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Theory of Relativity: Interview with Dr. Jonathan Lovell

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Orlando McAllister (OM): *I'm Orlando McAllister, Associate Professor and Department Head in the areas of Communication and Mathematics at the College of New Rochelle; I'm here with Dr. Jonathan Lovell, who earned a PhD in Mathematics from the* City University of New York Graduate Center. Dr. Lovell, teaches at the College of New Rochelle and is registered for a Post Doctorate Statistics course *at the University of Pennsylvania,*

OM: ***Dr. Lovell is introducing a groundbreaking theory in terms of Einstein's relativity theory. What's your premise behind it Doctor?***

Dr. Jonathan Lovell (JL): Lorentz Transformation states that "if a particle is going past an observer at close to the speed of light it will contract in the direction of its motion." And the same holds true if the object is also observing the observer that can be me. So both observers will see the other person contract. That's the principle behind Lorentz Contraction Theory. That in my estimation leads to fallacy and a contradiction.

OM: *It really does?*

JL: Yes.

OM: *So we're not even looking at "Time Dilation."*

JL: No! The Lorentz Contraction Theory is derived from "Time Dilation."

OM: *Now we're looking at Length Contraction. Does mass have anything to do with this?*

JL: Well, it does, but that's a separate formula.

OM: *Very good let us proceed.*

JL: Okay, the way I see it, if one object contracts in the direction of its motion, the other one has to expand; because if they both contract it leads to a contradiction.

OM: *What does the current theory state?*

JL: The current theory states that "both will contract." If, let's say, I'm on Point A and you're on Point B, if you're going past me at close to the speed of light I will see you contract. But if you're watching me, you're on Point B and I'm on Point A then I'm going past you also at close to the speed of light, like in the other direction, you will see me contract. That's the current hypothesis in Lorentz Transformation. You contract relative to me and I contract relative to you.

OM: *Okay, so what is your anti-theory?*

JL: The theory the way it's set up, leads to a contradiction.

OM: *Is it safe to say anti-theory?*

JL: It's more of a counter example. The way it's set up leads to a paradox. It falls apart and that makes basically the whole relativity theory fall apart.

OM: *Now we're speaking in English terms, right? We're not speaking German, Swahili. Sanskrit… How would you get this on paper in terms of mathematical equations to describe your counter example? Do you have to create your own mathematics to disprove the original theory?*

JL: Yes. My counter-example is of a train going past a stationary platform. So these are the two formulas on the board. This is the relativistic formula of Time Dilation and this is the relativistic formula of the Lorentz Contraction Theory. If we were to have a ball with diameter D naught at rest; this *d*, here, without the 0, is the diameter of the ball when it's going past you at close to the speed of light. So this is going at almost the speed of light, which is *c*. This is all based on… if you can really prove the derivation of the Lorentz Contraction Theory from the Time Dilation Theory.

OM: *Very interesting.*

JL: Yes indeed. You can derive one equation directly from the other. Time Dilation is basically another word for time travel which means the same thing. And it basically states that when a ball goes at or close to the speed of light, the ball will become an oval or it'll become disc shaped, so think of a ball turning into a frisbee and this is the regular *d,* that's relativistic *d* so if *d*-naught were let's say 10 centimeters, then relativistic *d* might be only 1 centimeter. So the ball contracts in the direction of its motion. Now Einstein said, no!

OM: *Awesome.*

JL: Dr. Currin a distinguished Physicist from SUNY Purchase taught me at a second level physics graduate course on relativity and quantum physics. He taught relativity to the class and his philosophical idea was that because the universe goes on expanding forever and ever, there's no way to determine what's moving relative to what's not. And I thought about that and I said, I kind of doubt that, because for one thing if you have a planet orbiting the sun, the planet should be moving relative to the sun because the sun's much more massive than a planet, so it sort of had me thinking… and another thing that stuck in my mind is that who says that the universe goes on forever and ever? Because the universe could have, like I read in a relativity book when I was ten years old—my mother got this whole volume of, like, science, you know—and there are three models of curvature for the universe.

OM: *Your mother definitely saw the potential in you.*
JL: Yes she did. To continue: Positive curvature—which is differential geometry—the universe of positive curvature is a 3-sphere. There are three models of the universe according to Einstein. So positive curvature like this is a 3-sphere and I will write c for curvature. If the curvature is bigger than 0, the global curvature, it's a 3-sphere. If the curvature is equal to 0 that means it's flat. That means space is flat. No curvature at all. It's just like the way we see it. And then if the global curvature of the universe is negative, it has negative curvature, then it's saddle-shaped. So it's like… it's hard for me to draw something that's saddle shaped, but I'll try… it looks something like this, you know, it's like… it's hard to draw

OM: *It depends on your perspective, right? You're looking at it from above?*

JL: No, right in here.

OM: *Okay.*

JL: So there's an indentation right there. It's challenging to draw so let's mount it on the saddle of a horse as it goes up this way and down the other way and then it dips where the rider can sit right down it'll dip down this way and it'll dip up the other way. So that's saddle shaped.

OM: *So Dr Lovell. I'm playing student as well as cameraman, so if I have any questions I can ask?*

JL: Sure!

OM: *I don't want to interrupt too much because I don't want to go off topic.*

Fine by me, so if the universe has global negative curvature, I saw this in like a science book I had back in 1974 or something. So if the universe has negative curvature globally it is saddled shaped and it goes on forever and ever. If it has zero curvature, it's just flat and it can go on forever and ever. If it has positive curvature, then it's a 3-sphere, so basically a 3-sphere, so it's a 3-dimensional surface of a 4-dimensional ball.

OM: *So for our viewers just tuning in, the c does not stand for the speed of light. What is the c for?*

JL: Curvature.

OM: *Curvature.*

JL: Curvature. So positive curvature you get a 3-sphere. Zero curvature is just totally flat and then negative curvature is like saddle shaped.

OM: *Okay.*

JL: So let's say the universe is a 3-sphere

OM: *Okay.*

JL: Okay. If the universe is a 3-sphere, it'll have global positive curvature. It does not go on forever.

OM: *You mean there are boundaries... finite.*

JL: Yes, well, it's finite but boundless. Let's say the universe was a 3-sphere, then let's say you start at a point here, and you're going in a straight line for let's say 15 million light years

OM: *Yes.*

JL: Let's say you start here—that's the starting point—you go 15 million light years, look what happens. You circle around and you come back to where you started from. That means that if I were to start from planet Earth and go up this way like a rocket ship, going close to the speed of light, and after 15 million light years or 15 million years, I would come back to where I started from

OM: *Interesting.*

JL: Even though you're not curving in space, space curves around you.

OM: *Interesting*.

JL: That's what happens if you have a 3-sphere. Just think of all the galaxies and the filaments and the voids and all that on the surface, on the boundary, of this 3-dimensional sphere.

OM: *A lot of this can be modelled mathematically. That's where you're getting your concepts from.*

JL: Yes. No. These are my own ideas. These have always been my own ideas.

OM: *We have it on tape, so if anybody tries to plagiarize you…*

JL: So imagine all the galaxies, right, that are existing on the surface of that 3-dimensional surface of that 4-dimensional ball. See, the galaxies are on the surface of that sphere; there's only a finite number of them.

OM: *Okay, now we are delving into the realm of astral physics to a certain degree. But I want to bring you back on target because you have just given us a review of the Time Dilation and also Length Contraction of Lorentz. Now we're going to get to the nitty-gritty of your theory. Let's see how we can segue into that?*

JL: So there are a finite number of galaxies on the 3-dimensional surface of that 4- dimensional ball; because this thing's finite. That means that the universe does not go on forever. If it was a 3-sphere it would not, there are only a finite number of galaxies in the universe. After which the universe repeats itself. And that's another reason why there should be a way to detect absolute velocity. Because Dr. Currin said "the universe goes on forever and ever." So there's no way to tell what's moving relative to what's not. But if the universe is a 3-sphere, then it doesn't go on forever and ever. There are only a finite number of galaxies on the surface of this ball, so there should be a way of determining a stationary reference point, and there has to be. Now I'm going to give you a counter example for why this does not work. Now here's the thing. *D* is the diameter of the ball when it's not moving relative to your eyes. Because what Dr. Currin said is that because there's no way of determining what's moving relative to what's not, then the only way to determine what's moving is what's moving past your eyes. Not what's moving relative to a set stationary reference, but only what's moving past your eyes relative to you. And that's where the paradox, that's where the paradox comes in. So *d*-naught means that the object is at rest relative to you, relative to your eyes. This *d* here, which is the relativistic distance, the relativistic diameter, this is when the ball is moving relative to your eyes, see this is motion relative to your eyes, so this *d* is when the ball is going past you, your eyes, relative to the speed of light. That's how this thing got all messed up. 'Cause they forgot, they didn't put in the stationary reference point. In space you have to have one. And I'm going to show you how this thing—

OM: *In other words, how do you know what you're measuring if there's not a stationary reference point?*

JL: That's right! They only said moving relative to your eyes, that's all they said, that's it. They didn't give space a stationary reference point and that's why this whole thing falls apart. Now I'm going to give you a counter example showing that this does not work. I'm going to erase everything…

OM: *Erase everything and we'll be back. Okay, Dr. Lovell, proceed.*

JL: This is the counter-example. Okay, so I'm going to draw two scenarios. This is a train station. Now I'm going to draw a train that's going very close to the station, now this is like a train, right? And notice that this thing looks a little crushed.

OM: *Okay, we'll keep it at four cars.*

JL: Okay, this train is going this way past the station; at almost, at close to the speed of light. Speed of light is *c*. Now this is observer A. This is observer A that's on the platform. And he's watching the train go by, and observer B here, this is observer B that's on the train. Now there's a light, there's like a train light here, a laser beam on this end of the train and on the bottom end of the train like that.

OM: *Want to label it?*

JL: Yes. Laser, front laser, and then there's a back laser.

OM: *Yes.*

JL: And these lasers are shining light this way.

OM: *Okay, perpendicular to the motion?*

JL: Yes, the direction of motion. The laser's going this way…

OM: *So you could put a 90 degree angle right there perhaps?*

JL: Yes. So here are two lasers, one at the very front of the train and one at the very back of the train. And this is the platform.

OM: *Interesting.*

JL: And we're on the platform. Now there's a mechanism on the platform, so the train is going past the platform this way

OM: *So we have these two lasers pointing at 90 degrees from the direction of the four-car train.*

JL: Yes.

OM: *Okay, proceed. A*nd it's going past the platform…At the speed of light.

JL: Yes. Close to the speed of light. So these two laser beams here are pointing toward the platform from the train, one at the front of the train and the other at the back of the train. Now, there's a mechanism on the platform. Let's say this platform was 500 feet long.

OM: *Could you make that meters? 'Cause if this gets to the Europeans and the rest of the world…they won't know what you're talking about.*

JL: This platform is 500 meters long, so I'll do this like this— 500 meters. Now there's a mechanism on the platform that if it detects both lasers at the same time, simultaneously, it sends a signal to the train, and the train stops.

OM: *When it gets to that station?*

JL: Yes. So this train is hurtling past the station, but because the train is contracting in the direction of its motion!

OM: *Yes!*

JL: The train is small enough so that both lights get detected simultaneously!

OM: *O my god!*

JL: And the train stops.

OM: *That's incredible. Are you saying it comes to a full stop?*

JL: Yes.

OM: *A full stop, having already contracted?*

JL: Yes that's right. It could do that, why not? So anyway both lasers get picked up simultaneously on the platform. The platform then has a computer that sends a signal to the train telling the train to stop; only because both lights were picked up simultaneously on the platform.

Now, this is from the point of view of the observer on the platform. This is the point of view of observer A. Now let's look at observer B. Now I'm going to draw this differently. This is for observer B. So this, I'm going to write observer A. This is observer A's point of view.

OM: *Of the event?*

JL: Yes. Now I'm going to look at the same thing from observer B's point of view.

OM: *So here's where relativism comes in.*

JL: Right. It came in here too, because the train was going this way. Relative to observer A, so because of the Lorentz Contraction Theory; this train contracts in the direction of its motion. So I'm going to write it like this, see the train contracts inwardly like this, so it's now scrunched up enough—

OM: *To a point. It's trying to get to a point?*

JL: It's small enough like this so both lasers get picked up at the same time.

OM: *So in other words, it is not expanding, it's contracting, to a point?*

JL: Not to a point, to a very close—

OM: *In the direction of a point?*

JL: Very small. The train might be only 50 meters long. Very, very narrow thing. That's from observer A's point of view. Now I'm going to draw observer B's point of view. This is from observer B. Here's the train now. I'm going to draw it a lot longer, because the train's not contracting yet. See how I'm making the train very long now? If it's longer it's not contracting. See what I'm saying?

OM: *So you can actually manipulate that equation?*

JL: That's what I'm saying. This thing falls apart. So here's observer B. So this is the train now and this is the platform.

OM: *I'm going to get Michio Kaku here from The Graduate Center.*

JL: So here, so this is now the new situation. So now we're looking at it from observer B's point of view. Of course observer A is still on the platform. Look where the laser lights are now. So now this is the situation the way it is now. Now look at it from B's point of view. The train is not contracted. But the platform is contracted.

OM: *Oh, my goodness. But the train is still moving.*

JL: The train's still moving, but it's not moving relative to observer B.

OM: *Okay, there's going to be folks in here… I'm losing my perspective at the moment, which I'm sure each of these observers as well. It's also happening to them, something they've never experienced in their planetary life*.

JL: That's right, that's right.

OM: *So basically what you're telling me is B is another observer. He's the same observer on the train and A was still A.*

JL: A is the observer on the platform. This is still observer A. This is still the platform.

OM: *So everybody stays where they are?*

JL: Yes. So now look at it from observer B's point of view.

OM: *And before we looked at it from the platform. This is fascinating.*

JL: This is observer B. So observer B is not moving relative to the train. The train is stationary relative to observer B. That's observer B sitting inside the train. Observer B's in the front car of the train, so the train's not moving relative to observer B. But the platform is moving relative to observer B.

OM: *Yes, but isn't this our normal everyday experience?*

JL: But there's no way to tell what's moving relative to what's not. That's what relativity is saying. That's what Dr. Kern told me.

OM: *I cannot conceptualize this scenario right here, and I hope our audience listening to this isn't getting confused as I'm getting confused. Do we need to go mathematical to prove this, or do you want to try another attempt?*

JL: This is if this—look at it from observer A's point of view. So if observer A is stationary on the platform and the train is moving past observer A going this way, so the train is moving relative to observer A and the platform's not. Now for observer B the train is stationary relative to observer B but the platform is moving this way relative to observer B. at close to the speed of light.

OM: *I got it.*

JL: 'Cause there's no way… I know what you were thinking: The train's got to be moving relative to the platform. Relativity says that doesn't have to be the case.

OM: *Because the observer on the train is actually stationary.*

JL: On the train.

OM: *But moving. The train…*

JL: Well, no. The train's not moving. The platform is moving past observer B.

OM: *But the platform is not moving. We're getting an illusion.*

JL: No but the platform IS moving because there's no way to tell what's moving relative to what's not… That's what relativity is based on. It collapses. Relativity says, well, the train might be moving past you on the platform.

OM: *So what you're saying is that who's to say that platform A is not moving.*

JL: That's right! That's what relativity is saying. So if you're on the train, if you're observer B on the train, the train is stationary relative to you. You're sitting on a seat on the train, but the platform's moving past you

OM: *Right. I can visualize.*

JL: This platform contracts. So the train doesn't contract, but the platform contracts.

OM: *And you can verify that by the two lasers.*

JL: Of course. Yes. Now look at the lasers. One laser's right up above the platform and the other laser's way down below and this train is moving past the platform and this platform is moving past the train like this, and both lasers detected at the same time on the train.

OM: *It can't be simultaneously; it doesn't exist.*

JL: The train is moving past the platform. One laser will be picked up then it'll go away and the second—

OM: *In other words, according to the lasers to do the measurement the platform doesn't exist*

JL: No it does exist. The platform exits. But it's contracted relative to observer B.

OM: *So you can't get a reading?*

JL: That's right. See one, it'll detect this light and then it'll go away. Like a couple of seconds later, it'll detect the second light and that will go away. It will not detect both lights simultaneously. And then the mechanism is not set to the train and the train keeps on going.

OM: *Of course.*

JL: So in *this* scenario the train stops and in *this* scenario the train does not stop. That's a contradiction. That's the contradiction. Here the train stops. Here the train does not stop. That's the contradiction.

OM: *And you can't have both at the same time.*

JL: That’s right. Either the train stops or it doesn’t. You can’t have both at the same time. That’s the contradiction. What it means is that one of them has to contract and the other has to expand. The other has to expand.

OM: *Right.*

JL: That tells you there has to be a stationary reference point in the universe and in space.

OM: *Yes.*

JL: Right, it’s not relative to the observer’s line of sight, it’s relative to a physical point in space.

OM: *You mean like a third observer?*

JL: Like a center of gravity

OM: *A third observer?*

JL: Not a third observer, a center of gravity in the universe; a stationary reference point.

OM: *Something like maybe a pole star?*

JL: How about a super massive humongous black hole? That’s so humongous that it’s like sucking billions and billions of galaxies into it. Like a black hole that’s so humongous that it takes up like 99.9 percent of the mass of all the other galaxies and everything else that’s in the universe.

OM: *So you’re saying it’s collapsing right into this saddle?*

JL: Not a saddle, no.

OM: *No?*

JL: Not a saddle. I think this is what it looks like (draws)

OM: *A great attracter, a point?*

JL: So there has to be, for one thing, at first I thought the universe would be a 3-sphere and then I said “no.”

OM: *For our viewers who don’t know, when you say 3-sphere you mean a xyz globe?*
JL: No, I mean a 3-dimensional surface of a 4-dimensional ball. That means it has positive curvature from topology.

OM: *It moves out*

JL: No, it… positive curvature is like a ball. It—

OM: *It's concave or convex?*

JL: It's convex. It's a 3-dimensional surface of a 4-dimensional ball. So you take this ball. So this got me thinking— so this is like a 3-sphere, there's a topologist symbol for this, because topology's all about surfaces.

OM: *Yes of course.*

JL: So if this is a 3-sphere, all the galaxies are on the surface of this 3-dimensional… on this 3-sphere and could look [inaudible] at the 3-dimensional surface of a 4-dimensional ball.

OM: *Yes.*

JL: So all these galaxies, filaments and whatever, voids, you know, are on the surface of this 4-dimensional ball. The center of mass should be right in the center of the ball.

OM: *Of course.*

JL: But that can't happen.

OM: *Why?*

JL: Because the center of the mass is not inside the sphere itself.

OM: *Where is it?*

JL: It's outside the universe; because our universe is on the surface of this ball.
If this was the case the center of mass is in the center. The center of mass, that's the stationary reference point that has to be inside the universe. Not outside it. 'Cause the universe is on the surface of the ball. And the center of mass is in the center of the ball and that can't happen. And the center of mass according to this would have to be somewhere in 3-space itself. This is outside of 3-space because 3-space is on the surface of the ball and that center of mass is not on the surface. And then I started thinking about this. What does gravity do to space?

OM: *It bends it.*

JL: It bends it. And it bends it like this. So this is like a section of 3-space. And a black hole would do something like this— if I can write it— a black hole would do this.

OM: *A curvature?*

JL: It would make it dip in like a funnel.

OM: *Okay.*

JL: Have you seen pictures of that, like, in physics books?

OM: *Yes, like a cone.*

JL: Not like a cone, more like a funnel type thing.

OM: *Okay, like a tornado funnel.*

JL: Yeah, like a tornado funnel. And the black hole is, like, right there.

OM: *Got it!*

JL: So this is like a surface that's [inaudible] 3- sphere.

OM: *Yes.*

JL: Look how topology comes into relativity theory. It's like topology... this thing's could be reunited, you know? Topology is huge in relativity, it seems to me, but anyway, this is my thought.

OM: *Okay.*

JL: The indented 3-sphere. So I take this 3-sphere—

OM: *We're going to take a break--- Okay, you can begin.*

JL: Takes some finesse to draw this thing.

OM: *I think you're drawing a female anatomy.*

JL: No. This is an indented 3-sphere. Think of this as being halfway between a 3-sphere and a 3-torus. This is an indented 3-sphere. This is where the super-duper massive black hole is. So see how it makes space funnel shaped here?

OM: *Yes.*

JL: It's doing the same thing here but with a 3-sphere, and it is funnel shaped downward to the middle, and it's funnel shaped upward to the middle as well. So this is a super-duper massive black hole. Now on the one hand, now look: where is the center of mass on this thing?

OM: *Right in the center?*

JL: Right in the center!

OM: *Which is outside of the universe?*

JL: No, this is inside the universe; this is inside the universe because it's part of the surface. The surface dips down into it. See here when I had the regular thing like this, right? See, the surface is outside of the center of mass. But now the surface dips down so it's touching the center of mass. The surface dips down here, the surface, this is part of the surface as well as being the center of mass.

OM: *So everything is happening simultaneously.*

JL: We have a center of mass both from a geometric topological point of view but also from a mass point of view.

OM: *What kind?*

JL: A mass point of view; because if that black hole takes up 99 percent of the mass of the universe then that's where the center of gravity is.

OM: *Understood.*

JL: I'll give you an example of a center of gravity. Let's say you have this huge thing here, right? So let's say this weighs a million pounds.

OM: *An analogy to this would be a martial artist, because a martial artist's torso in the middle of a martial artist's body is a center of gravity. Everything else is just extremities.*

JL: Right. So where is the center of gravity? That's a million pounds. That's one pound. The center of gravity from physics is basically going to be here. And the center of gravity is the stationary reference point. The center of gravity is the stationary reference point from physics.

OM: *Right.*

JL: So, because if you see this, this huge thing is not going to be moving toward that little thing. That little thing is going to be moving into that, and it moves like this. See the way it moves with the center of gravity. This is a huge thing, this is a tiny thing. It's not going to move like this, it's going to move like that. So the huge thing is stationary.

OM: *Suck it right in.*

JL: Yeah, it sucks it in. This huge thing is not going to be drawn to that tiny little ball. This is like a big boulder. This is like a pebble.

OM: *Or it could be a magnet.*

JL: Or a magnet. 'Cause this boulder is not going to be moving toward the pebble, the pebble's going to be moving toward the boulder, so the center of mass is going to be where the boulder is, so the center of mass is like right next to the boulder, and the boulder is basically stationary relative to that center of mass. So that's it—the center of mass, that's the stationary reference point for the universe that I was talking about.

OM: *Right.*

JL: The stationary reference point is right here. So this, this super-duper mass, the black hole—that's the stationary reference point, that's the stationary place in the universe. That's the point in the universe that doesn't move. That's where the universe is stationary. Right there!

OM: *Yes.*

JL: The stationary reference point.

OM: *Mm-hm.*

JL: That's it. If you're next to that super massive black hole, that black hole is not moving. Everything else is moving toward the black hole, but that black hole is not moving in space. That's the stationary reference point. If this train—okay, now, this fixes it, If this train, now let's say we have a train. Let's say you're on the train, right, and the train is now moving—make it a spacecraft or something—this train is now moving close to the speed of light past that stationary reference point...

OM: *Okay.*

JL: Okay. And let's say that you have an observer that's also not moving relative to that reference point. So this is observer B on the train and this is observer A –I make observer A right next to that black hole. Now is B moving relative to A or is A moving relative to B?

OM: *The former.*

JL: B is moving relative to A.   A's not moving! This is not moving relative to the black hole, because it's closer to the center of attraction;. closer to the center of the universe, which is the super massive black hole right here. That's it, so—

OM: *And it could exist here on Earth because were dealing with gravity.*

JL: Well, this black hole is probably a few galaxies away.

OM: *Okay.*

JL: You know, I wouldn't want to get sucked into that sucker. 'Cause that thing is like humongous.

OM: *But you see its effects here, that's what you're saying, when you're dealing with the speed of light.*

JL: That’s right. Let’s say you’re not moving relative to that black hole, and this train is moving past you, like that, close to the speed of light This train will contract, right, wait a minute. No. this train—*you* will contract relative to the train, but the train will expand relative to you.

OM: *Right!*

JL: So this train…and then the paradox is gone. Because ‘A’ contracts and ‘B’ expands, so if you’re observer ‘A’ looking at observer ‘B,’ the train will not contract, it’ll expand.

OM: *Right!*

JL: And if you’re observer ‘B’ looking at observer ‘A’ you will contract.

OM: ‘*A’ will contract.*

JL: ‘A’ will contract, ‘B’ will expand. And that gets rid of this paradox here.

OM: *So what went wrong, what is the flaw, this misnomer Lorentz Equation or Einstein’s equation, what happened? What’s wrong with the equation and the velocity?*

JL: Relative to observer’s line of sight.

OM: *But didn’t they take this into consideration when they did this? Or are you saying that the equation doesn’t work?*

JL: This equation doesn’t work because it’s not relative to observer’s line of sight. It’s relative to the stationary reference point in space. Relative to the super-massive black hole. That’s the true thing.

OM: *Got it. Were they aware of that or just limited?*

JL: Were they aware of that?

OM: *Or just limited in their perception?*

JL: I think it's just they never got around to thinking this. I don’t know, who knows what they were thinking, you know?
OM: *So how do you reconstruct the equation, not from the black hole’s perspective but from the observer outside of it?*

JL: Ah! Well, that’s the whole thing see, relativity has to be completely refigured. I don’t think it has to be torn apart, but it has to be seriously revised and added to.

OM: *So new mathematics has to be created, you think?*

JL: Probably. This relativity has to be completely changed around and added to.

OM: *Tweaked?*

JL: Tweaked.

OM: *But at the same time you've given concepts…*

JL: So relative to super massive black hole, or stationary reference point in space.

OM: Now can we safely say this concludes our first part of this series?

JL: Sure. 'Cause I've got a bunch of theories I came up with.

OM: Thank you. Dr. Lovell, okay?

JL: Okay.

OM: *Al right.*

JL: But you see? See that?

OM: *Yes.*

JL: Look, that's stationary from a geometric topological point of view.

OM: *Yes.*

JL: It's in the center of that apple, right?

OM: *Yes*

JL: So if you really looked at it, this is like the center of mass from a geometric point of view.

OM: *Okay!*

JL: And the center of mass is on the 3-manifold. It's on the surface and it needs to be because the surface is our universe. So on the one hand it's in the center of this thing from a geometric topological point of view and on the other hand it's at the center of this thing from a mass point of view because this black hole takes up 99 percent of the mass of the universe.

OM: *You said' 99,' right?*

JL: 99 percent of the mass of the universe. So on the one hand it's at the center of mass geometrically, and on the other hand it's at the center of mass from a mass point of view.

OM: *Yes.*

JL: So that's why this model works, I think. That's why I'm thinking it's this model.

OM: *Okay, so can we have a recap for our viewers out there, Dr Lovell? A brief synopsis of what we've gone through today*.

JL: Okay. So, this is going to take a while. It's long.

OM: *A guy from Senegal just walked in. Another mathematician, Tala*

JL: This is relativity, the theory of relativity. So this is the formula for Lorentz Contractions. See, Lorentz, the way they put it together and Einstein, like, tweaked this, putting it together, see this is motion relative to an observer's line of sight. So relative to your eyes, let's say. So the distance here is very small. This is when the object is at rest relative to your line of sight. So this is the formula for Lorentz Contractions. So this is Einstein's formula. Relativity is all messed up. It completely collapses because they failed to take this into account. They take *this* into account, they don't take *this* into account and the whole thing is just fraught with contradictions and it's all garbage; because this is totally incorrect. This is correct because this leads to this contradiction. This fixes this contradiction. So anyway, so you wanted to know about this.

OM: *Yes, how does the formula work?*

JL: Let's say that this is the d at rest. Where am I going to write this?

OM: *Well you have d squared c squared as 1 minus 1. As the velocity approaches the speed of light you mentioned something it approaches zero*

JL: The distance gets smaller so this here is d-nought and that's d. So you see the distance is much smaller than d-nought. This d is when this thing is moving at close to the speed of light. So d is small relative to d-nought. So if you look at this, d is very small relative to d-nought. where v is very close to c. So this explains it. If v is close to c then v squared is very close to c squared. That means v squared divided by c squared is very close to one. Let's say v squared over c squared is .99. And what's 1 minus .99? It's point 01. It's like a hundredth. And then you take the square root of .01, that's .1. That's a tenth. So d divided by a tenth is the same thing as d times 10. So d-nought is 10 times d. And it should be.

OM: *Right.*

JL: You see d-nought is 10 times d here. That's where the equation comes in. It explains the relationship between d and d-nought.

OM: *But at the same time if v squared approaches the speed of light it and the denominator became 0 then it'll be undefined.*

JL: It doesn't—it gets close to zero.

OM: *Yes, but what if it did.*

JL: You were talking about this the last time.

OM: *Does it disappear?*

JL: No.

OM: *Does it get to a point? We were –are we moving backward in dimensions?*

JL: I don't know. We were talking about that. You were saying what happens at the point where v equals c?

OM: *Yeah, well… Well, mathematically*

JL: Well, for one thing...well, mathematically, the way relativity is set up now, v would never be able to reach c; because the mass goes to infinity.

OM: *But that's why we look at theory, right? In the event…*

JL: Right.

OM: *Now does that mean that is indeterminate, undefined, if the denominator is zero, and it doesn't exist.*

JL: Probably it doesn't exist. I don't think the denominator can ever… 'cause if you…' cause there's mass increase as well. Did I mention that? This is mass increase.

OM: *Oh yes, I know about the mass increase as well, towards infinity…*

JL: Right see if the b became c you'd be dividing by 0 and the mass would become infinite.

OM: *It just disappears.*

JL: The mass here goes to infinity. If the mass goes to infinity you can't accelerate it any more.

OM: *It slows down?*
JL: No, you can't make it speed up any further.

OM: *So the inertia increases.*

JL: The inertia increases out of bounds so that it's impossible to make something go to c. But you know something? You just take it for what I'm saying, okay? There could be many other factors we don't even know about. You know, it could be whatever...

OM: *It's fascinating. It's fascinating, though*

JL: Yes.

OM: *It really is.*

JL: It is, right?

OM: *Okay, so we'll continue this dialogue. We'll take it apart, too, next time.*

A video of this presentation is available upon request.

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