

# General Theory of Temporality

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## Abstract

This paper proposes a fundamental reformulation of gravity and physical forces as manifestations of temporal gradients, rather than spatial curvature or classical fields. It introduces the concept of real time as a variable flow rate that governs all processes in the universe—from quantum events to cosmic dynamics. Gravity is reinterpreted as a pressure between zones of different temporal density, and black holes are reframed as regions of fully halted time. White holes, in this framework, act as sources of renewed reality, potentially explaining observed cosmic acceleration and the emergence of young hydrogen. The model unifies physical forces under a single principle—time—as the ultimate driver of nature, offering a simplified alternative to General Relativity and a new lens for integrating quantum theory.

## Thesis

There exists 'absolute time.' It is not affected by anything, and it is an absolute measure. There exists 'real time.' This is the time in which we live and in which the Universe exists. 'Real time' represents the rate at which all events, phenomena, and processes unfold. Real time can change its speed. This change is the source of everything – from energy and matter, through physical forces, to gravity, black holes, the expansion and contraction of the Universe.

Time is the foundation of everything. Even in current science, this is clearly visible by the presence—direct or indirect—of temporal variables in practically every formula in physics. Time also enables the 'great unification' of Quantum Theory with the General Theory of Relativity. Because its speed is the cause of both macro-phenomena on galactic and universal scales and phenomena at the lowest—quantum—level.

The speed of light is not a constant. It is a measuring instrument. The speed of light measures the rate at which real time flows in a certain region of space.

The presence of 'c' in the equations of quantum theory looks extremely strange. What does the speed of light have to do with processes at such a microscopic level?

The official answer is: 'Because the formulas work this way and the calculations are confirmed by reality (i.e., empirically).'

The correct answer is: 'Because time is present in the equations, and 'c' is only its measurer.'

Gravity is not a force, nor is it a spatial geometry. It is a temporal gradient between zones with different temporal densities. Perceiving it this way can significantly reduce the complexity imposed by GR and lead to the creation of simpler formulas for calculating various phenomena. It is even possible to obtain solutions to specific cases of GR that are currently unsolvable.

If in two adjacent regions of space real time flows at different speeds, a sort of 'temporal pressure' arises between them. In the region where it flows faster, for a unit of absolute time there is 'more reality' than in the region where it flows slower. This creates a temporal gradient, which is precisely gravity. It is similar to heating one part of a pot of water. There, all elementary particles move faster, creating 'pressure' toward the unheated part. The first region is 'fast time.' The second is 'slow time.'

Years ago, the great physicist Kip Thorne, trying to describe gravity more simply, said: 'Everything likes to live where it will age the most slowly, and gravity pulls it there.' (Kip S. Thorne, *The Science of Interstellar*). Without reaching the hypotheses of this article, he said something so true.

Gravity is in fact a gradient of time.

In a previous article (*Calculating the Gravitational Constant via Temporal Gradients and Atomic Clocks*, Dobri Bozhilov), this was hinted at through the idea of calculating the gravitational constant using atomic clocks.

The calculations came out accurate. But since  $G$  was previously used to determine Earth's mass, a 'logical circle' occurs, in which we find  $G$  based on previously used  $G$  (through torsion balances).

Of course, if Earth's mass is accurate (regardless of how it was determined), the approach of calculating the gravitational constant this way confirms the correctness of the assumption that gravity is a temporal gradient.

This hypothesis can be tested through an inexpensive space experiment. All that is required is to place an atomic clock in orbit exactly matching that of the International Space Station.

It should be synchronized with an atomic clock on the station itself. And over several years (if the hypothesis is correct), a measurable divergence between the two clocks will appear.

It will be due to the greater slowing of time around the station, with a mass of about 400 tons, compared to the remote clock, which will have only the mass of the satellite carrying it.

In this case, we will determine  $G$  without using  $G$  previously determined by other means, because we will know in advance the exact mass of the source of time delay (ISS, separate satellite).

$G$  calculated in this way will be the most accurate possible calculation ever, because the atomic clock is the most accurate instrument available to humanity – far more precise than any torsion balance.

But gravity is not the only product of a 'temporal gradient.' In fact, all other so-called 'natural forces' are temporal gradients.

If you look at their formulas, you will see either time itself, or the speed of light (' $c$ '), or another indicator derived from time. Time is the pathway to the 'great unification.'

Summarized and fundamentally viewed—there exists only one force in nature—the temporal gradient.

It manifests in various forms as electromagnetic forces, weak and strong nuclear interactions, and gravity.

Time is 'God's instrument' with which He created everything.

All elementary particles represent a 'temporal fluctuation' in absolute time.

Some section slows down and a particle forms. The particle is 'reality with slower time.'

Once it appears, a 'temporal gradient' from the surrounding space, which has faster time, already exists toward it. This gradient manifests through the 'different' natural forces.

A black hole is a region of extremely slowed time, where in the center time stops completely. This concerns 'real time'.

In the black hole, there is no 'singularity' that confuses and throws all current physical theories into chaos.

The center of the black hole is simply 'completely stopped time.' No processes occur. The black hole swallows not only mass but also reality.

This is a very important element. The temporal gradient—from faster to slower time—leads to the attraction of EVERYTHING, not just material objects.

Everything—the very reality—moves toward zones with slower time. Simply put, even space itself is sucked toward zones with slower time.

In black holes, this process reaches its extreme.

But the black hole is not the end of everything. It is a transitional stage.

The reason for its enormous mass is solely the ever-slowng time within it. And the zero speed of 'real time' at the center.

The singularity disappears. All old physical theories can exist. Simply because they are variations of this more general theory.

But what happens to the matter, information, and reality absorbed by a black hole?

They are still there. They are merely reduced to an absolutely homogeneous substance.

Before the next stage occurs—God (or a natural process, such as the accumulation of critical mass), leads to a 'restart of the clock' in the heart of the black hole.

If time begins to move again, all the properties of the black hole reverse. It begins to return matter, energy, and most importantly—reality, back.

It becomes a 'white hole'. It creates an effect similar to antigravity.

Which is logical—if the time inside the white hole is accelerated beyond the surrounding space, a gradient in the opposite direction will occur.

The white hole is not the other end of the black hole, connected by a transition of infinitely complex type.

No. The white hole is a black hole with the clock turned on again.

God is the watchmaker. When the time comes, the black hole—having recycled a huge amount of reality—turns into a white hole and returns everything it absorbed.

Matter appears, space expands.

Dark energy, to which the expansion of the Universe is attributed, is actually the 'white holes'.

For this hypothesis, there is even some initial evidence—in the great voids of the Universe, where galaxies are dispersing (even accelerating), and where the influence of 'dark energy' is most attributed, there is observed presence of 'young hydrogen.'

That is, hydrogen similar to that immediately after the Big Bang.

There is also the characteristic warm intergalactic gas of the young Universe, as well as weakly ionized helium and traces of light elements.

These phenomena currently have no convincing explanation.

But if the 'white hole' generates a new reborn reality, it is logical that the new matter it creates is young?

The white hole is a small Big Bang.

The Universe 'breathes' and renews itself through the absorption of reality in black holes and its return anew—in the same place—through the black hole turned white.

The Big Bang itself is essentially a massive White Hole.

It created the visible part of the current Universe, which does not limit the Universe at all to these dimensions.

Do we need 'chronotons'? New theory, new particle – isn't that the standard scientific principle?

No. There is no need for a special new temporal particle because, in essence, all particles are chronotons. Each particle is a temporal fluctuation and each is a carrier of time.

Is light the ultimate speed? Not exactly. Light is a measure of the speed at which real time moves. In general, this is enough to call it a 'limit'.

But in the observation of the event GW170817 (2017), light arrived 1.7 seconds after the gravitational wave.

Explanations vary; there is no dominant one. But from the perspective of the new theory – the gravitational wave is temporal in its essence. It is time itself.

Accordingly, it is not affected by any obstacles in its path, including regions with delayed time.

Light, on the other hand, and according to GR, is affected – by the geometry of geodesic lines, by the speed of time, by clouds of interstellar dust, etc.

So the correct statement is that the gravitational wave is the most accurate measure of the limiting speed, not light.

Is faster-than-light speed possible? The Alcubierre Drive?

Actually, it is possible – and by a far simpler model. If everything is a temporal gradient, then if somehow you slow time in front of the ship and accelerate it behind, a push will occur and the ship will move.

The speed will depend only on the difference in the speed of time, i.e., there is no reason it should be limited.

This would be an artificial phenomenon, unknown in nature, where the boundary speed of real time is that in a vacuum.

In this medium, nothing can move faster, including the gravitational wave.

But if somehow time 'faster' than that of the vacuum is invented, then there is no reason a higher speed cannot exist.

Rates of expansion of space in the early universe that exceed the speed of light are accepted by the main proven physical theories to date.

The question of how this is to be done—accelerating and slowing time around a spacecraft—is a question for God Himself.

If Creation and all forces in Nature are derivatives of time, then obviously time itself is the universal dominant force in the Universe.

That is, knowing how to control it would be a sign that Man has become God.

## Conclusion

The present General Theory of Temporality represents a simplification of the General Theory of Relativity by reducing space-time curvature solely to 'temporal'.

Phenomena and processes are explained only through the speed of time.

It provides a path for sustainable development of physics without the need for extremely complex mathematical apparatus, unknown numbers of unverifiable dimensions, strings, mystical elements like invisible energies and paradoxes.

The present theory may even enter the 'impossible and forbidden' zone of quantum theory by allowing, based on statistical studies, the simultaneous calculation of the position and momentum of a particle.

Perhaps the theory will not be accepted immediately, but that does not mean it is not true.

Truth does not need to be accepted right away. Time has enough time to wait.

If someone nonetheless is inspired and starts thinking – so many beautiful formulas will emerge and so many elegant solutions to all kinds of problems.

I did not write you a single formula, though in other publications of the same series I have included such.

I leave you the opportunity to win Nobel Prizes yourselves...

Wink...

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