetime by curving it, which manifests as gravity.

This contrasts with the idea of dimensions emerging from weaving threads because Einstein's spacetime model treats dimensions as existing and intertwined, not built from smaller parts.

3. Dimensional Weave Hypothesis: Its Relation to Physics and Basic Laws

While Einstein's physics treats dimensions as fundamental, the Dimensional Weave Hypothesis suggests dimensions might be emergent phenomena, created by weaving lower-dimensional threads together.

This idea interacts with physics through fundamental concepts:

Mass: Each thread carries mass, but stacking threads doesn't automatically create higher-dimensional mass. Mass must obey conservation laws.

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Mass: Each thread carries mass, but stacking threads doesn't automatically create higher-dimensional mass. Mass must obey conservation laws.

Time: Without flowing time, the weaving process cannot evolve; the emergence of new dimensions requires time to allow interactions and changes.

Energy: Energy is essential for transformation and interaction; without energy, threads can't weave or merge to form new dimensions.

The Dimensional Weave Hypothesis provides clarity about when dimensional emergence is real or just an illusion. It suggests that without the flow of time and input of energy, dimensions may only appear as static illusions.

This hypothesis respects basic physics laws like conservation of mass and energy while challenging the idea that dimensions are strictly fundamental and unchanging.

Final Thoughts

The Dimensional Weave Hypothesis is not a claim that contradicts Einstein or physics but rather a conceptual tool to explore how dimensions and reality might be understood differently. It bridges gaps between classical physics and new ideas by distinguishing between illusion and physical existence, encouraging us to rethink the foundations of space and time.