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Why The Theory of Relativity Doesn't Add Up (In Einstein's Own Words)

Proč teorie relativity nesedí



Dialect

68,7 tis. odběratelů

122 636 zhlédnutí 24. 6. 2023 [Philosophical Foundations of Relativity](#)

Relativity is as successful a theory as it is mind-bending - yet Einstein himself did not believe it was complete, and in a 1914 paper he critiqued its internal consistency at some length. Indeed, at one time or another we have all found ourselves in a state of healthy skepticism about the tenets of relativity, seemingly confronted by a mysticism of warping space and time that is nigh impossible to wrap one's head around -- and so here we find ourselves compelled to ask the same question Einstein did over a century ago: is the theory of relativity truly consistent, and if not, what does this mean for its future?

122 636 zhlédnutí 24. 6. 2023 Filosofické základy relativity Teorie relativity je stejně úspěšná jako ohromující teorie – přesto Einstein sám nevěřil, že je úplná, a v článku z roku 1914 její vnitřní konzistenci do jisté míry kritizoval. Vskutku, někdy jsme se všichni ocitli ve stavu zdravé skepse ohledně principů relativity, zdánlivě konfrontováni s mystikou deformace prostoru a času, kterou je téměř nemožné zabalit – a tak zde jsme nuceni si položit stejnou otázku, jakou Einstein před více než stoletím: je teorie relativity skutečně konzistentní, a pokud ne, co to znamená pro její budoucnost?

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(01)- Special relativity has undoubtedly been one of the most successful theories to emerge out of recent history not only has the theory correctly predicted new phenomena but also in complementing more sophisticated theories like general relativity or Quantum field Theory it has helped enhance our understanding of both the very large and the very small but despite all this it can be an intuitively jarring Theory and Einstein himself was in fact never fully satisfied with it writing in 1914 that the theory suffered from what he termed an undeniable fundamental defect but what was this defect exactly and how did he propose to overcome it this is dialect and today we're examining why relativity doesn't add up [Music] Of Axioms & Absolutes every scientific theory is predicated upon certain unprovable statements known as axioms the axioms of classical mechanics essentially Newton's three laws more or less reflect intuitive beliefs about our everyday reality I.E that motion is related to causality and force to motion and action to reaction Etc but unlike those axioms the central Axiom of special relativity that light travels at the same speed in all inertial frames is something of a head scratcher it tells us that no matter what velocity observers are traveling at with respect to one another they will all measure the same speed for any given beam of light unlike Newton's Laws this Axiom hardly seems to follow as a consequence of any intuitive ideas yet by

adopting it Einstein was able to achieve quite a lot unite electricity and magnetism under one framework show mass and energy were of the same form and dispense with the need for an unobservable ether but possibly the greatest Allure this Axiom held for Einstein was that it promised to overturn the absolute space and time of Newtonian physics Einstein was an avid devotee of Ernst Mach ! NO Mock the philosopher who had stressed that all laws in physics ought to concern the relative motion of bodies and not their motion as referred to some theoretical absolutist construct indeed by asserting the constancy of the speed of light Einstein felt he was achieving Mock's Czech word "Mach" vision of a relative space and time but there was one thing he knew his new Theory didn't yet relative eyes motion this was because it relied on an implicit definition of observers being inertial meaning unaccelerated in order for them to measure a constant speed of light this quality of being unaccelerated was not relative to individual observers but rather somehow an objective fact already agreed upon between all observers meaning it was absolute but Einstein recognized right away that this absoluteness meant the existence of an internal tension within his theory if motion was defined through space and time and space and time were relative then how could motion be anything but relative indeed Einstein's immediate intuition told him this meant the theory of special relativity was incomplete sure he had framed the laws of physics to be independent of any particular velocity but this had already been a feature of Newtonian mechanics into Conformity with Which special relativity merely brought the laws of electromagnetism to Einstein true relativity meant the relativity of all motion not just the relativity of velocities Einstein Calls Out His Own Theory for that reason in a 1914 paper entitled on the relativity problem he wrote that he felt special relativity suffered from the same undeniable fundamental defect that Newtonian physics did that is that it relied on a notion of absolute acceleration in order to complete its formalism so why do we care whether a formalism invokes absolute acceleration or not well as Einstein pointed out in his paper it's because absolute acceleration is undefinable one would try in vain to explain what it is that one should understand by the pure and simple acceleration of a body one would succeed only in defining the relative acceleration of bodies with respect to each other indeed to make a statement about any sort of motion meaningful be it velocity acceleration jerk Etc you have to specify what you're moving relative to for instance if you say you're accelerating in a car you're implying that you're accelerating relative to the ground but if that ground were say actually the deck of a boat accelerating equally and oppositely over a body of water then relative to someone on the shore you'd actually be at rest Defining "Absolute" Acceleration no physicist in their right mind would of course admit that you could have acceleration which is not relative to anything and So formalistically speaking the answer to this problem is to define absolute acceleration as meaning acceleration relative to an inertial frame but of course inertial frames are defined via an absence of acceleration so this definition is horrifically

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(01)- (01)- The special theory of relativity has undoubtedly been one of the most successful theories to emerge in recent history, not only has this theory correctly predicted new phenomena, but also by complementing more sophisticated theories such as general relativity or quantum field theory, it has helped to improve our understanding, both very large and very small, >but for all that it can be an intuitively disturbing theory< and Einstein himself was never really fully satisfied with it, writing in 1914 that the theory suffered from what he called an undeniable fundamental defect , but what exactly was the defect and how did he propose to overcome it this is a dialect and today we examine >why relativity doesn't add up< [Music]

It will be new: $m_1 \cdot c = m_3 \cdot v_3 = m_4 \cdot v_4 = m_7 \cdot v_7 = m_n \cdot v_n = m_\infty \cdot v_0$

And this situation with "new" units can already solve the >problem<

$$m \cdot v = m_0 \cdot c \rightarrow m_n \cdot v_n = m_1 \cdot c$$

$$\infty \cdot 0 = 1 \cdot 1 \rightarrow \alpha \cdot \beta = 1 \cdot 1$$

This reasoning was just a prelude to the explanation of matter, which is built by "Mr. Universe" from the dimensions of the two quantities "Length" and "Time", by means of the >curvature< of dimensions, unlike Newton's laws, which this axiom hardly follows as a result of all intuitive ideas, yet by accepting them Einstein was able to achieve quite a lot of unification of electricity and magnetism into one framework, **showed that matter and energy had the same form and got rid of the need for an unobservable ether**, Ether as a physical entity deleted, sure, but "today's" *chosen system of geometric coordinates*, in which we "place" all physical reality, is actually the same as ether ?? !!, yes or no ? but perhaps the greatest attraction this axiom had for Einstein was that it promised to **overturn** "what did he mean"?, **how the axiom >overturns< ?** absolute space and time Newtonian physics. Einstein was an ardent devotee of Ernst Mach, who mocked the philosopher who emphasized that **all laws in physics should concern the relative motion of bodies and not their motion**, as some theoretical absolutist put it. Einstein felt he was reaching Mach's **Mach's. Czech pronunciation, it was a Czech** vision of relative space and time, but he knew that his new theory did not yet move with relative eyes because it **relied on the implicit definition that observers were inertial, which means not accelerating** in order to measure constant speed of light, this **quality of non-acceleration** was not relative to individual observers, but **rather in some way an objective fact** on which all observers already agreed, meaning she was absolute. (*) Your entire difficulty with understanding relativity and therefore also with understanding "non-acceleration" (inertiality) is that you replace the falseness of space-time with relativity, i.e. by ordering that acceleration must be understood relativistically, although this is not necessary. Each acceleration of the movement means "turning around" in the movement, i.e. it is not necessary to change the directness of the accelerated movement. The author writes here: UNACCELERATION WAS NOT RELATIVE, i.e. as if the author wrote: accelerations were relative. No, the acceleration rotates the test body's own system relative to the base Observer. It is objectively proven by STR. No dilations (of time) or contractions (of lengths) exist in the rotated system of that test body, but...but only the basic Observer OBSERVES (from his chair) the dilations and contractions that "arise" (for him) due to the rotation of the system = non-inertiality of that motion of the test body bodies. In order for the test body to accelerate, i.e. to change inertia into non-inertial, it must either a) rotate its system or b) be gifted with the supply of energy for acceleration (which is the supply of the curvature of the dimensions of the network in which it flies); therefore, acceleration is from a different point of view, a non-philosophical **rotation of the system**, i.e. "curving" of dimensions. How can I explain this better?? And every curvature is mass-forming (that is, by the creation of energy) ... the accelerating system will rotate its system up to the limit of the speed of light $c = 1/1$, when it will "straighten out" the curvature of the space-time of its environment, the space-time network. A 3+3D non-curved environment, a basic network, a yarn where only photons fly (and there is no other matter in it), if it starts to curve, it starts to "give birth" to matter (packages of dimensions, that's matter). The basic non-curved 3+3D

environment remains "as a bedrock" and "curved 3+3D environment" will be recruited in it, "floating" in the basic and this curved environment (missiles flying around the Earth, or processes around black holes, etc. .. etc.), so this mass "got" a mass "m" and a velocity "v", which is also "curved", ((/ because the numerator is different from the denominator, and there is no $c = 1/1$ /)) and the "v" is constant, i.e. the motion is inertial, the system $\boxed{m \cdot v}$ is the inertial, unchanging curvature, and the variable curvature is "in matter", and even the "v" does not change the curvature of the dimension (or magnitude) in the numerator or denominator. If the object starts to change speed "v", its own system will start to rotate, because the "curvature of the dimensions" of the numerator or the dimension of the denominator changes... or if the object's own system does not rotate, the momentum of the >own system< will increase and "curve" will be the space-time around the object...; I don't know what is so incomprehensible about it that for 20 years >physicists< read it and just stare and stare. No one will say: no, it's not like that.

But Einstein immediately recognized that this absoluteness meant the existence of an internal tension in his theory, if **motion was defined** by space and time, and |space and time were relative|, then how could **motion** be something other than relative, of course..., if the bricks are relative and the mortar is relative, the barracks will also be relative..., of course. If a barrack (relative) is defined by bricks and mortar, those bricks and mortar will also be relative. – Tautology. Einstein's immediate intuition told him that this meant that the theory of special relativity was incomplete. It is not incomplete, but it is misunderstood. STR is a "poem" about rotating systems. He designed the $\boxed{\text{laws}}$ of physics to be $\boxed{\text{independent}}$ of any particular $\boxed{\text{velocity}}$, but that was already a feature of Newtonian mechanics in line with which special relativity only brought Einstein the laws of electromagnetism, **true relativity meant the relativity of all motion, not just relativity**. And what is "relativity" ??? in the concept of comparing relativity to absolute space-time ? Einstein invokes his own theory, which is why in a 1914 paper entitled **on the problem of relativity** he wrote that he believes **that special relativity suffers from the same undeniable fundamental flaw that had Newtonian physics**, namely that it relied on the idea of **absolute acceleration**. To complete our formalism, why do we care if the formalism induces an absolute speedup??, ?? Or it is wrong, as Einstein pointed out in his article, it is because **absolute acceleration is undefinable**, we would try in vain to explain what it is that one should understand by pure.., and the simple acceleration of a body could be successfully defined **only when defining the relative acceleration of the bodies with respect to each other**, to really make a statement about any kind of motion meaningful, be it the rate of acceleration of a jerk, etc., $\boxed{\text{you have to determine what are you moving towards}}$ for example when you say you are accelerating in a car, you are implying that you are **accelerating relative to the earth**, (**and the earth is accelerating relative to what?**), but if this the ground was actually the deck of a ship accelerating equally and oppositely over a surface of water, then relative to someone on shore you would actually be at rest. Defining "**absolute**" **acceleration** Of course, no sane physicist would **allow** that you could have an acceleration that is not relative to anything, so formally speaking the answer to this problem is to define $\boxed{\text{absolute acceleration}}$ as which $\boxed{\text{means acceleration relative to the inertial frame}}$ **Every acceleration of an object observed in the system of the Observer (which itself fit to rest, i.e. found in the inertial system with respect to the entire universe), must show a) either the rotation of both systems mutually >floating< in non-curved space-time, or b) movement in the basic curved surrounding space-time with non-uniform motion on a straight line.** || *Friends, I may be expressing myself imprecisely and therefore*

>**incorrectly**<, but I hope that the reader understood "where" I'm going, "what" I want to say
|| ** but inertial frames are of course defined by the absence of acceleration, so this definition
is scary, go round, **tautology**

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(02)- circular indeed most physicists will esue giving that definition altogether in favor of the empirical one where an absolute acceleration is defined as something that can be measured with an accelerometer unfortunately since any measuring instrument first has to be calibrated before it can give meaningful readings this answer is likewise problematic for instance given a spring accelerometer we'd have to make a choice of where and when to calibrate it before we could use it and should we choose to calibrate it on a rocket ship that unbeknownst to us was blasting through outer space then as soon as the rocket engines shut off the spring would stretch leading us to wrongly conclude that we had begun experiencing a force attempts to utilize a better or more sophisticated accelerometer will not bypass this calibration requirement meaning acceleration as measured by an accelerometer is always only acceleration relative to the frame of calibration What are We Accelerating Relative to? there is yet still one intuitive definition of absolute motion left to us which you can find given in videos such as this Ted Edwin on the twin paradox this is the idea that absolute acceleration I.E non-inertial motion can be defined as acceleration with respect to the rest of the universe to be in a national Observer one has to maintain a constant speed and direction relative to the rest of the universe well on the surface this definition is highly appealing It suffers from a crucial defect it's non-local that is if acceleration is supposed to be a real effect then the information that something is accelerating must be transmitted to that something at the moment that the acceleration occurs but if information can only travel at the speed of light then this information can't come from a great distance away in other words you can only be causally affected by things in your immediate vicinity so the state of motion of the rest of the universe relative to you at the moment of your acceleration is both irrelevant and impossible to know whatever you're accelerating relative to it must be located within your immediate vicinity and infinitesimally so should we take this notion of local action to its limit this means that if we want to treat acceleration as absolutely and instantaneously real then we are left with only two options for what you are accelerating relative to 1. an absolute space or two some ether-like substance a special relativity of course rejects both these possibilities telling us that we can have neither absolutes nor ethers but Einstein developed special relativity in 1905 before he ventured into any considerations about how acceleration played into the picture so it's natural to see why he and others might have leapt to the conclusion that absolute space and or an ether could be dismissed altogether however by the time 1914 rolled around Einstein had well past realized that the notion of absolute acceleration didn't mesh with his relativistic Paradigm and Einstein's Mistake so to correct this undeniable fundamental defect he concluded in his 1914 paper that the laws of physics ought to be packaged in a way so as to refer to only the motion between bodies indeed in 1914 Einstein felt extremely confident that his pending theory of general relativity would achieve exactly that this was because Einstein had begun working with tensors a type of mathematical object which seemed to provide a way to relate the laws of physics without reference to any particular coordinate system eager for a way to realize Mock's **Machova** program of unfettered relativism Einstein mistakenly conflated this coronet-free aspect of tensors with the relativity of all motion and concluded he had finally done away with the Last Vestige of Newtonian absolutism but Einstein received a serious blow in 1917 when the German physicist Eric crutchman pointed out to him that

tensors were simply a convenient way of mathematically packaging a formalism and that pretty much any old Theory could be expressed through them sure enough only a few years later the French mathematician Elie Cartan managed to reformulate classical Newtonian physics in the language of tensor-free tensors developing what became known as Newtonian physics the implication of this was clear if the absolute space time and motion of Newtonian physics could be expressed in the language of tensors then the tensor formalism of general relativity indicated nothing whatsoever in regards to motion being absolute or relative Where Do We Go From Here? for the remainder of his life Einstein would struggle to interpret the meaning of Relativity changing his mind frequently about its implications and completely reversing his

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(02)- (02)-- indeed most physicists will give this definition entirely in favor of an empirical definition, where absolute >acceleration< is defined as something that can be measured with an accelerometer, unfortunately, since any measuring device must first be calibrated before it can give a meaningful meaning. Reading this answer is also problematic, for example with a spring accelerometer we would have to choose where and when to calibrate it before we could use it, and we should choose to calibrate it on a rocket ship that has passed through space without our knowledge once when the rocket motors shut down, the spring would stretch, leading us to the false conclusion that we began to experience force attempts to use a better or more sophisticated accelerometer will not bypass this calibration requirement, meaning that the acceleration measured by the accelerometer is always only acceleration relative to the frame calibration. What we speed up with respect to the frame ****yarn-base 3+3D**** calibration still leaves us with one intuitive definition of absolute motion that you can find in videos like this one. *****Ted Edwin***** on the Twin Paradox: This is the idea that absolute acceleration, i.e. non-inertial motion, can be defined as acceleration with respect to the rest of the universe to be in the national ****“??”**** observer. A constant speed and direction relative to the rest of space must be maintained. Well, on the surface this definition is very appealing. It suffers from a fundamental flaw, it is non-local, so if there is an acceleration, it is supposed to be a real effect, **then the information that something is accelerating must be transmitted to that something** at the moment the acceleration occurs, but if the information can propagate only at the speed of light, then this information cannot come from a great distance. In other words, you can only be influenced by things in your immediate environment. So the state of motion of the rest of the universe relative to you at the moment of your acceleration is irrelevant and impossible to know what you are accelerating given what must be located in your immediate vicinity and infinitesimal, so if we were to push this notion of local action to its limits, **it means that if we want to consider the acceleration as absolute and immediately real, we are left with only two options** what you are accelerating relative to 1. Absolute space or two some ethereal substance. Of course, special relativity rejects both of these possibilities and tells us that we can have neither the absolute nor ethers. But Einstein developed special relativity in 1905 before he embarked on any consideration of how acceleration played a role in the description. So it's natural to see why he and others might jump to the conclusion that absolute space and/or ether could be dismissed entirely, but by the time Einstein rolled around around 1914, he had long since realized that the concept of **absolute acceleration incompatible with his relativistic paradigm** and Einstein's error so as to correct this undeniable fundamental flaw, **he concluded in his 1914 paper that the laws of physics should be packaged to refer only to motion between bodies** indeed in 1914 Einstein was extremely confident that his Theory of General Relativity would achieve just that, because **Einstein began working with**

tensors, a type of mathematical object that seemed to provide a way to relate the laws of physics without reference to any concrete coordinate system, eager for a way to implement Mock's **Mach's, it was Czech** program of unrestrained relativism Einstein mistakenly connected this aspect of tensors without crowns with the relativity of all motion and concluded that he had definitively put an end to the Last Trace of Newtonian absolutism. But Einstein was dealt a serious blow in 1917 when the German physicist Eric Crutchman pointed out to him that tensors were simply a convenient way to mathematically wrap a formalism and that basically any old theory could be expressed through them. To be sure, only a few years later, the French mathematician Elie Cartan managed to reformulate classical Newtonian physics in the language of covariant tensors, which became known as Newton's Kirtan physics, the implication of which was clear, **if the absolute spacetime and motion of Newtonian physics could be expressed in language tensors, then the tensor formalism of general relativity implied nothing at all** about whether motion is absolute or relative. Where do we go from here? For the rest of his life, Einstein tried to interpret the meaning of relativity, **and it has no meaning. It has no original meaning, nor a new meaning. It is a mistake to "conflict" an absolute thing with a relative thing.** With relativity gone..., introduce the term: "rotation of systems". The latter suits the change of speed to acceleration, suits the curvature of space-time dimensions, suits the explanation of redshifts, suits the meaning of STR, suits the understanding of gravity... He often changed his opinion on its consequences and completely reversed his opinion.

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(03)- stances on topics such as the existence of The Ether or Mock's principle but mainstream physics would ignore all this and merely retain the philosophy of Relativity as Einstein had established it in 1905 before he had given full weight to the meaning of acceleration which means Einstein never succeeded in removing his Theory's fundamental defect and that this defect Still Remains with the theory today indeed it's easy to see that this defect comes about because we want to treat acceleration as absolutely real and yet at the same time persist in saying that all the components which go into making up acceleration time space length velocity are all relative foreign 's instinct to solve this problem by relativizing acceleration was certainly correct but as we mentioned before if we want all observers to agree on their states of acceleration whilst also preserving the principle of local action this leaves only two options for what observers can be accelerating relative to an absolute space or an ether since the whole point of Relativity is to avoid problematical absolutes this means we must cross the first option off our list which leaves only the second option The Ether and thus at once we see why relativity is internally inconsistent in order to handle acceleration the formalism requires the existence of an ether but at the same time its philosophy conceived only for constant velocity motion forbids us to speak of any such ether of course it's hardly a coincidence that Einstein would eventually change his mind and declare that The Ether did exist nor is it a coincidence that it would be considerations of gravity and acceleration which would lead him to do so because for all the mystery surrounding what The Ether may or may not be what our current theories most strongly suggest is the idea that we detect its presence every time we accelerate of course you might object that if we can have a measurable acceleration with respect to the ether then we must also have a measurable velocity with respect to the ether which brings us back round to the central mystery of relativity if the ether

exists why can't we detect our velocity with respect to it the lorentzian answer to this question was to modify Newtonian physics with an additional Axiom stating that clocks physically slow down and rulers physically shrink when in motion with respect to the ether this Axiom in and of itself feels pretty arbitrary and jarring but at the same time the Axiom Einstein replaced it with that the speed of light is measurably equal in all inertial frames hardly feels any less arbitrary or jarring neither are intuitive and both leave one essentially scratching their head going why that but what if we could find another Axiom a deeper more intuitive principle from which these two seemingly conflicting axioms would actually emerge as being one in the same thing indeed some of you who have been following this channel for a while have been very patient with us as for some time now we've been dotting our eyes and crossing our T's in order to bring you an interpretation of Relativity which we feel will offer a more intuitive and concrete way of understanding the Theory's formalism our aim is to strip the theory of its mathematical abstraction and demonstrate that to every counter-intuitive and bizarre phenomenon a simple and physically meaningful picture can be coordinated. A cknowledgments now of course none of this would have been possible without the encouragement insights and guidance from our viewers over the years additionally we want to express our gratitude for our patreon supporters without whose generosity this Channel's continuance would also not be possible and lastly we want to acknowledge Henry Lindner whose paper on the philosophical inadequacy of modern physics served as the inspiration for this video [Music] well until soon this has been dialect

16:45

thanks for watching

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(03)- Attitudes on topics such as the existence of the ether or Mach's principle, but mainstream physics would ignore all this and **only preserve the philosophy of relativity** as founded by Einstein in 1905, before giving full weight to the importance of **acceleration, rotation of systems which means that Einstein never managed to remove the fundamental flaw of his theory and that, this flaw still remains a theory**, today it is really easy to see that **this flaw arises because we want to consider acceleration as absolute real**. But it's not like that. Acceleration must be considered a "distortion of dimensions"... and yet **at the same time we insist that** all the components that make up acceleration space-time length, speed, **are all relative**. **The confusion in the thinking of physicists, 100 years of confusing thinking, was brought by Einstein with his strange invention, i.e. the word "relativity"**. The foreign instinct to solve this problem by relativizing acceleration was certainly correct, but as we have already mentioned, if we want all observers agreed on their states of acceleration while preserving the principle of local action this leaves only two possibilities for what observers can accelerate relative to absolute space or ether, **since the point of relativity was to avoid problematic absolutes**, that is , that we have to cross off the first option from our list, which **leaves only the second option Aether**, and **so we immediately see why relativity is internally inconsistent to handle acceleration, the formalism requires the existence of aether, aha, keep the ether, but rename it to a network - a yarn of dimensions 3+3, i.e. to space-time as the base "on which everything happens" (all 4 interactions "float" on space-time and are built from dimensions) so this is where the > deviation of thinking<. The understanding of "relativity" is also redundant. Acceleration is absent in STR and yet is needed to explain the "speed change" from $v(1)$ to $v(2)$ and to $v(3)$, $v(4)$ $\dots v(n)$ to $v \rightarrow c$. Sure, but the acceleration of the**

body in STR (!) is achieved by rotating the systems, i.e. "curving" the space-time around the material object. Question: what is it to supply energy to a moving object?, but to "curve" the space-time dimension around it !!, http://www.hypothesis-of-universe.com/docs/f/f_073.pdf but at the same time A **philosophy** conceived only of a constant speed of motion forbids, of course, any such ether to speak of. **We reject the ether as a physical entity, but we welcome the ether as a realistic space-time, but the ether can easily be exchanged for a 3+3D physical space-time** flat, like a grid even in the expanding universe, i.e. curved space-time by the global OTR and local - STR. It is hardly a coincidence that Einstein eventually changed his mind and declared that the Aether existed, nor is it a coincidence that considerations of gravity and acceleration led him to do so, for for all the mystery surrounding **what the Aether may or may not be, it is what our present theories most strongly suggest is the idea that we detect its presence every time we accelerate, when we accelerate "on paper" ; in reality, the ether is redundant, because space-time itself is anchored there as a /base/, in which various curved states of dimensions "float", whether they are multi-curved states for microworld interactions or parabolic states of curvature for OTR,..** of course you can argue that if we can have a measurable acceleration relative to the ether, we must also have a measurable velocity relative to the ether. To the aether, which brings us back to the **central mystery** of relativity, if the aether exists, why can't we detect our velocity relative to it. The Lorenzian answer to this question **was: to modify Newtonian physics with another axiom, a redundant axiom** which states that clocks physically slow down and rulers physically shrink when in motion relative to the ether, this axiom itself acts quite arbitrarily and shakily, but at the same time Einstein's axiom replaced it with the fact that the speed of light is measurably the same in all inertial frames, they can hardly be felt. Less arbitrary or disruptive, neither is intuitive and both basically leave one scratching one's head as to why this is so, but **what if** we found another axiom, **what if we found devils not in a hole, but in the cave...** a deeper more intuitive principle from which **would** these two seemingly contradictory axioms actually proceed **as** one in the same, indeed any of you who have been following this channel for a while have a lot of patience with us , because we've been dotting our eyes and crossing T's for some time now to bring you an **interpretation of relativity** that we **believe** will offer a more intuitive and concrete way of **understanding the formalism** of the theory, our goal is **>to strip the theory of its mathematical abstraction** < and show that a simple and physically meaningful picture can be coordinated to every counter-intuitive and bizarre phenomenon. **O.K., and the simple term is "system rotation". I don't like yours i.e. >relativity< as much as the >ether< which replaced actual real spacetime...** Thanks now of course none of this would have been possible without the encouraging insights and guidance >>>from our viewers<<< throughout years, we also want to express our gratitude to our patron supporters, without whose generosity the continuation of this channel would also not be possible, and finally we want you to acknowledge **Henry Lindner, (Returned unnecessary)** whose work on philosophical inadequacy of modern physics served as inspiration for this video [Music] until it soon became a dialect

16:45 thanks for watching ☺

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