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Nobody Knows What TIME Really Is. But it might be this...

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Premiéra: 6. 11. 2021
Here's my comment with the red nipples

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This video is sponsored by Wondrium. Stay tuned to the end for a special offer for Arvin Ash viewers. Time is as sure a thing in our lives, and in the universe as you can get. There is no escaping it. We have come to accept with no other choice, that time will flow forward, one moment at a time. It can never go backwards, we can never revisit our past. But why is it this way?* HDV says ***why*** !! If you go down to the subatomic level, into the realm of quantum mechanics, time does not appear to have such an uncompromising direction of flow. The equations of quantum mechanics are generally time symmetric. They don't seem to have a flow preference. You might say they are time agnostic.And even at the macroscopic level, if you watch a film of a bouncing ball, and then you play the film backward, it will not be so easy to tell the difference.* I understand, yes - in microscales there is a chaotic flow of time like Brownian's motion and thus the motion "along longitudinal dimensions", so it is the "foam of dimensions" 3 + 3 D in the eyes of a "distant" observer. On a macro scale, space-time is already much expanded into "parabolic curvatures (but also other curvatures which, when" added ", are parabolas. one single parabola) (like…, like all right triangles are unequal, and there are infinitely many, only one triangle is unequal…, it's like saying that "all physical" states in the universe are inequalities, not equations, billions of states are non-equations, but only "one state - mathematical state", a rare state, is an equation. This process also appears to be symmetric in time.* Yes, 3 + 3D chaotic foam is symmetrical in time, even in the expansion and collapse of the length dimension. But, as we all know, this is not quite 100% correct, because at the macroscopic level, the ball will encounter friction and heat from the bouncing, and will be losing some energy with every bounce.* Friction, energy, etc. do not play a crucial role in this, but the "curvature" of dimensions… the ball will not return in the macro world, in the macro scale to quite the same spot as its starting point. The ball player will be making up for this by adding energy from his arms to the ball. Yet, In quantum mechanics, it's just as natural to go forward in time as going backwards.*O.K. And if we look at a typical Feynman diagram, we can turn the diagram either way.*O.K. They are symmetric with time. It doesn't matter! So, if the world is based on quantum mechanics, and quantum mechanics generally doesn't have a direction of time, why is time then going forwards in our macro world ? * !! Therefore, what I keep saying: the universe unfolds from the state of space-time foam (it is symmetrical even for the flow-passage of time) is linear to the state of macroscopic space-time already little curved in which a little more crooked states of the field "float", and even more crooked states are matter… they are conglomerates of "packed bundles" of dimensions into units not of foam but of foams born in that foam and they will / are elementary particles of matter Where does this transition from time symmetry

at the quantum level, to time asymmetry at the macro level occur? * This is exactly the right question: how does the linear "foam" of dimensions change into a nonlinear "gravitationally curved" global space-time in which galaxies and gases and other states of matter made as "compacted" macroforms also float from dimensions 3 + 3D space-time unfortunately. I'm not a good mathematician and I can't describe it mathematically… and no one in 20 years of pleading the Internet has helped me. It begs the question, what is time anyway? * The "Time" artifact (which presents itself in three dimensions, let's call it ***"timeon***") is the same as the "Length" artifact, which also presents itself in three dimensions and is called ***space-on***. (*) How did it begin, and will it always go forward? That's coming up right now…The nature of time is one of the quintessential mysteries of the universe. To understand its irreversibility, we have to look for other irreversible processes in nature to see if there is any correlation. One such irreversible process is in thermodynamics. We are particularly interested in the second law of thermodynamics which concerns the direction natural processes. * In macro scales, 3 + 3D expands-unwraps-unfolds, not collapses-backpack-packed …, expands means that the flow-flow of time "runs" here in one direction…, we-objects "run" along the time dimension and cut intervals on it, and that's the passage of time. If we-macro-objects wanted to cut "back-back" intervals, it would be an unobservably small interval, ie a shorter interval in the order of 10^8, because we-humans are in the position of the universe those 8 orders of magnitude less sensitive… it can be realized by the magnitude of the speed of light $c = 10^8 /10^0$ → this is the human asymmetry "" sensitivity" "" for the length interval and the time interval. We humans travel the universe at length intervals and also cut forward on these three expanding global dimensions - back, up - down, left - back to the right, but the sensitivity is 8 orders of magnitude different from time !!!!!!!! !! ; in time we also "run intervals" forwards and thermodynamically and backwards, but we have never measured those intervals, they are 8 orders of magnitude "backwards" smaller, incomparable with those "forwards" in the direction of the aging arrow = expanding global space-time. It establishes the concept of entropy as being restricted to either staying the same or always increasing. * O.K., but it can also shrink: the processes of complexing mass structures. In the ganesis of the structure of matter from big-bang, a sequence of increasingly complex and complex structures is realized, from atoms, through molecules and through compounds to macromolecules to DNA - this is a process "against" enrtopia… What is Entropy? In very simplistic terms, it is a measure of disorder.* DNA is a measure of order, contraentropy. Thus, the higher the entropy of a system, the higher the disorder. And the second law of thermodynamics tells us that for every ?? process that occurs in the universe, the universe will be either more disordered, or at least as disordered as it was before. * Then there must be another third non-thermodynamic law, which produces quarks and leptons first after the bang and then increasingly complex matter to organic matter and DNA. There is no process that will result in the universe being more orderly overall. * Wrong !!! None ??? process ??? Wrong! On Earth, we see around us almost all the processes that lead to the order of matter and not only that matter !!!!! Only World War 3 will lead to the destruction = entropy of not only organic matter. Now, as I said the idea of disorder is a simple way to understand it, but a more rigorous definition of entropy has to do with information. In more precise terms, entropy is related to the amount of information necessary to describe a system.* How much information did the first internet network of Bill Gates have and how much does today's system have what is beginning to think for itself - cybernetics? !! Let's say a we are looking at a neatly cleaned room.This requires relatively little information to describe, We have a chair here, a lamp there, a curtain behind the chair, etc.But now, if it's a messy room, then it will take more information to describe it.Like a green shirt draped in a complicated way over the arm, blue shirt resting over the arm of the chair and green shirt, etc. This disorder requires more information to describe.* Disorders are evolutionary, see Darwin, disorders also lead to new laws of interaction… and disorders mean

that NEVER in the Universe there is a physical equilibrium of states, or a mathematical equation, there is a law of alternating symmetries with asymmetries. In the same way, a highly ordered system, let's say like the two different gases represented by the two colors, separated on sides of a chamber, requires much less information to describe than the same number of particles randomly mixed together in a larger volume. Entropy increases as the system become more disordered because it takes more information to describe. Thus, information is directly tied to entropy. And if entropy of the universe is always increasing, it means that the information necessary to describe the universe must also be increasing. And this may give us a kind of clue as to why time is going forwards.* That's not enough, there are more clues. E.g. The universe not only expands, but also collapses, in the localities of global space-time (galaxies) and in the localities of space-time of the microworld (boiling vacuum, virtual vapors, interaction of matter with matter and fields *for example higgs-boson, higgs field, interacts with intangible particles, to "give" them weight, how "professionally" the higgs-mechanism explains .. .. um, um ?!..* um, um ?! How you may ask? Imagine again that we have two gases on the two sides of a chamber. Now we open the middle of the chamber to allow the gases to mix.They'll mix together to make a kind of purple gas.

This process only goes one way, from an ordered state of two separate red and blue gases, to a disordered state of a purple gas – a mixture of both gases. The key point is that this process is not time symmetric. The process is only one-way. It evolves from one state to the other, and you cannot go back to the prior state. Does this remind you of the forward only progress of time – the fact that you can never go backwards in time? Now, it's important to point out that it is not impossible for the mixture of gases to go back to the prior ordered state. But the problem is that there are so many possible places for the particles to be in the box, that the probability for all the red gas particles to be in one part of the box, and all the blue gas particles to be in the other part of the box is effectively zero. It is a statistical impossibility. It's not as if the reverse process doesn't exist; it's just suppressed. It doesn't happen. So now the question is does increasing entropy cause the forward flow of time? Time and entropy seem to be related. * Attention: perceive, realize that "**TIME**" is a quantity-artifact-phenomenon http://www.hypothesis-of-universe.com/docs/c/c_384.jpg and "**time**" as a "flow-flow" of time is a completely different concept… it is "cutting intervals on the time dimension" But how do we know one is the cause of the other? (**) Couldn't it be equally possible that time is the cause of the one way direction of entropy, instead of the other way around. * "time", in the sense of flow, time with a small "t" is the cause of both **:** both **entropy** and the **complexing** of matter, both must be seen separately. Entropy says that you can scramble and egg, but you can't unscramble it. The disordered state of the egg cannot go back to its original ordered state. Sure, this makes sense. But if you could reverse time, that is, if you saw a video of a scrambled egg backward, you would see it going back to its original ordered state. So what causes what? Does entropy cause time? * No, **a)** the flow-passage of time is something other than **b)** "the time-quantity physical = artifact-the phenomenon of Being. Entropy is a different view and complexity is a different view. Let us assign entropy to the flow-time arrow "right" and decompose we assign entropy to the flow-time arrow "left" and… and not only decomposition is the process of "mixing right and left arrows". Or does time cause entropy? If increasing entropy was directly responsible for the forward flow of time, it would be logical to presume that decreasing entropy would cause the backward flow of time.* O.K. but in a ratio of $10^8 : 10^0$. For a photon flying in both expanding space and expanding time, the ratio of "expanding" intervals is **c = 1/1**. ((these are the units chosen by the Universe itself)) But in our position of the Earth in the Universe it is c = $10^8 : 10^0$. Our position in space-time is "somehow off the axis" of expanding a bit to the side There are pockets of decreasing entropy everywhere. For example, the inside of your

refrigerator decreases entropy by removing heat, that is, cooling the inside. But time does not run backwards inside your refrigerator. It still runs forward. If you don't believe me, place a watch inside and see what happens. Note that the second law is not violated here because the overall entropy still increases when you consider the whole system of the refrigerator and the room that it's in. Your refrigerator doesn't work unless it's plugged in. It uses energy to run a compressor that provides the cooling. This creates more heat outside the refrigerator than the heat removed from inside. To understand the link to time, I think we need to get a better understanding of what time is.O.K. The problem is that we don't really know what it is, except that it happens to exist, * foul;… we know little about time, almost nothing. "Time" is a space-creating instance = an artifact of the same stature as "Length" is space-creating. http://www.hypothesis-of-universe.com/docs/eng/eng_024.pdf In the abstract sense, "time" is "antidote" and "length" is "antiquity"… that there are two sides of one coin. So protest: time is not something that happens to exist, on the contrary. and processes appear evolve from the past to the future. What's the definition of time? !! The best answer in physics is that **time is the process** * no no, ; Processes are changes that happen "in time" = over time and not only in it. Time is not a process, Time is a quantity and time-dimensions are "subsoil-network-yarn-raster-stage-" on which "processes" take place, time itself is not a process. If "time is a process", then it would have to have the statement: "space is a process", the same value as time is a process. that brings the unknown future into a recorded past via the present. If you think about it, this requires an increase in information * certainly; the increase of information "about changes" of all, ie changes not only in time, but also in material and spatial and changes, even changes in laws…, ie new laws are born. because every second, every moment that goes by is recorded as a definite past which are events that have definitely happened.* Even every form of curvature of space-time that has "been" is gone is different from the new state of "present" (the state of matter and its configurations) and the new state in the future. This was not knowledge until it happened. When it happened, it became new information and thus added to the total information in the universe. More information is more entropy. And this could be related to the flow of time, according to some theories. Physicist, **Lee Smolin** suggests in **a 2021 paper**, that what distinguishes the past from the present is a kind of knowledge that is gained once indeterminate quantum events consisting of only probabilities in the present, become a classical definite past. According to **Lee Smolin**, the past is completely classical. * Try to think like this: Before the Big Shake, the universe was just a smooth infinite space-time without matter, without a flow of time and without expansion (because it was infinite in 3 + 3 dimensions). Then came the abrupt change of the "previous state" to the "subsequent state" = our "crooked universe" with matter and physical fields, and with the expansion of time and the expansion of lengths-space, by… ?? to what ? Either it is that it expands "into Nothing" anebo, or "our crooked space-time with matter" floats in the original flat Euclidean raster-network-fabric 3 + 3D… and then the "present" flocks to the "future not from Nothing ", and the past is already a deteminist state, the future is not known as the" changes in the curvatures of dimensions "creep. The past is "preserved" as the changes have evolved and become and take place, they are definitive, yes; The future is the changes that will occur… Sure, but we know that for 2000 years. This is not a new knowledge for understanding the "time" of the full, nor for understanding the idea that "time does not pass to us, but we flow to it." Furthermore, talking about entropy or "becoming" (Heidegger) will not help us know the other "behaviors" of time: whether it has the same pace throughout the history of the Universe, whether the pace of time does not change at different stages of history… whether the pace of time is the same "All over the universe" or locally, in many spacetime locations of the universe different. It will not help us to find out "why" the rate of passage of prawa's time is as we have it on Earth. It will not help us to further investigate why the pace of time on Earth is the fastest and it is said to be slower and slower everywhere else

(see the statement of the Czech Prof. Kulhánek) It will not help us to find out whether time also has dimensions. It will not help us to further investigate "how time curves" and where and what follows. It will not help us to find out what behavior time has in the "anti-world", ie in the second quadrant of the Universe "behind the gate". Etc. They are no longer probabilities. They are definite.They have already happened.They cannot unhappen. * The question of "what" can become the same from the past and what cannot. This is also not exhaustively stated. Some states "in the package" are repeated without change. However, the future is quantum.* ???? Although the Universe needs probabilities, as well as QM, to produce the future, this does not mean that it does not need, for example, gravity or elementary matter, which is unchanged since the Big Bang. (The electron is still the same for 13.8 billion years and will continue to be so). So the future is not just quantum. It consists of probabilities.* Not only that… It is still unfolding. So what seems to separate the past from the present is whether it is knowable or not: whether it has become actual knowledge, something for which we can say, "yes, it was like this". So according to the paper, the change from a quantum indefinite present to a classical definite past is what defines the arrow of time.This points always in the forward direction as the quantum present constantly churns out a classical past. The future is also quantum according to Smolin. * ? At the quantum level, the future is quantum, at the global gravitational level, the future is different It consists of only possibilities. So we are living constantly in the very moment where probabilities become actualized, and reality becomes imprinted in the past as actual knowledge.Although Smolin does not talk specifically about information in his paper, if one interprets actualized knowledge as a kind of information being added to the universe, then perhaps, this is the link that connects entropy to time.

If Smolin is correct and the arrow of time is due to indeterminate quantum events becoming the classical past…and if this knowledge is leading to more information constantly being created, then entropy in also increasing. * http://www.hypothesis-of-universe.com/docs/h/h_030.pdf And since the classical definite past becomes known, and cannot go back to being unknown, time cannot be reversed, * The passage of time in one direction cannot be reversed to the opposite arrow only on a macro scale. At the microscale on the Planck scales of the "world of quantum mechanics", this is possible, for example by "3 + 3D packaging, which leads to the production of matter, and of course to interactions in which the normal arrow of time is opposite http://www.hypothesis-of-universe.com/index.php?nav=e and entropy also cannot be decreased. They all go one way. Quantum becomes classical, Information increases, entropy increases, and time flows only forward.Note that although it is established that information is related to entropy, both Smolin's paper and my extrapolation of his paper to information are not established theories, but conjecture. So you should take this only as food for thought.*O.K. We don't really know what time is, * we know it, we just don't know everything about it but we are quite sure that that entropy is increasing in the universe, and thus it's getting increasingly disordered. * No, it is also organized, not only disorganized → http://www.hypothesis-of-universe.com/docs/eng/eng_009.pdf ; http://www.hypothesis-of-universe.com/docs/g/g_041.pdf ; http://www.hypothesis-of-universe.com/docs/aa/aa_078.pdf . This means that entropy must have been much lower earlier in time, especially near the big bang.* The disorder and complexity of states arranged are two different perspectives. How did the universe get to this low entropy, super orderly state at the beginning? http://www.hypothesis-of-universe.com/docs/aa/aa_078.pdf This is a mystery.* It's not a mystery, the understanding that it's not a mystery is obvious here http://www.hypothesis-of-universe.com/docs/eng/eng_009.pdf But it brings our discussion of time to the scale of the universe and cosmic time.* I wish my endless, beating, sad

monologue (20 years old) was also one of a discussion-dialogue. Will time continue to flow forward forever? To understand this, let's consider that entropy is also more precisely the conversion of usable energy, to useless energy. Gasoline or Petrol has more useful energy than the byproducts of burning it, which is heat and the gases in the exhaust of your car. This type of process is happening everywhere.Your body is burning sugar and turning it into less useful heat energy, for example. The light bulb in your home is converting useful electricity to less useful light and heat. These processes are going one way. And this also leads to the concept of heat death of the universe. If the entropy only increases, one hypothesis is that one day the universe will be in a state with no free or useful energy. * I repeat and I repeat: The universe expands and collapses "simultaneously", expands globally and collapses in mini-localities…http://www.hypothesis-of-universe.com/docs/aa/aa_116.pdf V At this point the universe will be just full of radiation and heat that can't be used to do any work. If this is the case, then nothing can happen. No physical movement, no chemistry, not even thoughts in brains. So ironically the heat death of the universe is also called the big freeze. Nothing can move anymore. If nothing happens in the entire universe, and not even thoughts or consciousness can exist, does time still continue to move forward ? * No. In such a universe, where nothing happens, there is no and there cannot be-matter, and such a state was before the Big Bang, it was an infinite "standing inert flat space-time 3 + 3D" without fields, without matter, without passing of time, without expansion. I'm not so sure. What we really need is a new theory of time * Yes, I've been talking about it for many years all the time, but no one reads it, or even "doesn't notice" ???? that can be tested and verified to be correct. **My dream is that** a someone watching this video right now, comes up with such a theory, and changes the world. * Please read it. It's HDV. If you want to explore the physics of time in detail, one of best courses I have come across is on Wondrium,* (HDV is also on the web) today's sponsor, called **"Mysteries of modern physics : Time". *** But why not work on this mystery anymore ???? I have given so many stimuli to the plenary! (and I was insulted by ridicule in the Czech Basin) It's taught by one of my favorite science educators, award winning professor, **Sean Carroll**. * I have been sending him a letter for 20 years, sometimes, a letter (approx. 5 letters in total)… and he probably never opened it or added a letter to him, he did not read it, otherwise he would - even out of decency - call. His course takes you on a mind-bending journey to explain how something you take for granted every moment of your life connects you to the very first instant of time at the big bang, how the past, present and future could be equally real, and how you actually live 80 milliseconds in the past. You can not only enjoy these great lectures by professor Carroll, but also from some of the best educators in the world.You'll be hard pressed to find a better online learning service than **Wondrium**. I myself have been a member of for a long time. I can't recommend them enough.You'll even see my testimonial at the bottom of **Wondrium's** home page. * I've never read about it, today I see it for the first time. And I'll look into it. It will probably be unattainable for me because I do not speak English It's really easy to sign up right now because they are offering a free trial, and you can cancel at anytime, so you have nothing to lose, but a lot to gain. If you want to support this channel, and greatly expand the depth of your knowledge, be sure to click the special link in the description.And if you have any questions or comments for me or other viewers, please leave them in the comment section below. I try to look at all of them. ??? * We'll see ... whether it's also on my notes with my HDV. I'll see you in the next video my friend.

JN, coment 09.11.2021