#6
Formal talk-0623102006 Morning day 3
Lila recording day 3, morning
23/10/2006
061023000
1 Hr 56 min
Recording 6

Y: There are several things that I forgot to dwell on or add; and also this is a clearer diagram. I hope it's helpful. So, with your permission, we'll start if you're all ready. OK, *Space* it is.

Now we start with
(Diagram of Space page 22 *The Lila Paradigm of Ultimate Reality*)(Caption attached to the largest circle)

A itself

which is the large circle in gray. And in that is

A's state of direct knowledge of B which includes,

and that is the key word, which includes

direct knowledge of B's state of knowledge of D and direct knowledge of B's state of knowledge of C.

: 58 (Rule One; is in the middle of page 7 *The Lila Paradigm of Ultimate Reality)*
So it's due to Rule One that it's included. Rule One says that it is included. That any state that a non-physical individual is in, if that non-physical individual is known, the knower of that is in not only a state of knowledge of that non-physical individual but of the states that that non-physical individual is in.
1:34
Now the question is: we've discussed here the states of direct knowledge. But there are several states of consciousness that come out of this. I've not drawn the little lines from existence to existence of A, but consider them to be there. That [the] existence attribute of a state of knowledge of B is like the existence of A, it's own ontological state. And so A of course is conscious of B ●. So I've got a little B ● there in parenthesis. Parentheses is to show that that is a consciousness; whereas, the rest is state of direct knowledge. And the same thing goes for C ● and D ●. [The parenthesis was eliminated from this chart in the final draft.)
2:51
These are states of consciousness; but states of consciousness are not passed along as states of consciousness. In other words, A is not conscious of C's consciousness. C is conscious of whatever it's conscious of. In this example, it's nothing. But B is conscious of C ● and D ●. But A is not conscious of B ●'s consciousness of C ● and D ●. Is that clear? It's not conscious of it.

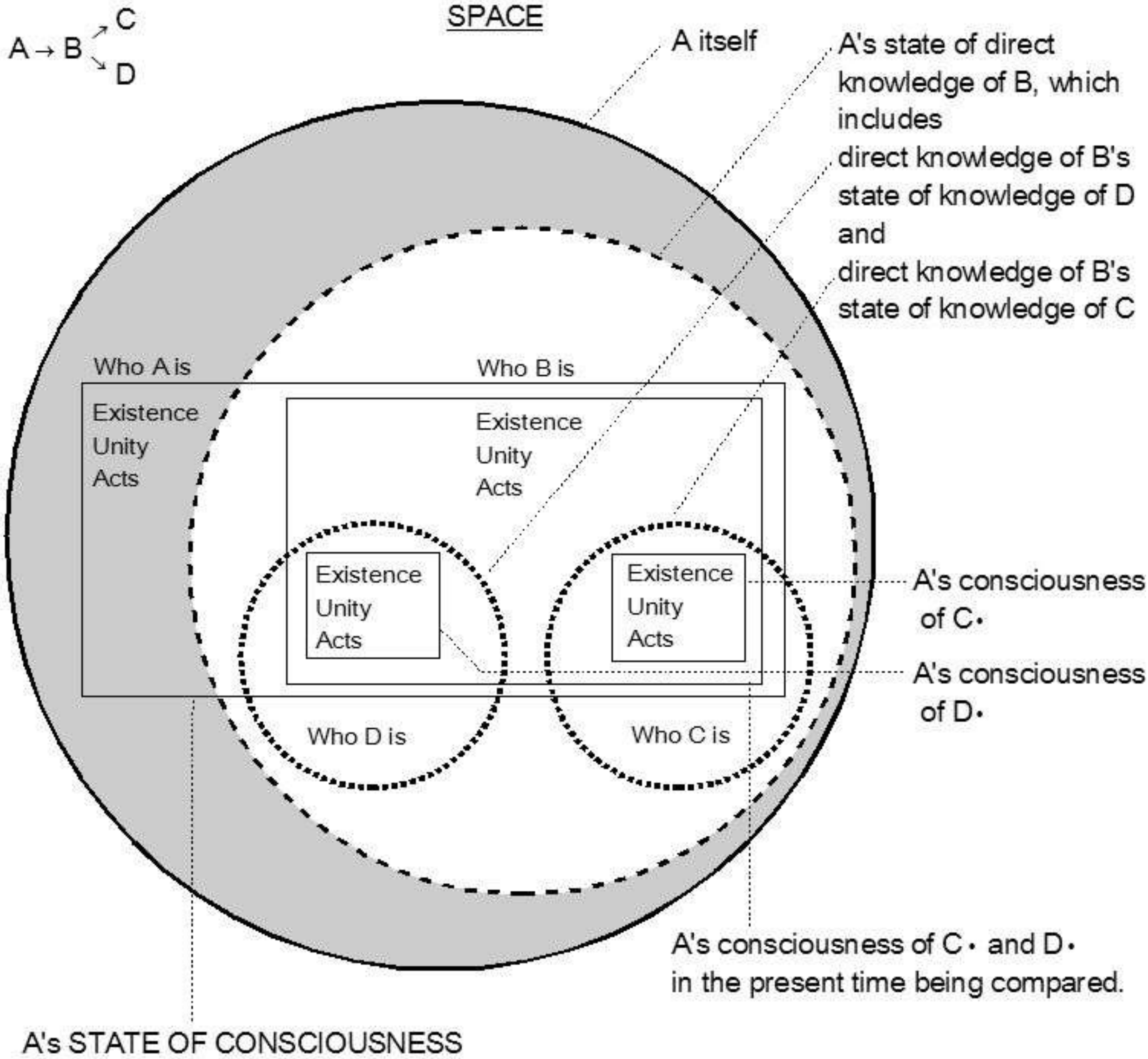
B: Is it not opposite to Rule One?

3:46

Y: No. Rule One applies only to direct knowledge, not consciousness. We have direct consciousness (knowledge); and we have (that which comes) out of direct knowledge. (Out of direct knowledge) we've gotten the consciousness, and so B in the state of direct knowledge that A is in of B ●. Who B ● is, is in (the) state of direct knowledge of A. That's not the actual B. This is not B or who B is; it is a direct knowledge that A has of who B is.

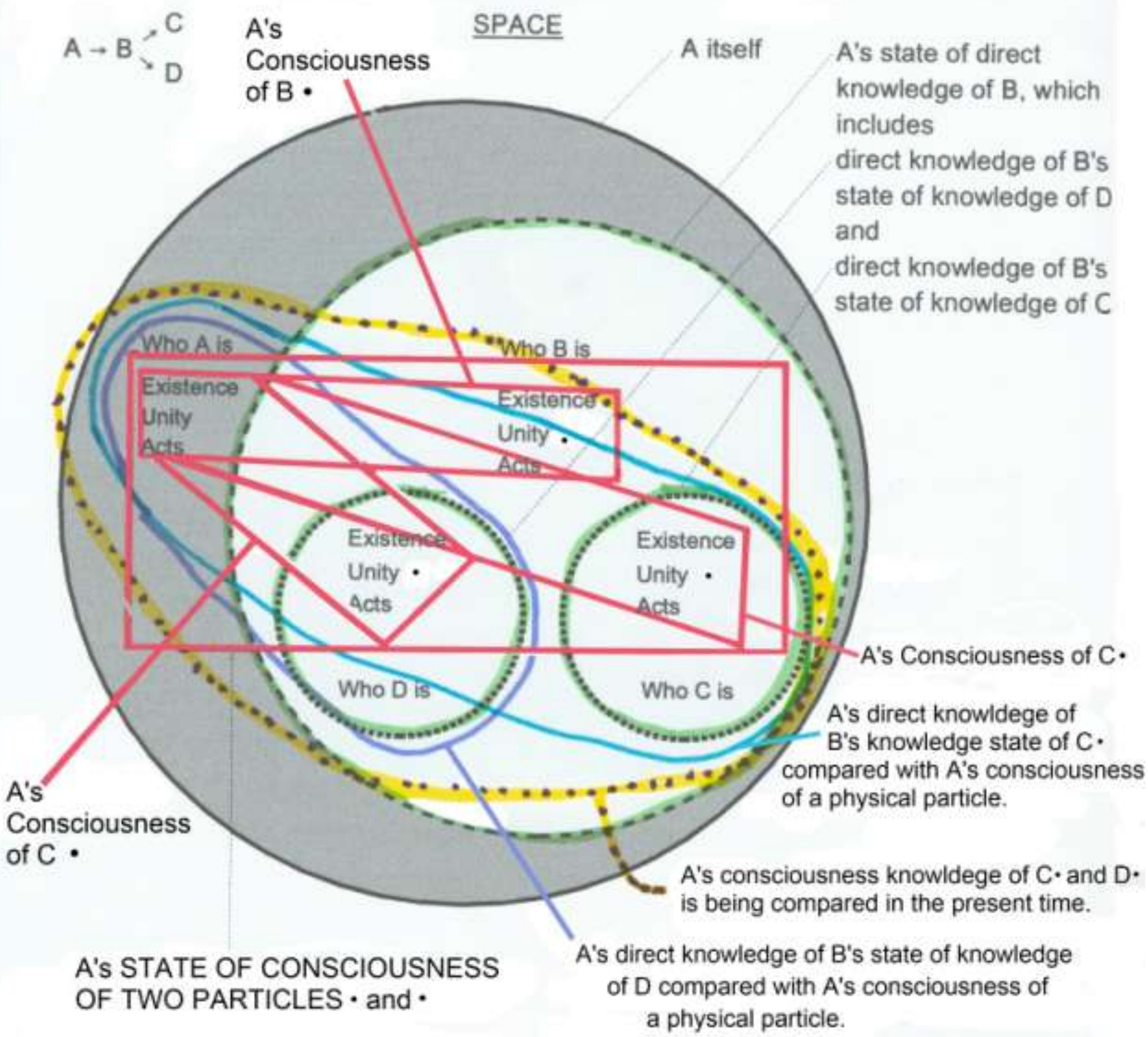
4:43

Now B, it is true is… gets to be in the state of consciousness of C ● and D ●. But that consciousness that B has is not passed along to A; but the states of knowledge are. The states of knowledge that B has of D and C are included in A's knowledge, direct knowledge. Then what happens is the thing that brings about the space. So, we'll go on here.



Content of A's state of consciousness:

Protofermions C• and D• as the termini of a one dimensional bounded space continuum one unit of distance apart from each other in what is the present for A.



Overall content of A's state of consciousness knowledge:

Protofermions C• and D• as the termini of a one dimensional bounded space continuum one unit of distance apart from each other in what is the present for A• and B• one unit of time (tq) in the past of (lq̂) that is present time.

5:37
B: Yes, because what differs [note: differentiates] states of knowledge and consciousness is that in consciousness this sameness is included. And space is what sameness is not. Actually, space is something which

YM: Is different.

B: is different of sameness, actually, in a way, to say opposite. We include space to make things not to be the same. They have separate...
6:12
Y: It's actually the other way around; things are… because they're different. But there is no 'who's' involved; so we call that space. So, if we're in the unitary state of consciousness which A is in of these sub direct knowledge states that are different, we call that difference, a difference in location.

B: Yes, opposite of sameness.

Y: Yes.

B: Direct knowledge is different from consciousness in not having this sameness.
7:03
Y: Yes.

B: And not having this sameness is space.

Y: We call that space. What it really is, is just not having the sameness.

B: This is Pauli Principle in a way.

Y: The what?

B: Pauli Principle.

Y: Pauley?

B: Pauli, the physicist.
7:12
Y: Ah, Pauli, yes.

B: Pauli Principle for the particles, for the fermions.

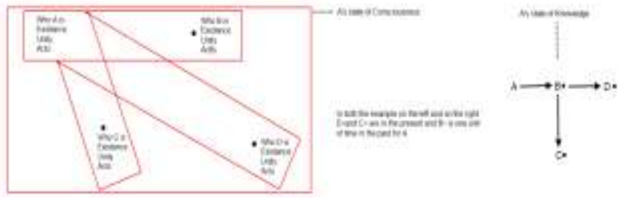
Y: To try to fit them in the box.

B: He says, "There couldn't be two particles in the same place."

Y: At the same time.

B: At the same time.

Y: That's right. All he did was just say this is the case. He didn't explain why it's that way. And we are explaining why it's that way. Because you are you: and I'm me.



B: Yes.

7:52

Y: So let's go down to this one.

(Diagram of Space page 22 *The Lila Paradigm of Ultimate Reality*)

A's consciousness of C ● and D ● is being compared in the present time.

Now you have to remember that looking up here, C ● and D ● are both in the present time of A. But B is in a unit of time in the past for A. So A's consciousness of C ● and D ● is being compared in the present time. But that comparison is due to the unitaryness of A.

8:38

So a measurement is taking place. And that observation or that measurement is a state of consciousness in itself of the difference between the two. The difference is at the level of direct knowledge. The particles don't look different. But they're based upon a difference. C ● and D ● look the same; but they're based on difference.

9:18

So what I'm saying is that the direct knowledge is included and backing up the consciousness. In fact, it's where the consciousness comes from. In fact, there isn't any consciousness at all; it's an illusion. It's just the actual states of knowledge and their relationship to each other which includes the difference because in the states of knowledge level A does know that C ● is different than D ●.

10:02

Or to say, that because of the bifurcation, that when it arrives at B, the bifurcation on the level of direct knowledge arrives at B, those two are compared. See B, in this case, is the comparer for A; and B is the *buddhi*, the judgmental, the comparer, the measurer, the observer.

$$\begin{array}{ccccc} A & \rightarrow & B & \rightarrow & C \\ & & \downarrow & & \\ & & D & & \end{array}$$

B is the comparer

10:43

So, you can never find yourself as long as you think you are the observer if you are doing self inspection. Like the Enlightenment Intensive, "Oh, I'm the one who is conscious." Well, yes. You're the one who is conscious; but you're not the conscious state. I think, in there somewhere, I've said what's necessary. But it's not laid out neatly in written linear form. Anyway, let's read the last part here.

11:10

In summary then, what is the content of A's state of consciousness? Well, the content is

(Diagram of Space page 22 *The Lila Paradigm of Ultimate Reality*)(The last statement at the bottom of the page)

Protofermion C ● and D ● as the termini of a one dimensional bounded space continuum one unit of distance apart from each other in what is the present time for A●.

11:40
If you listen on the recording to what I said over and over again, it's in there. But you'll have to deal with your own mind as you need to deal with it in order to see that there really isn't any space or distance. And there really isn't any consciousness; that consciousness is an illusion of space. What there really is, is the difference of the individuals on the level of direct knowledge; and that's all there is. I won't say it again.
12:23
You should differentiate between 'now' and 'the extant'. It came to me to say that to you in the middle of the night.

Bret: acknowledges, I don't like the word 'compared' for a similar reason.

Y: OK. We'll leave it at that for now.

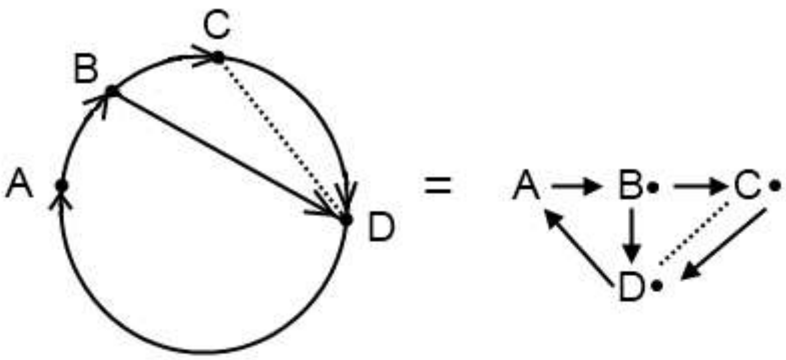
Y: OK. I want to add one thing here, Biljana.

B: Yes.

Y: We have here a one unit of distance.

B: Yes.
12:56
Y: That's what appears in the consciousness. There is no actual distance. There's only the difference. But this one unit of distance, one might think since one unit of time I said was a Planck time, you would think that one unit of fundamental distance is a Planck length of one dimensional difference of distance; but it's not. It's little n times the… you need little n units of this distance, this fundamental unit of distance, in order to be one Planck length (n x lp?). I don't know if you're familiar with the fundamental units, the Planck units. You've heard of Planck?

B: Yes.
14:02
Y: He figured out what could be the fundamental length if there's going to be the fundamental unit of length.



I have a circuit here. It goes that way. And then, we have this cross over; and that makes the bifurcation. So here we have A, B, C, and D; so we have a unit of space there. Now, since they're all in presence time, this must mean that B● and C● are in present time. Every individual from D there is another unit of space. So, there's little n of them. You sum all those up. You take the sum of all those units of space. 'pl' is equal to one Planck length; 'p' is for Planck; 'l' is for length.

15:46

Bret: Can you clarify where the arrowheads are on this?

Y: Well, there's arrows all the way around to each individual.

Bret: Yes, but on the cross overs? Where are the arrowheads, please?

Y: This one.

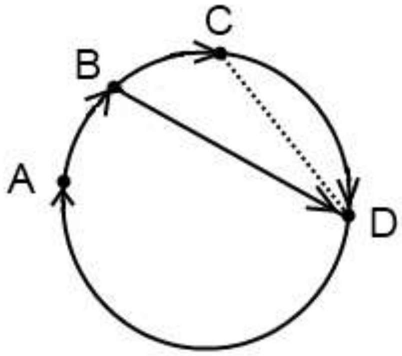
Bret: Yes

Y: This one comes from A to here.

Bret: Acknowledges.

Y: And this is an arrowhead here.

Bret: And on this segment? This is the arrow from B to C; but on this segment…



16:15

Y: No, no, no. This is not directed. There's no arrow here. This is one unit of 'lq.' I call it, length quantum; and it takes n number of them, little n number, which is to say how many are in the circuit to make one Planck length, because there's this many of those bifurcations because they all act as if they were C. Every one of them are the individuals.

Bret: Everyone has… OK.

17:09

Now, on the other hand, we have a unit of time here. From A to B to D is a unit of time. So, this arrow going across here is like one time or Planck time. So for every arrow that goes across, you get one Planck time; and you get all this space. This is the connection between time and space. And it's called space time or time space. So you get n of those. That gives you 'nlq' in one Planck time which is equal to one Planck length; and one Planck time is the speed of light.

[Speed of light = n lq/1 tp = lp/tp]

18:31
Bret: Is that written in the paper somewhere?

Y: Yes, in one of them.

Bret: I have a question.

Y: No questions. You can note down your questions; and we'll deal with them later. There's more than one way to restrain.
19:11
So this arrow across the circuit creates the time, creates the space, and how much space per unit of time at the speed of light that makes this arrow a photon. It's a boson. It makes the space and the time for all the individuals in the circuit or connected to the circuit. When I discovered that I said, "I think I'm on the right track."
19:52
B: Yes, great. What makes it be boson is the fact that it creates time; and it creates space. And it is the most elementary creator of time and space.

Y: Yes. It creates, actually, the illusion of both time and space that, that illusion really exists as an illusion. What it really is, is us and our relations.
20:22
B: But, the circuit is also necessary in order to have the definition.

Y: Oh, yes.

B: It is necessary. It is essential in order to have unbounded space and time.

Y: Unbounded space and light. And see the light is called the electromagnetic wave.

B: Yes, it is a wave because it circles around.
20:55
Y: Circles around. And this is the changes of phase that Feynman talked about.

B: The changes of phase. Yes, it is like a time.
21:08
Y: That's right because as time is going along and the magnitude of the amplitude is changing over time. And this is the actual… He just had to take one step back. And the reason he didn't do it… Feynman was certainly bright enough, incredibly bright. The reason he didn't do it is because he didn't know what he was.
21:40
B: Acknowledges. In the sense… OK. It is obvious, but…

Y: It wasn't obvious to him though. It's obvious to you because you understand this on your own. You were born like that.

B: He couldn't consider particles to be of the same quality as he is.
22:16
Y: You're right. OK.

B: Is it connected somehow? Maybe it is just a speculation. But since we have got the same sine and cosine, and since while observing the equation of yours, 'n is 10 to e to pi (π)'…

Y: Uh huh.
22:50
B: e to pi (π) is (If I?) algorithm of this is algorithm of n; and if I put this to the degree of 5 –, 'e to i to pi (π) is the algorithm of n to i. So I got the sines e to i to pi (π) (is cosine pi (π) plus e, sines pi (π); it is to the algorithm of n to i. So we have these waves in a way. Is it connected somehow?
23:28
Y: It is. You're right. You've got a wonderful insight there. You keep that.

B: Yes. And also here I found this equation.

Y: You found it in Schrodinger's equation.

B: In Schrodinger's equation; yes. Here it is. This is the same equation.

Y: Would you make a note of what page that is on?
23:52
Punita: Page 235.

B: This is e to i to pi (π).This is e to i to something; and, in our case, it is pi (π). This cosine plus pi (π) sine while i is self referencing self because it's square of minus 1. So the secret is also here because we have both…

Y: That's the secret.

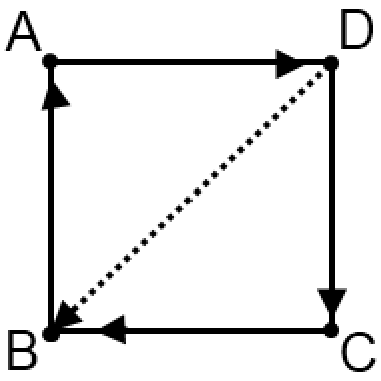
B: …self reference and negativity. And just like in Gödel, it leads to paradox. (Laughs)
24:36
Y: OK. We're going to go one more step then. Now, you notice this is just one arrow across the circuit. This produces one dimensional bounded space; but it becomes unbounded because of the circuit. But that's just one dimension. To get another dimension, we need another arrow coming from the same individual. So I'm going to draw this in. This also makes one dimensional space; but it's compared or merged. And we call that a right angle merge or orthogonal. Ah, I said it; orthogonality.

Bret: Orthogonality (corrects pronunciation).
25:59
Y: Orthogonality? OK. That's if you're from Florida (Laughs). However, what happens is… something happens to our wave. This is for one dimension because you go around the circuit. And then you go through *this* arrow this time and go around the circuit at a right angle.
26:29
B: Oh, you are right. This is orthogonal; it should be orthogonal. And then we have a wave.

Y: That's right. And then one more, three dimensions. But why not more if you can go little n number of them? What happened to all those extra dimensions? Well, they're not

experienced as dimensions. They're experienced as energy, motion of particles. And I don't know the complete reason why; but I'll show you what I do know about it.
27:26
We have a circuit. This is the smallest circuit that can be crossed over. Because if you try to cross over this…

B: It's not possible.



27:43
Y: It's not possible. This is the smallest circuit; and this bifurcation is in it. So, if this is A, you come to B here; and you have C here and D here. This means that you have a dimension there. And you can rewrite this so that it's in a different order. But still you'll get another dimension. And you can get another dimension; but you can't get anymore. In other words, this can not decay any further.
28:35
B: And still have dimension.

Y: And still have dimensionality, yes. So three dimensions. You can't get less than that. It can't. But any extra ones going across the circuit… you can't get anymore to go across the circuit here unless you go out here like this to E.
29:09
B: From B you have just two arrows, not three, starting from B.

Y: Yes. But that gives one dimension space. See that's A, B, C, D bifurcation; so you've got one dimensional space there.

B: Yes. I understand; but you have mentioned three dimensions.
29:31
Y: What? I can't get anymore dimensions.

B: OK. OK. Maybe…

Bret: You said it can't decay less than three.

Darshana: Two arrows from B there.

Y: There's two arrows right there.

Bret: But that's only one; that's less than three.
29:51

Y: But I said that you can rewrite this. That's where the weak point of the logic is. But on a large scale circuit, you can do it. Anyway, I said it is an incomplete argument. It even says that written on the side in the margins. It says, "This paragraph is an incomplete argument." But it seems to me that I'm on the right track of something here that says of why there's only three dimensions.
30:27
B: But this is planar. Does it change if you put this on a sphere, you know? The same this to put it on a sphere? You have a sphere. And sometimes this changes things when this is…

Y: You see? Who else would know that? You know topology.
30:51
B: Topology? Yes. (Laughs.) Yes, it is topology. If you take this end and all the way around here, then, maybe, the situation could be changed. This is still planar; this is the planar graph. But if it is not planar, maybe, it is changed.
31:22
Y: Maybe, you're right.
31:41
B: You know, there is a very famous problem in mathematics. It is the 4 color problem.

Y: Yes, I'm familiar with it.

B: In this problem…

Y: It's been solved.

B: It has been solved after many, many, many years.

Y: Yes, recently.
32:00
B: Recently. But while you're looking at the proof, there is a situation like this one. Why this is demonstration how they show why it is so? This is concerning the graphs of degree three; and you have here the graphing of degree threes. So I think this somehow connected to this on; but I still need to think about it. When we have a planar graph of degree three, as we have now and as we have in this illustration of 4 color problem, then 4 colors are sufficient to color any surface. This is the problem; and it is a very famous problem.

Punita: Uh huh. Yes.
32:53
B: And while trying to prove this problem, in the middle of the proof, a picture like this appears. You have a sphere. And from one side of the sphere, you have a smaller circle written on the sphere. So this is like a ball. And this is like a circle on the ball. This is one projection of the ball. And from the other side, this is the ball. This is the circle on the ball. And from the other side, there are lines like this one.
33:32
Y: This is the same thing that t' Hooft did on the…

B: Who?

Y: t' Hooft, on the magnetic monopole.

B: Ah hah. Maybe.

Y: He did the same thing.
33:42
B: Maybe. And then from the other projection, if I turn around this ball on the other side, these lines come to a ●. This is the part of the proof. And it moves us closer to the solution and to the reasoning why this is so. This is so; it could be shown. You could draw hundreds of different graphs trying to find an opposite example which will ruin this; but you won't be able because it is so. But it is not so easy to see. But when you draw it this way, then it is easy to see why it is so. And I'm sure this could be projected somehow here to have both circle and the minimal arrangement which creates space and time.
34:50
Y: I see what you're driving at. You can look into it and see what you come up with.

B: OK. I'll need to… maybe, we should do a model somehow and extend this. It will be easier somehow to model it with…

Y: In three dimensions?

B: In three dimensions. With… I don't know the word. The children are playing with it in school. What is the name? It's plastic.

Punita: Yah, I have some.
35:22
B: We might do it. We might draw on it and then see what happens when this is put on a sphere. Although we could figure it out; but it's easier. Also, here, when you divide lp over tp, this is speed. OK. I agree; it is speed. But why it is speed of light? Why speed of light? Why not some other speed? What makes it be speed of light exactly?

Y: Because that's what light is.

B: Ah hah. OK.
36:00
Y: Remember, I said that when you cross over the largest circuit, you get an electric charge, that D here gets a minus charge; and B gets a plus charge.

B: This is according to Lila or according to physics of particles.
36:20
Y: They have no idea where an electric charge comes from.

B: But when you put the charge, you don't put charge to non-physical individual. But to what?

Y: B ●.

B: Ah hah. What I see as non-physical individual.
36:43

Y: Yes. This would be a positron. This would be an electron. D ● has a minus charge; and B ● has a plus charge. It's a positron electron. It gets that charge because the pathways are different length. So when you compare two pathways between particles, it's trying to be at one distance apart. And it's trying to be at a different distance apart, both at the same time.
37:32
So that's called potential energy. It wants to go. That's what a charge really is. We should think of particles located in space. And they're… but here if you study it, you'll see that there's two spaces distance apart, one by one pathway and one by another pathway. The difference between those two is the amount of the electric charge. The electric charge is only noted that it is either a repellent or an attractant.
38:22
B: These two parts. Which one are… this and this or which one?

Y: You want to know what an example of two pathways?

B: Yes.

Y: First, we have to go back to this to show that there's one distance apart, in this case, between D and C, between D ● and C ●.
38:45
B: Yes, it is. We have a structure of beginning here.

Y: Here.

B: Ah, beginning here; yes, this is A. And then we have this and this which is the same as this one.

Y: And there's another one over here. That makes this distance here between these two, for example, be 3 lq. One is not shown here between Z. Another one of these… I don't want to draw another one along here. It just…

B: OK. Maybe with red. Unfortunately, we don't have red pencil; or, maybe, with a dashed line, you know? OK. There is another…
39:38
Y: Just imagine that is so.

B: OK. There is another one going from Z to B also.

Y: To B, and then to here...

B: And C and D.
39:51
Y: And that makes the distance here be 3. For example, it could be a thousand; but in a circuit, they all come out to be multiples.

B: You know, actually, implicitly, maybe you are making this a ball in a way because not just planar implicitly. Maybe not, maybe not.

Y: I think you might be right because this ball I said was a magnetic monopole.

40:32
B: Ah hah!

Y: This whole thing and in that paper that Punita read to you…

B: And this is the pole, actually; the pole of the monopole, this dot.

Y: Well, in this state, it has to be in this whole state of being in the circuit.
40:53
B: Because here the bifurcation begins. This is why I point to it, to this one, because this is where the bifurcation begins and the perception of time and space. So I have one arrow going here and bifurcating. And I have space; and I have time because of this being in the memory. And then, I have another one going also to B and bifurcated to C and D; and I have another. And if I watch it on a ball, one is like this; and the other is like this.
41:44
For instance, I have here A ● on a ball. This is A; and this is B. And from A, I have an arrow going to A and bifurcation from B to C and from B to D. And then, I have another one, Z. And from Z, I have an arrow and the same bifurcation to B and to C. Is this so? And between B and C, there is one unit of one dimensional space.

Y: Yes.
42:39
B: This is in the consciousness of A. And in the consciousness of Z, this same unit is one dimensional space. Is this so?

Y: Yes.

B: I'm trying to figure out where from this 3 came. Why 3?

Y: I understand what you are trying to do. I haven't ever done it.

B: It might be…

Y: I see what you're doing.
43:05
B: And how could I get this 3 lq? Thinking like, if this is correct so far?

Y: I don't know. Let's figure it out.

B: OK.

Y: What I'm saying is that because of the difference of the length of the pathway…

B: Ah hah. Potentiality appears and…

Y: It should increase it in steps, in discreet steps.

B: No. Why 3? Why not 2, for instance?

Y: It could be 2.

43:53
B: Ah, OK. Then it is clear. This was not clear to me. It is different, yes. So the point is, this is different.

Y: Yes.

B: And this creates the potentiality and the wave.

Y: And the 2 are compared… Right?

B: OK, great. I thought, maybe, 3 has a meanings.

Y: No, no, no. I said, 'For example.'
44:15
B: It is just difference, yes. It is just different, yes. But in this presentation, it seems not to be different. Why? Maybe, a conceptual error in the… this presentation should give us new insights, I'm sure of it, at least for me.
44:33
Y: But it doesn't. You're probably right; but we have to have a different…

B: How could I illustrate this on a sphere and to be clearly visible that I have difference?

Y: I don't know. Somehow you have to figure it out so that the pathway is different making more linear space.

B: But it should lead to C, D, as well, to C and D.
45:12
Y: I'm afraid to say what I think. It probably is. It's the square root of minus one. It's dealing with another pathway.

B: You might be right because the wave implies sines and cosines. And this is I [I]. I mean, square root of minus one included.
45:46
Y: Now, at this point, what we need is seven mathematicians and five theoretical physicists. And you assign it to them to find those answers.

B: Acknowledges.
46:05
Y: If we can get that difference, and that difference is basically coming in the bifurcation… but you can have a three-way… a bifurcation. So if this is a distance here, and there's a distance here. And we compare this distance to this distance. But this deals with this. We have to get a situation in which between A and B has one unit here of space; and it also has 2 lq of distance.
47:00
B: If I present it on a sphere, I could create a difference by taking the one this way and the other this way. And they still will be beginning C and ending in D. And thus, I have the monopole, the picture of the monopole. You know?

Y: Ah hah.
47:24

B: It is very significant; I believe so. You see, I'll draw it once again. I have a sphere here. I have a sphere. I have a sphere. And then I have here B which is the source of the bifurcation. And I have here A in whose consciousness all these perception is created. So here from B, I have one arrow going here, one arrow going here. Here is C, here is D. And now I have one length;

Y: (Acknowledges).
48:02
B: and here I have another length. And this is the picture of the monopole as the way I have seen it; you have shown it to me. This is resembling the picture of the monopole. But still, the picture of the monopole where we had t' Hooft…

Y: Yes, I remember. What happened to it?
49:05
B: Here it is. So we are coming to a picture very similar to this one. And the explanation is practically very similar to this one because you say…

Y: But how does this length get – Ah hah!

B: I have one length here and other, different from this one, here and still having C as its source and D as the destination.

Y: But what is making the difference? How does this make it different?
49:39
B: All these lines are different. Although having – all these lines are different.

Y: Yes. But what is the sphere? What is it? You said, "It's consciousness?"
49:55
B: Yes, yes. It shouldn't be out of the space and time. I still don't know why this. Why the different? Where from the difference in the length came from if C is the source and D the destination? I believe what I have seen in your pictures when you were describing energy, as I understood energy, appears out of the not having symmetry, out of the potential difference coming from the asymmetry of the picture. And there you had two arrows as I remember. For instance, this is…

Y: Yes, there's this pathway and this pathway. This one is two; and this is one…makes a graviton.
51:11
B: I saw this somewhere in this radical theory when you're defining energy as difference between… the way I understood, at first sight, was that the difference creates asymmetry or a potential difference which creates a tension. And this tension is energy. This is how I understood it. It may be wrong.
51:42
Y: What if you have a bifurcation here and another bifurcation here? And then you compare the two so one of it's going to get the sum of both of them?

B: Where are the arrows? These are also individuals?

Y: Yes.

B: And the arrows?

Y: That's an arrow; and that's an arrow. I was just saying this individual…

B: And here, here and here.
52:27
Y: But that comes out to be the same. But, no, this is what… if you compare this one to this one, this one gets two. I don't know. I think it's going to take some work.

B: Maybe, you had it here somewhere.
52:55
Y: This is where Stapp and I were working on motion, the change of distance comparing one at one time to an arrangement in another time, the illusion of another time. So, I think we're… and then, when I was talking to Finkelstein about it, he said, "Charles, remember that energy and time are closely associated." So the thing that we're not including here, along with the space, is time. So that you…
53:52
We compare one arrangement at one time to another one, and then compare one to the other. And you'll get a tension between the two, between this distance from one time and the distance at another time. Then you combine both of them by unitary consciousness that compares the two times, one that gives a certain space. The other one gives a different space. And you compare the two. That would be tension or a change of distance apart.
54:38
That is hinted at in the '*98* paper*,* the 1998 paper on a *Radical Theory*. So that gives me an idea how this fits to this. You'll have to do that. But I can get… tomorrow; I'll have something of what I was just saying ready for you to look at. Then you can see what you can do with it.

B: OK.
55:14
Y: OK. I think that's enough on space at the moment.

Y: Did you have your food for thought?

Bret: Yes, I think I see an approach.

Y: OK. Good. OK. Now I'm going to go back to our basic paper that we've been working on

(Page 23 at the bottom *The Lila Paradigm of Ultimate Reality*)

3.0 A Few Examples of Computations of Magnitudes

at the bottom. OK?

B: Yes.
56:33
Y: (Yogeshwar reads from paper)

3.1 The Magnitudes of N, K and n

It turns out that labeled *directed* graph theory accurately and mathematically represents the compositional patterns (arrangements) of the paradigm offered here. The key magnitudes in a directed graph are the number of nodes N, which represents, in this case, the number of nonphysical individuals; the average number of directed arcs (arrows) per node (K), which represents, in this case, the average number of states of knowledge per nonphysical individual; and, the number of nodes (n) in the spanning Hamiltonian (here, the largest circuit). In this case, (n) represents the number of nonphysical individuals in that largest circuit.

57:30
This we know pretty well.

In this paradigm it is assumed that there is a finite number of nonphysical individuals, for if this were not so all computations of magnitudes of physical phenomena would be infinite.

57:55
And they don't come out that way; they're finite. I was discussing this with Dr. Finkelstein. And he agreed that it would be true that instead of some of them coming out infinite, they all would.

58:06
But then somebody asked the question, "Well, if it's a finite number, why that particular number? Why is there the exact number of individuals, nonphysical individuals, that there are? Why that number?" Well, I can reply several things.

58:38
Well, if it's a finite number, it's got to be some number; or there's none at all. There's zero. But if there's a finite number, it's got to be some finite number. And since they are not created, it's not a matter of somebody making a certain number and needing a reason why or creating a particular number for some particular reason. In other words, this is not the fine tuning stage. Fine tuning stage, we're going to take up later.

59:18
So there's no reason why because they weren't created. There's no reason why that number exists.

59:30
The mistake is that people imagine there's this nothing. And into the nothing, something comes into existence. This is not the case because if you press those people, they'll say, "Well, God was the one that brought the something into existence." Well, then you say, "Well, where did God come from?" They say, "Well, God doesn't come from anywhere. God is not in time. God wasn't created. God just is."

1:00:00
Well, I say that the number of non-physical individuals just is. And that we are the basis of everything. We are God. We are the *Elohim*. We are the ones. We're the basis. And everything has come out of us as we've just been working on partly successfully and partly frustrated. So…

1:00:34 (Top of page 24 *The Lila Paradigm of Ultimate Reality*)

Using the finite number of nonphysical individuals (N) and the finite number of acts of being in a state of knowledge by those nonphysical individuals (NK) and the number of nonphysical individuals in the largest circuit (n), it is possible to use combinatorics to compute the magnitudes and probabilities of various realities and phenomena. In the following, I have not always included the arguments explaining which arrangements appear as which physical particles and their relations.

1:01:18

Y: Although, in some cases, I have. And I have more than what's in this paper; and I'll share them with you.

> N has been found using various measurements of physical phenomena such as the rest mass ratios of the charged leptons.

1:01:39

Y: So, you take the mass of an electron and compare it to a muon's mass. In that ratio between the two, you can compute what N is. And, in fact, it's shown in the next paragraph. Also, you could compute N from the point of inflection of the inflation curve.

1:02:08

> The point of inflection of the inflationary curve

is pi (π) over 2N ($\pi/2n$) which is an interesting thing. In just 16 arrows going from 10,000th of 1% of the connectivity to almost 100% in 16 arrows added near the point of inflection causes them to all join together. All the little subgroups go "do, do, do, do" (makes noise). And it all becomes nearly all connected, indirectly connected.

1:03:00

When I saw that mathematically, it was shown to me by Baker and Seeley, two of my students that are not here now (one is in Adelaide and one is in Vancouver). They showed me the mathematical curve of the connectivity. And I said, "That looks like the inflation curve." Well, it's close to the inflation curve; it's not the inflation curve. Inflation has to do with how much space. This is how much connectiveness there is, indirect consecutiveness.

1:03:38

Well, anyway, from that you can compute what the value N must be in order for that to be so that pi (π) over 2 times N ($\pi/2N$) arrows or connections, directed connections, is the inflection point of the curve.

1:04:07

Also you can compute N from the elementary charge of the electrons or positrons whatever the elementary electric charge is attached to. And also you can compute it from the ratio of pi (π) combined with the natural number e. That is to say, all these values including pi (π) and e are determined by the value of the number N. So, I turned it around in that last sentence to say, "Really, it's the number N that determines what these other values are." It's not that pi (π) and e determine how much N is; it's the other way around. And you should be thinking of it that way when you're trying to write down descriptions and formulas and examples.

1:05:34

Punita: Biljana, I'll try to find a smooth plastic ball; and I'll get some whiteboard markers in different colors. Is there anything else (needed) for your modeling there?

B: No, this is OK. Maybe, pencils in different colors.

Punita: Well, that's what I mean, the whiteboard markers because those can be erased. The whiteboard makers, you can erase those.

1:06:00

B: OK, great.

Punita: Like the one he is using… Having done enough presentations… And something like this big, the ball?

B: It’s too big.

Punita: I’ll see what I can find. Anything else?

B: No, for now.
1:06:32
Y: I was just thinking that after we get through the sharing of the Lila Paradigm in outline, then we can do more brainstorming. You know brainstorming?

B: Yes, I know.

Y: And thinking, “How could this be?” And, “How could we solve this?” ”Well, this is my idea.” ”Well, this is your idea.” They’ll be plenty of time for that.
1:07:00
B: OK.

Y: OK. (Middle of page 24 *The Lila Paradigm of Ultimate Reality*)

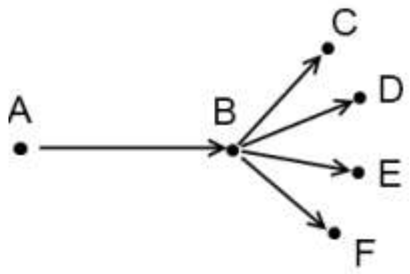
> First, the value for N is found from the rest mass ratios of the charged leptons. The number of states of knowledge (arrows) involved in the substate that represents the rest mass of the tau lepton is…

1:07:20
There’s 3 leptons. Levels, families, they call them: the electron positron, and then the muon and the anti-muon, and then the tau and the anti-tau. Where did this formula come from?

> the 5th root of 120N to the 4th ($\sqrt[5]{120N^4}$).

This is a probability formula; and it really defines what mass is. You got a picture of this didn’t you?

Punita: Yes.
1:08:15
Y: OK. Here it is. You remember our (puts several points on the white board)… and we randomly put in arrows between these nodes. Now how many arrows do we have to add to an N node graph in order to get at least one to expect that probabilistically there should be a certain pattern?
1:09:29
In this case, this is a pattern of five arrows connected; and it all comes down to… for an individual here, we’ll call him A, that is in a state of consciousness of this situation. This is a tau particle. A, in this case, will be conscious of a tau particle. But how many arrows do you have to put in here before you get a tau particle? Well, the number is the 5th root of…



B: 120.

Y: of… what is it? 4 times 3 times 2 times 1.
1:10:31
B: Ah, 5 factorial.

Y: Factorial, yes.

B: Ah, so. OK.Yes, because there are 5. Ah, I could find it out in a way; but I don't know the root. Ah, I know, I know (Laughs).
1:11:00
Y: And this is N.

Punita: That should be 5…

B: That's 5 factorial?

Y: This is 5 factorial; and this is 4. That's how many arrows you have to put in here in order to expect that one of these patterns would exist.
1:11:20
B: Ah hah! This is the number of relations. The number of arrows that…

Y: Yes.

B: N1 or anything. So N1 on 5th degree is 5 factorial, N on 4 degree. It is N, N, N, N, N over 5 degree, is this.
1:12:00
Y: Now, this is just standard combinatorics. But the insight is that because putting arrows in your graph means each one of these arrows is going to start producing time after awhile. So you get some time happening. So it takes…in the illusion, time seems to be passing 'til you get one of these. So, that's mass…is that it's slowing you down. You have to go (makes sound) deet, deet, deet, deet, deet, deet, deet, deet, deet, deet in order to move this from here to here to get another one. We haven't defined motion yet; but, in order to get this, it takes time
1:12:60
in order to get the illusion of a tau particle. If you have a tau particle, and you want it, instead of being here to be here, you have to go through this process. You can do it either adding; or you can just say, "How many do I have to take out and isolate together as a substate in order to get a substate like that?" I think it's easier just to think of adding. The illusion of time is passing 'til you get another one like this. So that moves it one unit of Planck length from where it is here to where it is there.
1:13:55

I'm trying to do it this way rather than going through the longwinded way of taking two days to discuss motion. Remember, these are not located in themselves in time or space. We're just looking. It generates the illusion of a certain amount of time having to pass in order to generate a tau particle. And now you're going to do that again. It takes still… that many more have to be added in order to get another tau particle. That's in this new position. But it's not another tau particle. It's the same tau particle it seems in the illusion. Actually, it's not. In fact, there isn't any tau particle at all. There's only the pattern.
1:15:00
Do you know the example that they always give? There's a beautiful cartoon of Margaret Thatcher when she was in power as Prime Minister of England. People noticed that when she came into a meeting room where they were all having cocktails of (with) all the party followers, she would try to walk across the room. But people would gather around her and say, "Margaret, what about this and what about that; and you can't do this;" and she would have to answer back.
1:15:40
That's the mass of her motion…is that she has to deal with all these relationships in order to move one inch by inch by inch across the floor. And that's the analogy that's given by physicists for explanation of the pattern of what mass is. Well, this is the Lila explanation of the same thing.
1:16:10
Now, if you can make that leap, then you'll see what I'm driving at, that it has to be dealt with. How many do you have to deal with is how many it takes to make a pattern like this to exist at least once. Now, it's going to be an approximation, this formula.
1:16:36
B: What was that?

Y: This is an approximation.

B: Approximation, yes.
1:16:44
Y: It's not exact to the exact number of arrows. I'll show you why I think it's right; and then we can figure out the explanation behind it. And this is what I hope you can help me do amongst other things. So first I'll show you that it's right. And then we can brainstorm all we want about how do we explain this in terms of a tight logic.
1:17:14
B: Have you explained actually what movement is, or not yet?

Y: I haven't. I know.

B: Because I understood that… OK. This I understand, the more we have first…

Y: The motion has to be…

B: Random

Y: In a circuit.
1:17:35
B: Ah hah. No, because I understood that. Maybe, the time, so to say, not the time, but the illusion of time from obtaining one perception in the consciousness of one of the individual's perception of tau… And then by adding new arrows, new arrows, new arrows.

And the number of these new arrows approximately is 5th square and so on and so on. Then after awhile … I mean the illusion of after… when we have enough new arrows, new arrows, then we obtain another perception of tau. And this could appear as a movement of this particle, or is it not?

Y: I think so.
1:18:23
B: OK, great. Then if specifically you said something like this; and this created the picture of… Then, this is excellent. (She laughs.)

Y: We're communicating.

B: It's great. And the resistance to it is mass.

Y: Huh?

B: And the resistance to this to happen is mass?

Y: Is mass, yes.

B: Is mass.
1:18:46
Y: This is the definition of mass. Nobody knows this! That it's a big mystery: "What is mass?" It's no mystery at all. Now we have another one here which is…

(Middle of page 24 *The Lila Paradigm of Ultimate Reality*)
the electron lepton

It's given here as the cubed root of 6N squared

$$(\sqrt[3]{6N^2})$$

or this is just factorial 3. And the general formula, as Michael Baker has given it,
1:19:21
B: Ah 6 is 3 factorial because we have here the third square root. So the formula is N square of N factorial…

Y: Minus one.

B: N on N minus one; this is the formula.

Y: Yes.

B: This is the formula because the number, the degree of the square root, is the same as the factorial.
1:19:45
Y: Exactly, 9.

B: And this is one less.

Y: This is just the probability formula from combinatorics.

B: OK. Now, I know. This is the probability for the electron.

Y: And the muon is the one in between, 4i is 4. That's for the muon.
1:20:19

B: Then it should be 16, 24. 24N on 3rd. 4th ~~square~~ root of 24 N on (to) 3rd ($\sqrt[4]{24N^3}$) is the probability formula.

Y: Yes. Correct. Now, the interesting thing is…

B: Ah, it's here. I haven't seen it. It's on the other side. (They both laugh.)
1:21:02
Y: Now, if we take the ratio,

> the paradigm's equation for the mass ratio of the tau particle to the electron is 2 [$\sqrt[5]{120N^4}$ /$\sqrt[3]{6N^2}$].

Two times the ratio of their masses, of their mass numbers, I would like to call it. So you see it written out there.
1:21:26

> The best measurement for this ratio was done by Dr. Pearl (1990) and is 3,491 ± 6. Solving for N, N is 1.3836 x 10^{23} non-physical individuals. The mass ratio equation of the muon lepton to the electron is

You see how close that is to the 10 to the e to the pi (π)? $(10^e)^\pi$

B: Yes. But even more important, now, I see why N is obtained out of rest mass. Now, I see.
1:22:02
Y: Isn't that something? How could that be? The night I discovered it, I said… I took the ratio and I said, "But I've seen that number before in this paper on the tau electron." And then I also… if you look at the mass ratio here, of the mass ratio between the muon and the electron…

B: OK. I now see. It's great…
1:22:27
Y: is 206.7682657 where the measured value there is very close to that.

And so we get 1.3841. Why they're slightly different, I don't know (1.3841 x 10^{23}/1.3836 x 10^{23}). I took this to the head of the Department of Physics at Canberra and he said, "Well, they just make errors in their measurements." And he says, "I wouldn't worry about it."

B: This is great. This is really great.
1:23:03
****End on 28 May**
Y: How could we come up with probabilistic formulas that not only match the ratio between the electron and the tau particle, but also between the electron and the muon using the

same value for N? How could we do that that matches their measurements? Well, then we must be on the right track.
1:23:30
B: Yes. We have to find out the structure, the structure as you have for tau. And when we find the structure, then we must find the probability for this structure to appear first time. Then the probability by adding new arrows, new arrows, new arrows... We must find the probability for this structure to appear second time. When this structure appears second time, this will create the illusion of moving of this structure.

Y: That's what I say.
1:24:07
B: And then… but this movement is a subject ~~of~~ (to) resistance.

Y: Well, the resistance is…

B: The resistance is the mass.

Y: How many arrows you have to…?

B: to add. This is the resistance. The resistance is adding the arrows.

Y: adding the arrows over a period of time. It seems like that slows you down.
1:24:32
B: Yes.

Y: The resistance.

B: But this time is illusionary.

Y: Like Margaret Thatcher. (Laughter.)

B: And then, when we find the resistance, or the number of arrows added in order to have movement, then this should be divided by the same process done for the other structure which represents the other particle.
1:25:02
Y: Right.

B: And then the ratio… and then because this should contain N; and this should contain N…

Y: Yes.

B: So the mass should be presented by other symbols. I mean, by other variables than N in order to find N.
1:25:38
Y: Yes. You just take the measurement that they've made and calculate/solve for N…

B: The dimensionality will be lost because we have ratio. Then we have a number without dimensionality.

Y: Yes.

B: And this might give N. The probability will give N.
1:26:00
Y: But there's a question I have. You've understood the basic idea. You notice there's a 2 in the formula. I had to multiply the ratio by 2; and I'm mystified. I haven't been able to figure out why I had to multiply it by 2.

B: Maybe it comes from this pi (π) divided by 2.

Y: Yes, it does. But why that?

B: It is clear to me, in a way; maybe, not fully.

Y: Well, if you know the answer, I'm asking.

B: Maybe it is not just the same 2; but it was the question (central ?)
1:26:46
Y: I think it is. It shows up all through physics, fundamental physics, this over 2 or pi (π) over 4.

B: You see how I came to this is? I have shown to you this. Once again, just shortly, I show to you. If I have one agent here, one individual here and one here, then I have one. If I have one individual here in which should be in some sort of relation with two individuals, then I have this, this, this and this. And this is 4; or this is 2 squared. Or if I have one individual in whose consciousness the perception of something should appear, and I have three individuals here, then they are combined; this to this, this to this…

Y: Yes, you've shown us that.
1:27:42
B: Yes, I've shown. Yes, I know. I have a point, and this here and this and this and this. And this is 3 squared. And if I have this, I have 4 squared because these are distributed over the nodes, over the agents. And I'm observing always one particular agent. Then I have this particular agent over 1 squared or (in probability plus is or); or I have one in relation to two; or one in relation to three; or one in relation to four; or one in relation to five.

Y: Yes.
1:28:36
B: and so on, and so on, and so on. And this is proof to p, p, p…

Y: pi (π)

B: What is this? pi (π) on degree 2 over 6. ($\frac{\pi^2}{6}$) ?

Y: acknowledges.

B: Or square root of 6 and 1, 1, 1. Plus 1…

Y: That's the formula I use for pi (π).

B: Yes, this is the formula. But this is approximately pi (π) …

Y: pi (π) over 2. ($\frac{\pi}{2}$)

1:29:09

B: Over 2. I was thinking over this; and it was not clear to me. And then I came to this. And this is what Baker, who was working on it, came to. And this pi (π) over 2 … this is spread so whenever you are looking at a large arrangement of relations, if you want to normalize this, to do a normalization, to be able to see the whole arrangement by looking at just one, then you divide this by pi (π) over 2.

1:29:52

Because all of these… if I observe all of these individuals separately, then I look at this one in relation to one. I look at the same. But this could be in relation to two; or this could be 'this or' meaning plus could be in relation to three; or this could be in relation to four. All of these are forming the whole picture. So if I want to extract this particular agent out of the assemble (ensemble), I should divide by pi (π) over 2 because all this is relating to pi (π) over 2.

Y: That must be because it takes two individuals.

1:31:00

B: Yes.

Y: You can't accept two others. You can only accept one. If you get two, you have to accept one and accept the other.

B: Yes?

Y: So it takes two. One is not enough. If you existed alone, you couldn't accept anyone. But you can't accept three or four or five in one act.

B: Which by itself is a proof that there's a multiple of individuals; is this the idea?

Y: It's that there's two; it takes two. A two individual relationship is the only relationship there is.

B: Yes.

Darshana: It takes one who does the accepting and another who is…

1:31:58

Y: You can't do it without another. But you can't do two at once, so to speak. You can't get two others. (You have two action, not one.) So in order to have a single action…but it takes two individuals. So, maybe, that's where the 2 is coming from because that's what you're talking about isolating.

B: OK. Then this is the physical explanation to what this is.

Y: Yes. It's not a physical explanation…

B: OK. Not a physical.

B&Y: It's a nonphysical (Laugh.)
1:32:33
B: Yes. I see, I see. Great! Maybe, because if you observe this pi (π) to be the circle, you know which, in a way, it is. Pi (π) is the circle then and since I should have a relation of two individuals, then these circles should be divided by 2; or… but this is… maybe, this is why this sequence leads to pi (π) over 2.
1:33:13
Y: So, in my text here, I just want you to be sure to remember, I multiplied this ratio by 2 in order to get it to match the measurements. There's another possible explanation on the physical level that when they make the measurement of mass of an electron, you have to take into consideration the positron that gets created with the electron coming out of the energy. When an electron comes into existence, it's always paired with a positron.
1:34:00
Why is that so? Well, I showed that when this goes across like this, that's the single action; and you're getting an electron. And you get a positron from the same action which is exactly what happens from, what do they call it? The virtual realm. So, all particles are created in pairs. Not in triads, but in pairs: particle and antiparticles. And the Lila Paradigm explains why this is so.
1:34:53
B: How is it actually that Lila Paradigm explains why it is so? Are not these…?

Y: Because one action creates both the particle and the antiparticle.

B: OK. The knower and the known, so to speak.

Y: Well, everyone knows it's because it's in the circuit. Everyone knows both of them. Everyone is a knower here. The only actor here is this guy here. He's an actor.

B: Who chooses to be in state of direct knowledge or not.

Y: He's in the state of direct knowledge of E.

B: Yes.

Y: All the rest there are in indirect knowledge…
1:35:51
B: In indirect, yes.

Y: But they are in the state of knowledge of it; so they know that. And they experience this in their consciousness as an electron…

B: As the physical, yes.

Y: And this as a positron. All of them do.

B: Ah, OK, OK.

Y: This is common.

B: Yes.
1:36:09
Y: And it always happens in pairs. This is the 2, the magic number. The square root of 2 is a big mystery too.

B: Yes, but…

Y: But that's the square root of minus 1… gets into it.
1:36:34
B: This is what I meant by you should have a knower and a known regarding these particular relations. And these are in ~~circle~~ (circuit), OK, which provides a common knowledge. But the main point is still I have a knower and a known.

Y: Yes, but…

B: And this is also a great insight.
1:37:00
Y: And these are also set up so they know what the other one knows. And since this one knows, if this one knows, then all of them that are connected to him are going to know. So they're also known. But that would be handled by your matrixes also.

B: Yes, but this is indirect knowledge. I mean this is why they perceive it as physical because it is not direct.

Y: That's not why they perceive it as physical. It's because the "who" is left out.

B: Yes, yes. This is what I mean. I mean this is not….

Y: OK. If you mean that, then it's OK.

B: OK.
1:37:57
Y: You've seen the first Star Trek movie, not on television but a movie where there's something out there some place? And so they send the Enterprise out. And they find this huge thing; and they gradually move into it. And they finally find the center. And it's the Voyager who was sent out to gather information about the universe. You've seen that movie?
1:38:34
And they'd gathered so much information. But it was made so that it would report that information when it got close to earth. And so it's coming close to earth; and they're afraid that this thing is going to swallow up the earth. But all it is, is a storehouse of all the information about the universe. And it's trying to unload it. It can't find anything to ~~unload it~~ (download to). And finally, this one astronaut, one of the Enterprise crew, steps up and says, "I'll be the receiver." And I feel like I'm the Voyager giving this to you. And I'm unloading (downloading). (Laughs.)
1:39:17
B: OK, great.

Y: Can you do this a little more?

B: Yes, of course.

Y: So we get N from this mass ratio to be 1.3836 or 1.3841 times 10^{23} from those 2 ratios. Do you see that, up here?

B: Ah hah, here.

Y: But there's

> Another way to find N is by using the point of inflection of the inflation curve (ti), which is easily computed using this paradigm's equation for the point of inflection:
> $ti = (\pi/2)\ N\ tp/(2N)^{1/2}$

1:40:17
Y: The square root of 2N is how many arrows you have to add in order to get an arrangement of 2 arrows. That's our same formula; but we're just down to 2 arrows there. And it gives you a unit of time. So each pattern like that that you'll find in your overall network of relations.
1:41:18
Like this one is one; and this one is one; and each one of them give a unit of time for the individual at the main point. But following it around, eventually a circuit will form. And they're all at the same time with different histories.
1:41:47
Square root of 2N, though, gives you that basic unit. So the first time you get, so to speak, these two arrows lined up, that would be the first moment of consciousness of time having passed one unit. How long is a Planck time? So we're going to use all that.
1:42:14
The tp is one Planck time in that formula which from the measurements we know from measuring the speed of light and the gravitational constant. We know that the Planck time is

> where tp is Planck time, which from measurement is 5.3906 times 10^{-44} of a second. The best standard estimate for the point of inflection using the Grand Unification Theory (GUT) is about 10^{-33} of a second. See the book by Alan Guth (1984).

who first worked out inflation theory.
1:43:00
So if we

> Solving for N, N is 6.2178×10^{12}.

So using his calculated value while he figured out what the point of inflection is, he tells me that his guesses that he had to put in 17 different parameters by hand to work out the inflation curve that he guessed approximately right. But he's off by two orders of magnitude.
1:43:48
Let's quickly look at the inflation curve. This is Guth's inflation curve right here. So, if you… The N for that would have to be 10^{21} individuals in order for the curve to work out like that.

This is the one using 10^{23} instead of 10^{21}; this is ours. So the difference in time here is between 10^{-33} of a second and 10^{-32} of a second.

1:44:24

When you put it on that scale, they're pretty close. (Everyone laughs.) The point of inflection is right there. So you can see, this is because it's a log, log scale; it's all compressed on the top. This is also compressed. So, recently, they've come up with another Grand Unification Theory that predicts this time. I think this is wrong because it doesn't match this. But as I showed this to one physicist, a German physicist, which you will find in that folder I gave you that might interest you.

1:45:18

B: Uh huh.

Y: A lot of his stuff is in there.

B: Uh huh, yes.

Y: He worked on this too. He took several Enlightenment Intensives; and he worked at CERN.

B: Who is he?

1:45:30

Y: Bhert Wenicky. So, this is: N is 10 to the 21st ($N = 10^{23}$). This is N to the 23rd (N^{23}). This is N to the 18th (N^{18}). But this doesn't work out for mass ratios, these values. *This* works out for the mass ratios and, of course, I've used the 10 to the e to the pi (π) to get this.

1:46:18

B: This is Baker's…

Y: That's connectivity.

B: Ah hah. Here, over 2, pi (π) over 2… it is…

Y: Yes.

B: I have come to this one. This is so clear to me. I have clarified this.

Y: Uh huh. You worked it all out.

B: Yes.

1:46:36

Y: The connectivity curve. The connectivity is behind the inflation curve; it underlies the inflation curve. Because connectivity just means you add arrows and see how many are indirectly connected. But as you are adding arrows, you get more and more space. But it's more complicated, isn't it, to get the space?

1:47:02

Bret: There are questions.

Y: Nope, not yet.

Bret: No. It's more complicated. Yes, there are questions.

Y: Oh, you're agreeing. So, that's using the point of inflection. Now, we have another way to do it.

> The best way to find N is to use the values for the ratio π and the natural number e, both of which are a consequence of various substates…

1:47:32
Y: I've drawn that how all these are the substates that explain the formulas for e and pi (π). We tried to put this formula in the computer to figure in Mathematica in order to run a long term expansion. And what it did, it said, "Don't do that. Just use our value." (Laughter.) It said, "We've done it a different way to a billion places. So just take that." It wouldn't do it!
1:48:26
B: I have Mathematica in my laptop.

Y: Will your computer do it?

B: I have Mathematica installed; the program.

Y: Do you have a different one?

B: Maybe.

Y: What's the name of that other one?

Bret: Mathematica is Mathematica. We have version 5.2. There are other programs that do calculations. Maxima, Oiler, Matlab, Octave…

B: There is Maple**.**
1:48:53
Y: Could they be used to do this? Because I'm interested to see (if) which formula goes out so far and then stops. It'll stop at the 23rd place.

Bret: I don't have these in here; those diagrams.

Y: Well, I don't know.

B: In this new material, you have it. This is radical…

Y: This is a different paper. This is 1998 paper. I'll be right back.
1:48:28

Bret: In my attempts, Mathematica appeared to recognize the series that I entered and substituted the answer. I know it didn't calculate an infinite number of terms. So instead of reporting an approximation, it recognized the series I was entering and said, "Oh, well, that should be this," provided pi (π) over 2. And I was like, "No, no. If you calculate it, what do you get for it?" And it won't tell me.
1:49:54
B: Maybe… you're numbering by this N of… in this way?

Bret: I'll bring up the page and show you very quickly.

B: Because sometimes when you don't put N, it doesn't recognize it as a number.

Bret: This is what I entered; and this is what it gave me.

B: This 6 should be put like this one, you know. This 6 should be put square, then N of 6.

Bret: In a formula.
1:50:34
B: Yes, in order for him (Mathematica) to know that this is a number. And, maybe, this will change.

Bret: Alright.

Y: Can it be done on a computer?

B: Uh huh. Maybe we shall find something.

Y: 'Cause now it comes out to be this many decimal places, or non decimal places, who complete numbers out to 23 places, and then .6 of a person. Not possible, anyway.
1:51:26 (Middle of page 25 *The Lila Paradigm of Ultimate Reality*)

> these various substates are embedded in such a way that their subsumptions form the numbers of pi (π) and e. Thus, N = 10 to the (e^{π}) = 1.382587521 x 10^{23}

Y: It's not 10 to the e parenthesis to the pi (π). You have to do it 10 e to the pi (π); and it comes out that number to that many places on my hand calculator.
1:52:02

> …which is close to the value found from the mass ratios of the leptons

above

> and about one and one half orders of magnitude more than the GUT's-based ti (point of inflection) estimate. Using the 10 to the e to the pi (π) number (N = 1.382587521 x 10^{23}), a prediction of the point of inflection as based on the paradigm used here can be easily computed: ti = π /2 N $(tp/(2N))^{1/2}$ = 2.51214 x 10^{-32} second. So I use 10 to the e to the pi (π) [$10^{(e^{\pi})}$]. N is 1.382587… x 10^{23} or about 138 billion trillion nonphysical individuals in all the computations that follow.

1:52:54
Y: I might be wrong to make that assumption that 10 to the e to the pi (π) [$10^{(e^{\pi})}$] is really right. But it's close.

B: There is also known that e to pi (π) is always greater or equal to pi (π) to A. And when you are justifying or proving this N to be 10 to e to pi (π) [$(10^{e})^{\pi}$], there is no real explanation why it is 10 to e to pi (π) and is not 10 to pi (π) to e [$(10^{e})^{\pi}$]. Because the way we come to pi (π), it is by observing cross over arrows. And the way we find e is by observing structures like this one when we have the division.

Y: Substates, yes.
1:53:48

B: Substates. This leads to e and cross overs leads to pi (π). But we could as well put 10 to pi (π) to e instead 10 to e to pi (π). There is sometimes equal because these are infinite sequences; and it depends when do you stop.

Y: e to the pi (π) is numerically about 23 or a little more.
1:54:22
B: Yes, yes. It doesn't change anything. But for the sake of precision, I have found this. And this is interesting.

Y: I know that 10 to the e to the pi (π) is close to the correct value because I've worked it out about 7 or 8 other ways.

B: Great.
1:54:54
Y: We're going to stop now, so we can have our lunch; and I can have a rest. But we'll pick up after lunch and look at some more magnitudes. I think they're pretty exciting.

B: And, maybe, this point of inflection, this should be clarified in light of Lila Paradigm. What really happens at the point of inflection? I see, OK. The inflation stops here; and it goes into the line which represents the big bang…

Y: The big bang standard formula.
1:55:39
B: If it was to expand linearly to the speed of light… this far I understand. But, still, in light of Lila Paradigm, I don't know what that would be.

Y: We can discuss that.

B: OK, yes.