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What Is Time, Really? Quantum Physics and the Past - Future Illusion
Co je vlastně čas? Kvantová fyzika a minulost - iluze budoucnosti

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What Is Time, Really? Quantum Physics and the Past - Future Illusion Modern physics challenges our everyday understanding of time. Quantum mechanics and relativity reveal a reality where past, present, and future may coexist, and time does not flow as we think. The past might still exist as information, and the future may already be part of a vast, timeless structure. In this video, we explore the quantum mystery of time, the illusion of flow, and how the universe might experience time differently than we do. As we approach 2026, these questions become more urgent, touching on the foundations of reality, causality, and consciousness. This is physics at the edge, where everything we take for granted begins to unravel. →

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What is time? Quantum physics and the past - the illusion of the future. Modern physics is **challenging** our everyday **understanding of time**. I haven't seen that questioning anywhere yet. Quantum mechanics and relativity reveal a reality where the past, present and future can coexist and time doesn't flow the way we think. The past may still exist as information and the future may already be part of a vast, timeless structure. In this video we explore the quantum mystery of time, the illusion of flow and how the universe might experience time differently than we do. As we approach the year 2026, these questions become more pressing and touch on the foundations of reality, causality and consciousness. This is physics on the edge, where everything we take for granted is beginning to fall apart.

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(01)- Time feels obvious. It feels like the most basic structure of reality. Moments move forward. The past is gone. The future has not arrived. We live in a narrow slice called the present, constantly advancing from what was to what will be. We rarely question this. Time feels too fundamental to doubt. Physics does not agree. At the deepest level of reality, time may not behave the way we experience it. In fact, it may not exist in the way we think it does at all. For most of human history, time was treated as absolute, a universal clock ticking uniformly across the universe. Events happened in a clear order. Cause came before effect. The past created the present, and the present shaped the future. This view felt unbreakable. Then, physics began to look closer. Einstein showed that time is not universal. It slows down with speed. It stretches in strong gravity. Two observers can disagree about how much time has passed and both can be
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correct. Time once thought to be rigid and objective became flexible and relative. But relativity still preserves something important. Even if time bent, it still existed. There was still

a past, a present, and a future. They were just observer dependent. Quantum physics goes further. At the quantum level, reality stops behaving like a sequence of events unfolding in time. Instead, it behaves like a system of probabilities, correlations, and relationships that do not always respect classical order. Particles do not follow single paths. They exist in superp positions. They are not here or there, but both. And crucially, their properties are not always defined until they are measured. This already challenges the idea of a fixed present. But it also raises a deeper problem. If properties are not defined until measurement, what does that say about the past? In classical thinking, the past is settled. Whatever happened has happened. Quantum physics

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does not always allow this certainty. In some experiments, quantum systems behave as if their earlier states depend on how they are measured later. Not because the past is changed, but because it was never fully determined to begin with. This sounds impossible because it clashes with intuition. We assume the universe keeps a complete record of itself that every moment leaves behind a definite history. Quantum mechanics suggests that this may not always be true. At fundamental scales, the universe may not store a single objective timeline. It may only preserve consistency. This leads to a disturbing idea. The universe may care less about what happened first and more about whether the overall story makes sense. To understand this, we need to question something even deeper. What is time actually doing in physics? In the equations that describe reality, time does not flow. It does not move forward. It does not pass. It is treated as a coordinate like space. A label that

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allows us to describe change, not something that changes itself. There is no equation that describes the motion of time. This creates a paradox. If time does not flow in the equations, why does it feel like it flows in experience? One common answer is memory. We remember the past but not the future. This asymmetry creates the sensation of motion. We feel time moving because our memories accumulate in one direction. But memory alone is not enough. A recording device also stores information, but it does not experience time. Something deeper is happening. Physics suggests that the arrow of time comes from entropy. Disorder increases. Systems evolve from ordered states to disordered ones. This gives time a direction. But entropy does not erase the past. It only makes it harder to reconstruct. Information spreads, but it is not destroyed. This raises an unsettling possibility. The past may still exist not as experience, but as information embedded in the

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present state of the universe. If information is conserved, then every moment leaves a permanent imprint. Not in a timeline that recedes behind us, but in the total structure of reality. From this perspective, the past is not gone. It is inaccessible. Quantum physics strengthens this idea. At the quantum level, systems become entangled. Information about one part of the systém is distributed across many others. Over time, this information becomes impossible to retrieve, but it still exists. Nothing truly disappears. It only becomes unreachable. If this is true, then time is not a river carrying moments away. It is a static structure where change is a pattern within it. Some physicists describe the universe as a block. Past, present, and future all exist simultaneously. There is no objective now. The present is simply the point along the block where consciousness happens to be in a block universe.

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(01)- Time seems self-evident. It seems to me to be the most fundamental structure of reality. Moments flow forward. The past is gone. The future has not yet arrived. We live in a narrow space called the present, constantly moving from what was to what will be. We rarely

question it. **I will tell you my complete vision right at the beginning (I will describe it from another paper)**:
Time did not begin ! ! !, time stands still !, but what began is the passage of time. But you still do not know what this passage is - the flow of time, because... because time does not pass for us, but we - human objects in the universe - flow to it. We move "in time", in the three dimensions of time and thereby cut intervals into the dimension. The sequence of those intervals is the flow of time, the passage of time. It is even possible to explore an alternative vision for the passage of time, that if we choose an Observer at rest, both length and time will expand from the big bang, that is, time will "unfold" and in such a situation the Observer will perceive the space-time that is unfolding before his eyes, that dimensions with intervals are being rotated, and these are then of different sizes in the Observer's projection, that is, the perceived time will have a different pace in the observatory "at home" and the Observer – the commander of the rocket – will have a different pace of flow when rotating, unfolding the curvatures). The pace of time changes according to the pace of unfolding the curvatures of the space-time in which the Observer is and observes.
If time is "***flow – the flow of intervals on the time dimension cut by the subject as the subject moves along the time dimension"***, then, although we do not realize it, we perceive (the flow of intervals) correctly. The Earth moves in its 3+3-dimensional environment and in it (when moving, shifting) it cuts intervals into the time dimension at a certain pace…
From our earthly position in the universe we can evaluate information differently than from *galaxy abc*. After all, I believe that we evaluate according to Hubble's law $\mathbf{v = H_o.d}$ (linear equation) and that is wrong. The universe does not expand, but unfolds.
https://www.hypothesis-of-universe.com/docs/c/c_032.gif ; it means that the pace of time flow towards the Beginning changed, i.e. from the Beginning to us it changed non-linearly. We evaluate information from the big bang, but the universe existed before the big bang, as only a two-dimensional 3+3D space-time, flat, without matter, without fields, infinite, stoic, without flow = passage of time, without expansion of space (infinite), without laws, principles and rules. In this state of the Universe, "once" an immediate !! change of state (!) occurred in some finite 3+3D location, which we call the big bang, and it was a change of curvature k = 0 to curvature k = infinity, a "lightning jump" from one extreme to the opposite extreme. Etc. etc. And only in this location (our universe) does matter begin to be born, time begins to flow, space-time begins to expand, laws, rules and principles begin to be recruited. Etc. see https://www.hypothesis-of-universe.com/index.php?nav=aa .
I have a lot to say about time in my HDV, I don't want to describe it all here. Please (!), read it yourself.
End of introduction.

Time seems too fundamental to be doubted. Physics disagrees. At the deepest level of reality, time may not behave as we experience it. O.K. In fact, it may not exist at all as we think. For most of human history, time was considered absolute, a universal clock that ticks evenly throughout the universe. I will briefly repeat: Clocks always tick at the same rate everywhere, everywhere throughout the universe. Clocks are mechanisms that are set to ticks = intervals and they never change… but time is running. This means that we, material objects, move through space-time, and therefore also the time dimension, and cut intervals on it…chosen, with the declaration that they will be unitary. Events took place in a clear order. Cause preceded effect. The past created the present and the present shaped the future. This view seemed unbreakable. Then physics began to look closer. Einstein showed that time is not universal. Time is stoic, infinite, but flow – the passage of time is not universal, it changes. It slows down at speed. It stretches in strong gravity. Two observers may disagree on how much time has passed, and both may be right. That will not be true. If these Observers are located in

a closed location, e.g. a galaxy, then the rate of passage of time here will be uniform for everyone. Even for the commander of the rocket who flies at ◊ c . But the rate of passage of time observed by the Observer from the ground, who observes the rate of passage of time on the rocket, will not be the same. The rocket will have its own system rotated and this will result in a distorted perception of the intervals of the rate of passage on the rocket, on the dimensions of the rocket system. Even an earthly observer will not observe anything about the rate on the rocket, he will only calculate it according to the formulas for time dilation. (according to the observed speed of the rocket, which he also does not observe directly, but observes the red shift, which again is not entirely correct, because the red shift will appear in the "y-z" plane from the beam from the "x" axis, where the "stretching of the wavelength" is measured, not the speed "v" directly... https://www.hypothesis-of-universe.com/docs/c/c_147.jpg Time, which was once considered rigid and objective, has become flexible and relative. Misunderstanding. On the rocket itself, the pace of time flows the same as on Earth, but the observer from Earth "observes" the change in the pace of time on the rocket, because he observes the change in the size of the time interval, which, together with the time dimension, has rotated = stretched = dilated. And as I said: the Earthman does not observe this either, but calculates the dilation on paper according to the "discovered" formulas. However, relativity still preserves something important. Even if time was bent, it still existed. There was still a past, a present and a future. They were only dependent on the observer. Quantum physics goes even further. At the quantum level, reality ceases to behave as a sequence of events taking place in time. At the level of Planck scales, the universe behaves in interactions in such a way that it does not care about the arrow of time. The arrow of time oscillates. Instead, it behaves as a system of probabilities, correlations and relationships which do not always respect the classical order. No. They respect the classical order, because that order says that in the macro-universe there will be a nonlinear OTR with one arrow of time and in the microworld there will be QM with both arrows, or as if the arrows did not exist at all – that is what the order of the universe says. Particles do not move along a single path. They exist in superpositions. They are neither here nor there, but both. And what is essential, their properties are not always defined, why not? until they are measured. An electron will have a negative charge even before measurement. And all the properties of particles exist even before measurement. This already challenges the idea of a fixed presence. But it also raises a deeper problem. If the properties are not defined until measurement, what does that say about the past? In classical thinking the past is resolved. And in non classical thinking, not anymore? What happened, happened. Quantum Physics
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does not always allow for this certainty. In some experiments, quantum systems behave as if their previous states depend on how they are measured later. Not because the past has changed, but because it was never fully determined to begin with. That sounds impossible because it runs counter to intuition. We assume that the universe keeps a complete record of itself, that every moment leaves a definitive history. Quantum mechanics suggests that this may not always be true. On fundamental scales, the universe does not have to keep a single objective timeline. It can only maintain consistency. This leads to a disturbing idea. The universe may care less about what happened before and more about whether the overall story makes sense. To understand this, we have to ask something even deeper. What does time actually do in physics? In the equations that describe reality, time does not flow. It does not move forward. It does not flow. It is considered a coordinate like space. A label that allows us to describe change, not something that changes itself. There is no equation that describes the movement of time. This creates a paradox. If time does not flow in equations, why does it feel like it does in our experience? One common answer is memory. We remember the past, but not the future. Because

: When you shrink to a microworld on the Planck scale, you won't remember the past and you won't remember the future either. This asymmetry creates a sense of movement. And a sense of the validity of the Principle of Alternating Symmetries with Asymmetries (which I invented). We feel time moving because our memories accumulate in one direction. But memory alone is not enough. A recording device also stores information, but it doesn't experience time. Something deeper is happening. Physics suggests that the arrow of time comes from entropy. And entropy comes from physical changes, i.e. the processes that matter "produces" in space-time. Not only entropy reigns, but also the opposite: jump order... and these alternate. Disorder increases. And sometimes decreases by jump... Systems evolve from ordered states to disordered ones. This gives time a direction. The direction of time in the macro-universe gives expansion = unrolling (in one direction) of that space-time. In the micro-universe we do not need the arrow of time (the universe does not need it there) because the arrow changes directions there. However, entropy does not erase the past. It only makes its reconstruction more difficult. Information spreads<, but it is not destroyed. And why would information spread? This raises a disturbing possibility. The past may still exist not as experience, but as information embedded in the current state of the universe. Information itself is a state (local state) of a cluster of curvatures of all six dimensions….and they are constantly changing…; therefore, information is not stored anywhere (in some landfill). If information is preserved, yes, if there is a landfill, then a "package" of curvatures of some cluster of dimensions is stored there and it is carried into the future, then each moment leaves a permanent imprint k. You call information an imprint, but…||imprint of what on what??|| You don't say that. I call it: a change in the curvature of dimensions. That is sufficient and understandable… Not in the timeline that is moving away from us, the timeline is not moving away, damn it… but in the overall structure of reality. The structure of reality is that variability of curvatures from place to place everywhere. From this point of view, the past is not gone. If it is written (that information on some "carrier", then it will not be erased). It is inaccessible. Quantum physics reinforces this idea. At the quantum level, systems are intertwined. **O.K**. Information about one part of the system is distributed to many others. O.K. the curvatures of dimensions are intertwined from one location to another… Over time, this information becomes impossible to obtain, but it still exists. Where? Nothing really disappears. It only becomes unreachable. That the universe is still creating depositories for the past?..? If this is true, then time is not a river carrying away moments. It is not. Time is a sequence of intervals that an object produces by moving "along the time dimension". Then the question is "which time is valid"? I mean that: all over the globe all >inhabitants< perceive the same pace of time passing due to the Earth's movement along the time dimension, i.e. along a bundle of time dimensions in one direction. Then this pace dominates everyone on earth. People also move on earth, along the time dimension they realize "their pace of passing" but…but this, these intervals are insignificant compared to the shift of the entire globe in the galaxy and it in turn moves in the intergalactic environment along time, along time dimensions with other cut intervals, (which dominate, i.e. for the Observer "above the galaxy" time passes again at a different pace than inside the galaxy and at a different pace on Earth). <u>This interpretation needs to be improved, I am not omniscient</u>. It is a static structure where change is a pattern in it. Some physicists describe the universe as a block. I as a location, a set of locations… Past, present and future exist simultaneously. There is no destination now. The present is simply a point on the block where consciousness is located in the block universe.

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(02)- Asking where the past went

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makes no sense. It is still there, just not where you are. This idea feels deeply counterintuitive because it contradicts experience. We feel time passing. We feel the present updating. We feel the future approaching. Physics does not deny these feelings. It suggests they may be emergent. From inside the block, motion feels real. From outside, nothing moves. Quantum physics complicates this picture further. In a block universe, everything exists. But quantum mechanics introduces uncertainty. Outcomes are not fixed. They emerge probabilistically. How can a universe where everything exists also be uncertain? One answer is that the block is not a single fixed structure but a collection of possible structures Multiple consistent histories exist and what we experience is one path through this landscape. In this view, the past and future are not illusions. They are selections from a space of

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possibilities. The present is where these possibilities become correlated with us. This suggests that time is not fundamental. What is fundamental are relationships between events. What we call past and future are ways of organizing these relationships from a limited perspective. The illusion is not that time exists. The illusion is that it flows. From the universe's point of view, nothing moves. From ours, everything does. As we approach 2026, these ideas are no longer just philosophical. They influence how we think about causality, free will, and reality itself. If the past still exists and the future already exists, then cause and effect are not simple chains. They are constraints within a larger structure. This does not mean the future can influence the past in a simple way. It means both must fit together coherently. Quantum experiments that seem to show future measurements affecting past behavior may be revealing this deeper consistency. The universe

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does not allow contradictions. It does not care which direction time points as long as the overall pattern remains consistent. This reframes the mystery. The question is not whether the past exists or whether the future is written. The question is whether time itself is something the universe experiences or something only we do. Our brains evolved to navigate change. We experience events sequentially because that is how survival works. The universe does not need this perspective. Time may be a feature of consciousness interacting with a static or probabilistic structure. This does not make time unreal. It makes it local. Just as temperature is real but only meaningful for large systems, time may be real but only meaningful for beings like us. At the deepest level, reality may be timeless, not frozen but complete. In such a universe, the past and future are not places you travel to. They are parts of a structure you move through. The

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illusion is not that time exists. The illusion is that it is fundamental. Physics has not yet unified quantum mechanics and gravity. When it does, time may change again. Some approaches to quantum gravity suggest that time disappears entirely from the fundamental equations. If this is true, then time emerges only when the universe becomes complex enough to observe itself. We are not moving through time. Time is emerging through us. The past feels fixed because it is encoded. The future feels open because it is not yet correlated with us. But both may exist in a deeper sense. In 2026, physics does not have a final answer. But it has already shown that time is not what it seems. The mystery is not how time flows. The mystery is why we experience it at all. Perhaps time is the way a

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timeless universe feels from the

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(02)- Asking where the past went

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doesn't make sense. O.K. the cluster of dimensional curvatures is not preserved… It's still there, just not where you are. This idea seems deeply counterintuitive because it contradicts experience. We feel time passing. Yes, we feel it, but we don't perceive that we feel "our own shift along the stationary time dimension"… We feel the present being actualized. We feel the future approaching. We feel how the cluster of temporal dimensions (curvatures) will change "into the future" and not only one temporal dimension, but also the shift of length intervals "along length dimensions"… Physics does not deny these feelings. It suggests that they can be emergent. O.K. A person himself has an influence on those constantly "going" changes in dimensional curvatures in his surroundings… From inside the block, the movement appears real. From outside, nothing moves. And isn't it the other way around? !!!! Think about it! I do not observe “my own movement” on myself, I do not perceive it, but I perceive the movement of the rocket. And on the rocket, they do not perceive their movement. Quantum physics further complicates this picture. In a block universe, everything exists. But quantum mechanics introduces uncertainty. (?) The results are not fixed. They arise probabilistically. How can a universe where everything exists also be uncertain? One answer is that a block is not a single fixed structure, but a set of possible structures. There are multiple consistent histories, and what we experience is one journey through this landscape. From this perspective the past and the future are not illusions. They are selections from a space

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of possibilities. From this perspective/point of view, you are in the position of an “outside” Observer, who perceives the flow of time in one direction. If you are an Observer “from within, i.e. in micro scales, you perceive “omnidirectional flows”, i.e. transformations of curvatures, on micro scales… The presence is the place where these possibilities connect with us. This suggests that time is not essential. Time is essential, but the rate of flow may not be essential… The relations between events are essential. O.K. What we call past and future are ways of organizing these relations from a limited perspective. The illusion does not consist in the fact that time exists. The illusion consists in the fact that it flow. Yes, and it flows because…because we flow “through time”, through the time dimension. From the perspective of the universe, nothing moves. From the perspective of the universe, everything moves, it is a stew of movements…; the “external observer” always observes nothing on himself but observes events, movements, interactions on surrounding objects. From our perspective, everything moves. Sure, because we have fitted into the “outside observer.” As we approach 2026, these ideas are no longer just philosophical. They affect how we think about causality, free will, and reality itself. If the past still exists and the future already exists, then cause and effect are not simple chains. They are constraints within a larger structure. This does not mean that the future can affect the past in a simple way. The future does not affect the past… It means that the two must fit together coherently. Quantum experiments, which seem to show future measurements affecting past behavior, may reveal this deeper consistency. The

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universe does not tolerate contradictions. I am not sure about that… It does not care which way time points, as long as the overall pattern remains consistent. But the Observer cares which “slice” of the universe he observes, whether he is in the field of galaxies or in the field of Planck scales… This transforms the mystery. The question is not whether the past exists or whether the future is written. The question is whether time itself is something that the universe experiences, or something that only we experience. The answer to the question is that if the universe “experiences” “something”, then it perceives “its dimensions” as stoic and…and if it (that universe) experiences its surroundings, it perceives the displacement of objects along dimensions (length and time), which leads to the curvature of dimensions and thus to the production of matter and thus to the interactions of matter. The Observer always perceives its stillness and observes movement on the outside. Our brains have evolved to

orient themselves $\boxed{\text{in changes}}$. O.K. … in changes in the curvature of dimensions… We experience events gradually, because that is how survival works. The universe doesn't need this perspective. Time can be a feature of consciousness interacting with a static or probabilistic structure. That doesn't make time unreal. It makes it local.
Local time is…of course, there is always a different pace of time in each of its locations. A location is always that which has “something in common, a common denominator” everywhere inside…there can also be a location in a location, etc. Just as temperature is real, but meaningful only for large systems, time can be real, but meaningful only for beings like us. Each narrator can “describe the same reality with his own description”. At the deepest level, reality can be timeless, not frozen, but complete. In such a universe, the past and the future are not places you travel to. They are parts of the structure you move through. ||The illusion|| is not that $\boxed{\text{time exists}}$. $\boxed{\text{The illusion}}$ is that $\boxed{\text{it is fundamental.}}$ So it doesn’t have to exist, but it has to be fundamental, right? Physics has not yet unified quantum mechanics and gravity. Because it is unnecessary. Why unify a parabola with an ellipse (into a single equation) when both are sections of a conic… When that happens, time may change again. Some approaches to quantum gravity suggest that time will disappear from the fundamental equations completely. If this is true, then time will appear only when the universe becomes complex enough to be observed. We do not move through time. On the contrary. The universe is expanding, i.e. spacetime is expanding = the size of a unit interval is changing. When the Observer “stands” on spacetime (on a system of dimensions x,y,z,) which itself is expanding, i.e. changing curvatures, i.e. changing (imaginary) intervals, then it will be necessary to perceive the sum of “positive intervals” of global expansion and intervals of “proper shifts” (positive or negative) along the dimensions of the main x,y,z, system. Perceive that, think about it carefully!! … !! So I basically said that if the Observer himself does not move along the time dimension, time will still pass for him, the time “since the expansion of the global”. In the microworld we will add positive and negative time intervals with the “main interval” I have a necessary interruption of the explanation, I will come later. Time appears through us. The past seems to be fixed because it is encoded. The future seems to be open because it does not correlate with us yet. But both can exist in a deeper sense. In 2026, physics does not have a final answer. But it has already been shown that time is not what it seems. The mystery is not how time passes. The mystery is why we experience it at all. Because according to the PSSSA Principle we have to move = shift along the dimensions of the substratum of 3+3 space-time… Maybe time is the way in which
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the timeless universe perceives itself “timeless” is nonsense. If you spoke properly, you would have to interpret time more precisely, i.e. say 'the pace of passage of time intervals' on the Stoic time dimension. The universe is not "timeless", time is a quantity and it has 3 dimensions. And along those dimensions we-objects **a)** move…. or **b)** the Stoic dimensions begin to curve, which the "Stoic Observer" perceives as a change in the sizes of the intervals, i.e. perceives a change in the pace of passage of time from

A summary at the end: "What is time"? Time is a sequence of intervals on the time dimension, which an object "produces" by its shift along the dimension (time).
Definition: Time does not run for us, but we run for it, (along the time dimension = on the time dimension).
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Thank you for your attention.
JN. 11.01.2026

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Quote: And what do you think about the idea that time has more than one dimension?
My reaction: What I think I've been saying on the internet for 25 years, namely that the universe has 3+3 dimensions and that the universe builds matter after the Big Bang by "packaging" these six dimensions...