#31
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B: That somehow it could be perceived as if it is one single arrow and there is a connection between each any/ and every individual and the length is (the illusionary length is) the numbers of the individuals. But once this becomes a circuit, and we have connection from each individual to another, then somehow whether we shall be going one direction of the other way around, it is all the same, so to speak. So actually…

Y: It is a complement?

B: Pardon.

Y: If is goes one way, you say it is the same, so to speak, I want to talk about that a little bit.

B: Actually what my idea was, that when we are…when…in a way, we got an undirected graph. Now I am conditionally speaking. I don't want to lose 'who' and all this subtle meanings. But in sense of physics, once we introduced…once we bind this picture to physics or denote it somehow, associate it…

Y: By time and space.

B: By time and space.

Y: I think that would do it.

B: Then we have actually relation A to B; and we have relation B to A; and these are two for every relations.

Y: For every spatial relation.

B: Yes, yes, because what I have noticed even when first looking at the paper. I have noticed that somehow he, at the end, he obtaining (N) which is the number of individuals. But then in the picture, he has F of [I] which is the number of relations. He couldn't mix relations with individuals. Maybe he does so because he supposes that for every individual there is one relation into the circuit. So the number of individuals is the same with the number of the relations. But it is not so once we establish a circuit. Once we establish a circuit, we have equally length between each and any (every) individual. This means A to B and B to A. We have actually what you have stated. We have the…we have actually under the indirected (undirected) graph, there is a directed graph. And in this directed graph, we have two relations; and here we're dealing with relations not with agents, not with non-physical individuals. We are…he is mixing relations with *relata*.

Y: With B• and A•, the dot means a particle.

B: A particle, yes.

Y: Located in…both at the same time, present time. And they are located with respect to each other. That means located in time, at the same time, and in space at a distance from each other. If you don't accept that I won't accept that there's an underlying of the non-directed graph, that it underlies the non-directed graph. You said it has to be physical, in the physical. Didn't you say that?

B: Yes. But we couldn't mix non-physical individuals with relations. We should deal with relations. We should deal with relations, this is relation and this is relation. The space is…

Y: Are you talking about….

B: included into picture here by including F of [I] for which he takes F of 3 because he's later on he is introducing measurements of three dimensional particle. So he is dealing with F of 3, but all these are relations. So either we should perceive that we have (N) relations in one direction or we should perceive… because you see here is what he is taking into picture. He has two arrows here, For F of [I] he has arrows here and arrow here, he doesn't take into account now the direction of the arrows. And this is why when he is matching the results in order to obtain (N) the same as through the other methods, he suddenly discovers that he needs 2N. And, yes, exactly, he needs 2N because relations A to B is relation B to A. And these are 2N for the whole circuit, if we are speaking about relations.

Y: Do you mean a complementary circuit?

B: A complementary circuit.

Y: Is that what you mean?

B: Yes, a complementary circuit.

Y: Going the other way. So…

B: Once… You know I have in…we have been discussing and maybe, maybe I draw the whole picture. Never mind but he couldn't mix (N). He's after (N) which is number of non-physical individuals; and I believe when he is dealing with (N), he has in picture this (N) the number of non-physical individuals. And then here he has F of [I]. F of [I] are relations. F of [I] are not non-physical individuals. They are relations.

Y: Ok. Now, I see what you are saying.

B: Yes, and since he has relations, when he has two…he has here for every…he has actually A to B and B to A which is two. And so he has 2N all together.

Y: (acknowledges)

B: And this is what the physicality requires once he introduces physicality. And since he has…and from the other estimations he has discovered that he needs 2N. And he has written here why. Why 2N? Because he has A to B and B to A.

Y: Ok.

B: This was one point. Another point was here, for instance, we might have arrows like this one. Isn't it so? And this also introduces three-dimensionality.

Y: Arrows?

B: I mean the arrows…

Bret: The crossovers.

B: The crossovers, yes, do not always arise from one in the same.

Y: They might be like this.

B: They might be like; but this is equal. This is all the same in the light of once physicality is included.

Y: I think that is one approach we can take. I am not sure that, that is…will work out in every regard, but it may be because it is like as if this were one arrow.

B: Yes, it is one arrow; then it is all the same.

Y: Then this is true.

B: Yes. And this is what we are perceiving here. So also…so this is what I…ah ha! Here it is, yes! Yes, I am right, you see! Ah! Only over F of [I] because I haven't had this…I thought…he says here at one point that the number of circles surrounded X plus one is the same. As I understood, I should read it once again. I haven't got this paper at the moment when I was writing this.

Y: Ok.

B: Maybe later, but what I think is either we have frozen time or we have fixed time and we determine lengths, or other way around. Now I speak illusionary time.

Y: It could go either way. It could freeze the space, and then let the time flowing.
9:44
B: Yes, I could freeze the space, and then find out the time. But here he…we have frozen time. And this is why once the circuits are closed, this circuits is integer number of those because it is present time. It's all present time.

Y: Yes, it's all present time, no time flowing.

B: So this is how he finds out this. He does his calculations. But this is a point, he says why. He doesn't know why. He just finds that in order to have N right and all the measurements included. He should have 2N. Yes, he should have 2N because he is dealing with relation not with individuals.

Y: So he's using then the Poisson distributions to find N.

B: Yes, yes.

Y: Clever, now that you've got it understood.

B: Also he is introducing here F of 3 which is the probability of arrows once we have a circuit and three crossovers, assuming that all these three's are crossovers. But it might not be so. We might have one crossover and the other three although they have appeared, they are pointing to individuals outside.

Y: That is possible but it…

B: But all…if he assumes…he gets all the (M's?) here.

Y: But there's 99.9990% of the current situation…are not…they are all in the circuit.

B: Yes, yes, it is so. Ok. And then I have done this illustration in order to show the way how it could be easily perceived having in mind this is all illusionary. So one intersection is present time; and once crossovers appear, we might perceive illusionary, that they go to…around the cylinder.

Y: A different present time. Is that what you are saying?

B: No, the present time is the same. This is why I somehow believe that maybe cylindrical coordinates should be introduced. And this is one and the same coordinate. These are…this is one dimensional. This is two dimensional. This is three dimensional.

Y: Ah ha! I see.

B: This is 1-D. This is 2-D. This is 3-D; and the projection is what we have. And time is present time; and it is closed.

Y: And these projections are superimposed on each other and merged into one state of consciousness.

B: Yes, yes.

Y: Ok.

B: Yes. And which could make easier to understand later on the concept of consciousness. Also I have written here the notion of Wheeler in his book *Electromagnetism.* I count all the electric charge that's here. It might help somehow.

Y: (acknowledges)

B: When we have…

Y: What is this?

B: A spanning Hamiltonian.

Y: (acknowledges)

B: And this is intersected. The previous was intersected. There were plane perpendicular to the cylinder; and now I have a plane perpendicular to the…

Don: Axis.

B: To the axis.

Y: (acknowledges)

B: And then I go to this. On this…I could have this directly. This dimensionalities projected. Ah ha! And now another point which might be helpful, and I am sure it will, from your paper with Baker and Seeley.

Y: (acknowledges)

B: And I believe it is connected with his random walk perception, of Seeley's random walk perception.

Y: Random walk of…

B: Because…

Y: Weniki

B: Yes. Ah ha! I thought it was Seeley. So at one point, there are many points here, but what I wanted to stress out. We have…when we look at the magnitudes, we have already stated that the probability to have twenty three arrows in a row or twenty three arrows in a forked structure, either out-going or in-coming. The probability for this which is F of twenty three according to Poisson distribution is somehow equal or approximate to the probability to have a circuit of seven. And now here, there is a ratio of this limit fork structure of twenty three divided by the number of arrows in the first circuit to appear. All this arises from the Poisson distribution. Another is the operas for the forked structures. And this denominator is for the circuit is *pi*. This is as if you have…here this circumference is F of twenty three which is twenty third square of twenty factorial (N) to twenty two according to Poisson. And this is the limit fork structure because the probability for twenty four arrows somehow decays into circuit. I mean the circuit is more probable than fork structure of twenty four. So this is…
16:17
Y: Yes.

B: So this is a limit, a limit of having…

Y: Of probability.

B: Of probability, yes. The probability of twenty three arrows…

Y: Peaks.

B: Once I have twenty three arrows, they close themselves. The probability is greater that I shall have a closed circuit than a row of twenty three or a forked structure which is the same of twenty three arrows. So…and since *pi* is actually the circumference over the diameter, if I perceive the diameter to be (e) of seven, and the circumference to be the probability to have a forked, a limited fork structure of twenty three, this is actually the ratio of circumference over the diameter. As if I have as if this…this is this picture, this is as if, this twenty three arrows in a row shrink into a diameter somehow. In there…in your words or Seeley's or Baker's, it is written after this.

> It is as if the forking limit of the reduction based Poisson process is the circumference of a circle with the expected magnitude of its closer as its radius/diameter.

Here it is written as radius; but it should be diameter. It's a mistake.

Y: Why do you say that? Why should it be diameter?

B: Because *pi* is circumference over…

Y: Radius.

B: Diameter.

Y: Over diameter, yes.

B: Not ratio…not radius. So it should be diameter. He says,

> It is as if the forking limit of the reduction based Poisson process is the circumference…

And I have drawn here a picture.

> The circumference is F of twenty three…

The circumference is the probability to have twenty three in row or a forked structure. The limit forked structure of twenty three.

> over the diameter.

The diameter here is the probability to have the first circuit of seven.

Y: (acknowledges) and that's *pi*.

B: What?

Y: That is *pi*.

B: And that is *pi*. Yes.

Y: But that's a deep insight into the nature of *pi*. You can see that your earlier argument that said, that *pi* was associated with the crossover is correct.

B: Yes, it is correct.

Y: It is the ratio of the crossover probability to the circuit probability.

B: Yes.

Y: Ok.

B: Yes. When we were looking at the formulas like TD is …the elementary unit is (N) multiplied by K minus one. We always…and this is spread over *pi* half, by half. This is due to the crossovers.

Y: What you're saying is true mathematically. However, I've just thought of a problem as you were drawing that. Let me point it out because otherwise we are going to run into trouble later. We have an individual. We have the out degree of four; and we have another individual as the in degree of four.

B: Yes.

Y: Mathematically they are complemented together.

B: Yes.

Y: But the problem is this, "What A is conscious of is different than what B is conscious of."

B: Yes.

Y: Here B is consciousness of nothing; and here A is conscious of at least four proto-fermions.

B: Yes.

Y: This is asymmetric. Even though the formula is the same in both cases, the conscious result that you will find when you measure the physical universe…this will come up with four proto-fermions. And this one will come up with nothing.

B: This is actually, you know, this is actually this, I am sure. We have a positive extant state of affairs.

Y: We have a Portuguese.

B: A positive.

Y: Positive, Oh!

B: Positive meaning forms of states of knowledge. We have…

Y: Yes.

B: We have the extant situation, this state of affair, which is a graph, a positive graph made of states of knowledge. And we have the complementary graph made of states of no knowledge which is fully complementary; and the information brought out with this positive graph is the same with the information in the negative graph.

Y: Information wise.

B: The information and this which we are pointing out, this is actually this situation only essential. If I…any probability I find in the positive graph, the graph of extant states of affair, with positive states of knowledge is…has it's complementary equal probability into the complementary graph made of states of no knowledge. So whether I will be working into this graph or into this graph the information is one and the same. The probability is the same.

Y: Then why is this? I understand that mathematically, but in the consciousness of the individual B. You take a measurement what is B conscious of nothing, and here four proto-fermion.

B: I am just explaining why the probability is the same.

Y: I understand the probability is the same. I understand that.

B: Yes.

Y: But if we are going to make calculations of magnitudes that will match measurements…

B: We shall work with this one.

Y: Yes. And therefore the probability is different.

B: Yes.

Y: It's half.

B: It's half. Yes, yes, at one point, I was drawing…remember this old non-isomorphic graph of five to point out this because there are different…twenty one different…if we have just undirected graphs. And when we introduce directed graphs, the number increases to twenty one factorial, maybe twenty one factorial.

Y: Yes.

B: Which is a great number, and which is…

Y: So we have to be very careful…

B: Yes, we should divide the probability.

Y: About what the probabilities are will be different for consciousness than just for graph.

B: Yes.

Y: Ok, so as long as that's understood.

Bret: As above so below; we've got to watch out for that.

Y: "Yes," said Hermes. Ok, that's clear then. I think that you should have an opportunity with a full paper of…

B: Yes, yes.

Y: To look at it again and give us another presentation.

B: Yes, yes. But I have the idea.

Y: Ok. I've thought some more about time. And I think that the original argument in the paper, *The Lila Paradigm of Ultimate Reality,* is correct as it stands. What I have done here is I've drawn in A's consciousness of B•. We also have A's consciousness of B• and C•. And there is one unit of time between B• and A's consciousness of both B• and C•. So in present time, A is conscious of B• and C• that is two proto-fermions in what is "present time" of A. Present time is in quotes because there is one already existing present time. There is what that situation is called present time not by a rule or a declaration but by experientially in one's consciousness. If one is conscious of B• and C•, that is, what one experiences as present time. The present time label is simply a label. You could say, "It is moodnila?" But the experience tells you what moodnila means. So it is the experience that is of consciousness experience that is telling us what we are talking about. Now either a person will grasp that or they won't. If they can't grasp it, I wrote a rule that says that is what it is. So as it stands, I am satisfied.
27:28
Bret: You said the first thing; and then you said a lot of things about. Would you say the first thing again because you pushed the first thing out by saying all those other things about what was the first thing?

Y: How are you in present time? I think what I have written is we have this box here is A's state of conscious of B• and C• that is two proto-fermions in what is quote "present time" for A. This box here is A's state of conscious of B•. B• is one unit of continuous time in the past from B• and C•. And then the text says that is due to the two consciousnesses being superimposed on each other so that they merge into a single state of consciousness. And I…that is not shown diagrammatically that is shown in the text. This state of B• and this state of B• →C•, conscious states, are merged into a single state. If I draw another box around here, we haven't accomplished anything. But by the text description which overrides the visual faculties in your mind so you don't go by the visual faculties. You go by a statement of truth that says that because of the unity of A, these two consciousnesses are merged; and that situation is what is labeled present time with a past. And that is unit…is asymmetric.

Darshana: If you had it in 3-D, it would show that. You could do it with 3-D.

Y: Well, she is very good at drawing 3-D.

B: I have this.

Bret: I would like to talk to you about this later.

B: This is for space.

Y: That is there; but you are showing a number of things at once and just... you take… could extract from that the one for time.

B: There is another picture with 3-D which is projection which was projection; this is another.

Y: So it's…

B: This one.

Y: Yes.

B: A B.

Y: This could be done this way also. It has to be…you can't do it in terms of states of knowledge alone. You have to do states of consciousness.

Bret: (acknowledges)

Y: Because time is an illusion and consciousness is an illusion. So it has to be at that level. You can't get the truth out of it. You can see that behind it this illusion is the truth. But when you got the truth, you are under no illusion of present time or past time. Ok. I am through with that part. I have got other parties to have, long, long party.

B: Here it is; but with two. This should be taken out, you know. This and this and this shadow, this should be taken out because it was for space, space/time.

Y: So it can be made even this is in terms of a circuit type ( ).

Darshana: If you had a cube here, and had that in it and that in it, you would have the overall…

Y: I have got the suggestion; but I would have to sit down and work on it. And it works best when I am alone.

Now what I want to do is what I was suggesting yesterday or the day before of connecting the Lila Paradigm even deeper into what she calls the physical level. The connectivity curve shown in linear form, not log form, looks like this.

B: Yes.

Y: But if we associate instead of just number of arrows, but with say the number of arrows that produce time, we get for this axis of our coordinates, we have time instead of arrows. But we can have a measurement in terms of number of arrows. But if you have a number of arrows, you don't get time from just an arrow. You have to have two of them. And the probability of getting that and how many arrows have to exist is the square root of 2N in the simplified form. But you will notice in the connectivity curve that N here is 10^{16} not 10^{23}. The principle is the same; but this is in the days when we thought maybe (N) was sixteen. But after deriving it several different ways, we discovered that it is 10^{23}. So if we take what is the time value of one arrow, then we have to take one Planck time and divide it by the square root of 2N. This is the imaginary time of this arrow because there is not any actual time. It is just an arrow by itself…but if you image that. Now there is a paper by Hawking and Harvel, Steven Hawking, Hawking from the University of California, Santa Barbara, a theoretical physicist. They wrote a paper on the quantum function of the universe. And in it what they did was to take space, on one hand, down to the simplest form and time down to its simplest form. And they ended up realizing that time and space were interchangeable at that level if it were digitized or quantized. That's why they were writing this paper on quantum function of the universe that they quantized space and time. They assumed that it was so just like we did with the Lila Paradigm that there is a smallest unit of time. But this can also be an imaginary space that the arrow in a bifurcation is one…produces one unit of time, of space. So what is the value of one unit of space…imaginary, of one of these arrows? So the purpose of this arrow is to allow for a bifurcation. But the bifurcation itself is what makes the magnitude of the arrow. So it is the same; it's one Planck length divided by the square root of 2N.

We'll take about the rest of this formula a little later.

B: Yes.

Y: So now we have space this way. And it's one dimensional space. So this takes our curve back into imaginary time where we have single arrows. And we have fewer and fewer of them until we finally have one and then zero. This point here is the square root of 2N divided into the Planck time. That changes it into seconds. So we can have arrows along here; and we can have seconds along here.

B: LP here because you have on the space.

Y: No, I was labeling the time of that point.

B: The time Ok.

Y: Where this axis begins, so that…

B: Referring to time, OK

Y: So that time in the state of consciousness of at least one individual. So you have this kind of a structure… will exist. We'll leave the middle part here for the present; and we'll go to two different points here, all three of them, actually. But…or we get to the number of time units of now. That would be this one. This is where the Hamiltonian is no longer a sub-Hamiltonian but a total connection where everyone… You can find a Hamiltonian that goes through everyone, every single one of you; just keep adding more arrows, a complete spanning Hamiltonian. But that doesn't reflect how it is now.

B: Why not?

Y: Because a certain number are not in because the value of K is what it is. And if (N) is assumed to be 1.38 times 10 to the twenty third, then K is determined by the measurement of Alpha. And so K being what it is, tells us how many arrows there are.

Bret: Do you mean…?

Y: And that's now. And that tells us that some individuals are not in this giant circuit. And some of them are like this; some of them are like this; and some of them are like this.

Bret: So you mean minimally connected, not fully connected? Fully connected means all possible arrows have been drawn. Minimally connected means all individuals are in the circuit.

Y: No, I am meaning where there is a pathway of arrows that goes through every single individual that exists.

Bret: Spanning Hamiltonian.

Y: That's a spanning Hamiltonian or a complete spanning Hamiltonian. But this one is not because some of them are not in the circuit, but are connected to it. This affects the value of some of the calculations but only after the 5^{th} significant figure, does it affect it. This one will be conscious of everything that everyone is experiencing, that are in the circuit. This guy experiences everything that is in their consciousness. This guy doesn't experience anything; but they experience him.

B: Yes.

Y: These guys out here experience one other or maybe two others, or something like that. There might even be some small circuits because there is some room in terms of numbers of arrows, the number of individuals that are not included in the *now* that is allowed by the value of Alpha which effects the value of K which effects the number that are in the circuit and give the value for little (n) which is 1.38, the same, same as N and then a different value, at this point, now, the number of individuals that bring it up until now. We have the number of arrows. What is the number of arrows? It is little (n) times K times imaginary time or time quanta. I don't know. Should I use that T sub [I] or T sub Q? Because it is not really a quantum of time, it's imaginary time. So K N times either T [I] or T Q. Let's call it T [I].

Bret: What is it?

B: Imaginary time.

Y: What is it, imaginary time? It's…

Bret: No, I know what that is, I just didn't know that's… Ok, imaginary time is T [I, got ya'.

Y: Yes. So this is (n) little (n) which is (N) minus one over (e) to the K? Were (e) is a natural number. Anyway, this comes out to be when you take this number here. Comes out to be of the order of

B: N to the 11^{th}.

Y: 10 to the minus…

B: To plus 11.

Y: Minus 32^{nd} of a second. So that's now. How quickly it goes. So obviously this was called the time catastrophe. Obviously the whole universe is not 10^{-32} of a second old. But from a one dimensional perspective, it is. So the salvation was that at a certain point, when you have the first circuit, and then not long after that adding more arrows, we have a crossed over circuit. And that gives you this value. And not long after that, you have two crossover arrows, cross the circuit, and instead of K(N) T[I], we get KN squared T[I]. This is an incomplete chart. I think it has been superseded four or five times. But we are going to have to dig out from my whole file all the references and all the formulas and put them in together. And this is what the work shop is about. I am just outlining the task right now. So when you square it that takes us up to about the time when what takes place in the universe is what's called the electromagnetic weak transition. That is where the weak force and the electromagnetic force separate from each other which is about a millionth of a second, 10^{-6} of a second. And that is related to this value here. However, there is a lot of fine work that can be done on this which we will get into later. This value in the first circuit is forms…is 0.9002976 times (N) times big (N), arrows or T [I]. Then we can expect the first circuit to form. And the length of that first circuit can expected to be on average 7.31902 arrows.

B: Yes.

Y: Arrows. So that is to be the expected length in terms of L [I]…is this value, one imaginary length. The advantage of working in the imaginary length is that you just count the number of arrows for time. But for space, it should be the same; but you have to take into account the multipliers here. But you have to do that in space also. When I calculated the amount of space here, up to the current now, it turns out to be about down here. But when the scientists have calculated what the size of the universe is now, they were considering space to be three-dimensional. So that means the value that I calculated was cubed.

B: Yes, times three.

Y: And came up here so I plotted the graph that way, so that it looked visually to them. Ah, well, inflation has brought it up to here. And it works out very nicely. But in terms of the Lila Paradigm, our curve should be going to here. So we want to redo all that. But all along here, there is various events that we discussed that took place in a certain sequence at certain times and compared them to what the Grand Unification Theories are, these field theories of the physical universe which are semi-speculative. And they came out about right, but if you square for the first recursion, and then cubed for the second recursion. What physical things are being described are different; and they are on this map that I showed you this morning of when virtual particles are considered. Virtual particles are from about 10^{-20} of a second to about 10^{-11} of a second. This is the old data. This new article that is in the *Scientific American* has got more recent data. These are called virtual particles where in the middle of this space that is suppose to be filled with energy potential, a quantum fluctuation will just happen. And you will get an electron and positron will come into creation. And then between 10^{-11} of a second and 10^{-20} of a second, those two particles will go back together and annihilate each other. And two photons will come out from it, called gamma rays, and go back into the energy of space which is where they came from in the first place. In other words, the energy of two gamma ray photons or bosons went into making the positron and the electron. But they could only last for a part of a second. That agrees with Heisenberg uncertainty principle which is this much space squared which is H over two *pi*, which is one Planck length by one Planck length. That's how much uncertainty is allowed. That allows these things to mathematically come into existence and then disappear. They don't in the sense that we mean really physical. They don't really physically exist. It is just a mathematical device that Feynman worked out. That's as…it's as if they had because when they did that and did his analysis using Feynman diagrams, he was able to calculate the value of Alpha to thirteen places. And it was measured. And he was right. So they said, "If it is right it must be real, so it must be physical."
So they call, but they say it is not really physical because nobody has ever seen one or measured one directly. So they are called virtual particles. But that's in the square realm where we are squaring it. That is, the first recursion is two dimensional. And this is the virtual realm. But in the virtual realm, the sequence from here to here is the same. But you get a square version of it which has got another name and that chart which I think you should take a little bit bigger look at it. Can you get it? I don't think you can get the chart on one page.

Don: Ah…

Y: At least not while you are recording it. Ok. Then we'll have to look at it later. Probably the thing to do would be to take the whole article and put it on your hard drive. And then look at it. And you can read the article too because the article is a beautiful summary of this. So we have this curve followed by this curve starting here. So this will come over here; and then go like this. Can't do it all at once. We could have this because it is an instantaneously that the second crossover occurs across the circuit. It's going to be not only existing in one dimensional space, but the result will also be in the two dimensional space. And it should be at this level. But the time is squared. So we leap over to here and we get this part of the curve magnified by square. So to take care of this, we put this on log, log paper, so it gets switched down; and because it is log and square and exponents are two versions of the same thing, the curves look the same size.

B: Not the same. What is square will be doubled actually. And what is on cubed, will be three times.

Y: Well, we have this curve. And then this is not correct because this…I also projected or squared this part of the curve. But that doesn't happen. We come across here from the first circuit over to here. And then this part of the curve is/has the same size and length. But this is wrong; it doesn't come clear up to here. It only comes down to here. And then we come across like this; and we come up like this, and then we do it again. But to work out the details of that is what the workshop is all about. We try to get it drawn correctly, get the values done correctly, get the formulas that give you the values done correctly. And then we'll have a discussion about how accurate should it be. Some people say, "Well, it should be three places. Some people say five places," which is what Wernicke wanted, five places; whereas, I wanted ten places at first because that fit my hand calculator. But now we have *Mathematica* in computers. We can get twenty three places with no sweat at all. So what do we do? I don't know. We'll talk about it as we go through some of the problems there. Here is various attempts on my part. And similar graphs have formulas on it. Some have explanations; some have reference points. And I need to tell you where we get all the information from, all the references. So these are…this is the third…second recursion. This is the first one. So it's all a mess. This is the Guth-Steinhardt's phase transition. It is called into the Besant? This is the Weinberg-Salam phase transition. They got the Nobel Prize for that. Nobody got…Guth didn't get a Nobel Prize because nobody is sure. They have never measured inflation because they can't measure it directly. Nobel Prize are only given for things that have been checked physically. They give them for a theory; but you have to check it. And this is the so called…the…this is the Berner phase transition which actually probably should be called the Einstein-Bohr phase transition. But that's a big argument that I have...many graphs and each one has different information on it. There is different arguments. Here's that map that's fifteen years old. This is an update (boyon?). I am just trying to outline what the idea is here. This is a blowup of the very intense part of the curve which takes place in about here near the point of inflection which is here because it is log. It looks like it is at the top of the curve where as this is not log, and so it's still climbing rapidly visually.
1:02.16; 1:03
On and on into the night, I have done enough to know that we are on the right track. But I have also done enough to know that all my calculations can't be correct because I changed some of them. I think most of my interpretations are correct, or

close to correct. On this graph, we have what's taking place in inflation. This is the virtual realm minus 22nd to about 11th which is right here.   And…but sometimes I give what is happening in terms of Lila Paradigm, sometimes in terms of physics. I am just like a mad artist trying to pretend that I am a staff of two theoretical physicists doing it by myself on a hand calculator and with a little help from Bret in New Zealand. Here was a symbol once for the Lila Paradigm.

B: Ah.

Y: Showing the…all these separated individuals come together. The whole world is one family. That is another way of showing it. Ok. Now that we have outlined it, it is a matter of going into the detail and checking the formulas, finding out what is here. Did we do it separately on different parts; or should we do it all together on anyone part?

Bret: State in one sentence, now, what you want to do.

Y: I don't think I can say it in one sentence.

Bret: Ok, two, three.

Y: I want to take all the information that is scattered in all these things and collate it, check it, check the formulas that are on it, give the various arguments about it, say what I mean that is behind it like we have done on other stuff, but putting this whole thing together. There is also a description in *The Radical Theory* going point by point by point. But then that's nine years out of date.

Bret: Ok, so you have multiple tasks.

Y: So it's a matter of pawing through all this and seeing what we come up with. What?

Bret: So you have multiple tasks then, and you need to list out what the tasks are.

Y: Well, that's the first thing to find out…is what the tasks are. This fits together basically, beautifully that these, the physical explanations, are backed up by the Lila recursions is something too good not to include in a thorough paper or presentation of the Lila Paradigm. Every person that I have explained this to that had ability…like in Italy I was explaining it to a couple of physicists who had taken an Enlightenment Intensive from Selvono. And they were interested in the Lila Paradigm so I talked to them privately, separately. And each one of them said, "How do you get so much time? You only get to 10 to the minus 32nd of a second." Then I try to explain recursion, and I am pulling these graphs out of my file; and they say, "Wow!" Well Berner is probably a genius; but he's crazy.

1:08.

Bret: So the task is to state the three ways time comes into existence and how they combine to produce…

Y: That's one of them.

Bret: Current time.

Y: And correlate it to space, amount of space and do that correctly, (so that the degree?) and check the formulas for it. So we need time and space, and need also what the scientists call it.

Bret: By which you mean what?

Y: Well, Professor Zekeres, who wrote the original connectivity paper, he thinks of it as connectivity. It never occurred to him that it could have anything to do with anything physical, that it has anything to do with time and space. Michael didn't tell him. He thought he would be thrown out the door. Actually another person, John Lucas, was thrown out, literally out of the door of Paul Davis office which is right next to Zekeres. Or was at the time…he…and then sent him back the paper in the mail. Rejected not read.

B: Lucas who has written *Mind and Machines* and an article *Mind and Machines.*

Y: Who wrote that?

B: Lucas, if it is the same…

Y: No, it is a different Lucas. He's…this Lucas is a student of mine who is a Dr. of Psychology and who does Natural Meditation.

B: May I say just one thing. My concern is so far, what we have stated so far, although there many ingredients to be introduced into picture yet. But we have stated that probability should be lesser because we are searching for a specific arrangement of the arrows, not just the number of arrows as it is now by Baker. Now it is all the same if we have three arrows in a row meaning time or we have bifurcation meaning space. It is all the same because it is three.

Y: Yes.

B: So if we divide by three, for instance. And it will be much more. For instance, for five arrows, we must divide by twenty one at least; twenty one may be twenty-one factorial for undirected, and so on and so on. So the probabilities should appear earlier here. Earlier, it will be smaller. This is one thing that will shrink somehow…

Y: Yes.

B: The curve and the other thing which will shrink it further more is if we stick just to Lila and not be strayed away by the notion in physics in which…because what is in which spaces could… Space is three dimensional, for instance. For three-dimensionality, we cube. For two-dimensionality, we square and for one-dimensionality, no. Yes, you explained this in terms of recursion, but the way two recursions and not more recursions. As you, as I understand it.

Y: The only argument I give is there are three dimensions of space and no more.

B: Yes, yes. There is another. So it will shrink the curve. Furthermore and it will be further away from the physicist. This was one point. But now since you are speaking about three dimensionality of the space, it could be done as we mentioned at one point. You remember that, for instance, the fact that we haven't got four-dimensionality in Lila, in terms of Lila only not in terms of contemporary physics.

Y: Well, I think we do when we get a muon.

B: Yes, we do.

Y: We get a muon; but it last only part of a second.

B: It decays.

Y: Which is back down here.

B: Yes.

Y: Now.

B: It could be done just in terms of Lila only by stating that the probability for a forked structure is lesser than the probability which is actually the same somehow for structure like this one which is…We have space here, and we energy of H. What is this der H bark? And then this is all in circle. So by show…now I'm speaking conditionally by showing that the probability for this structure which in terms of Lila is energy is lesser than the forked structure.   Then this is explanation in terms in Lila only, why the four-dimensional decays into energy?

1:13.52

Y: (acknowledges) It should… we should be able to tell how fast it will decay.

B: Yes.

Y: Predict that. We should be able to predict the mass ratios, very accurately taking in all these detailed accounts.

B: Yes, but another point here is that topologically this and this is the same.

Y: Yes.

B: We have topologically. It is the same. We have here forked structure, a forked structure of four. And we have here as forked structure of four. And this is an assumption that this is perpendicular; it should be, I mean conditionally speaking because perpendicular means…

Y: We say that is what perpendicular is.

Bret: Orthogonal.

B: Orthogonal, yes. We assume and rightly, this is correct; but this is an assumption that this is orthogonal.

Y: Ah!

B: Topologically this is the same. So it will be difficult to differentiate between this and this in terms of probability and do the whole picture in terms of Lila only.

Y: I agree. Punita has the ( )

Don: On the probabilities and divide. Could we flip this over?
1:15
Y: I can.

Don: Again. We have like a two arrow point here and a probability for a three arrow structure. When we divide by the actual probability for this actual structure rather than any, it's going to move that here on the curve. And it's going to move this probability, being lower. It's going to move that out much further.

B: Yes you're right.

Don: And so I am wondering is that…

B: Because…

Don: You wouldn't need the recursions because these probabilities as we get to more and more complex structures.

B: No, no, no, you are not right because this here, having a square of 2N into the denominator is just the formula to divide imaginary time.

Don: I understand.

B: Time quanta. But when you are dealing with probabilities, then you have not into denominator. You have square of 2N time quanta.

Y: That's right.

Don: Yes.

B: And when we divide by two, it moves the…

Y: Moves it back.

B: Moves it back which is not in favor of Lila.

Don: But what I am saying is that your probability as the number of arrows in a configuration goes…does not increase linearly; it…

B: It is not linear.

Don: Yeah, it increases like a…

B: It is square of 2N over two. Later on it is third square of 3 factorial N squared over three, for instance.

Don: But again, we are looking at one specific, two or three or four arrow combination, and the probability for that specific combination.

B: Yes, exactly, this is the first one. It doesn't mean much.

Don: Well, but it…like you said, when there are five arrows in a configuration, it's…

B: Yes.

Don: You divide by quite a large number because there are quite a large number of possibilities.

B: Yes. There are twenty one…

Y: Yes. But percentage-wise compared to the total number of arrows involved, I don't think it is going to amount… It will amount to something and I think this will account for the differences between the measurements and the calculations that we have done.

B: I have an idea. And this is actually the answer. When we're introducing, but maybe this is done actually…when we were reducing this fives, this is just F of five. But what we need is F of [I] connected to the Hamiltonian and this probability is much, much, much, much, much…

Y: Yes. That is true when it is embedded in the circuit.

B: It is not the same when we have this structure which is space.

Y: Then you have to multiply by (N).

B: And we have all the mini-universes, baby universes connected to Hamiltonian.

Bret: If this is the first circuit, then what are you going to calculate for the earlier part of the graph?

Y: Well, it's going to have to be this kind of thing.

B: Yes, disconnected, baby universes.

Don: You know, this F 23 there, we are going to be dividing by… It's no where near squaring, of course, but by a fairly significant number.

B: Yes, F twenty three is about, as we have seen, about 0.9 of N where N is 10 of twenty three. And it was near to the 'e' of seven, meaning the first circuit of seven.

Don: (acknowledges)

B: And now, what I was talking this morning, you know, it was about *pi* being involved in the picture because *pi* is exactly F of 23 or twenty three which is the limit fork. Probability for a limit forked structure to appear over the number of arrows for the first circuit which is as if you have arrows, arrows, arrows, arrows. And when they become twenty three, they close to something which is their diameter. And the diameter is exactly the number of arrows in the circuit.

Don: Just playing out that, F of 7 is any arrangement of seven, the probability for them. And the probability for this specific arrangement is about F 23.

B: Which will be earlier.

Don: Yep, but not for a specific arrangement that one is about F 23.

Y: Well, you have to specify which arrangement we are talking about, and calculate the probability for it.

Don: But just to see the difference in magnitude between F of 7 and F 23.

Y: You have to look into it to see percentage-wise how much difference is this going to make.

Don: (acknowledges)

Y: And I don't think this is as much as you think. It was this very discussion, was the last discussion I had with Michael Baker.

Don: Ok.

Y: And he just went, "I think, I will just go some place else."

Don: No, I… if nothing else, we have to take it into account.

Y: We do have to take it into account; it has to be what I call reducible to consciousness. It has to be observable. When you got two of them like this, it doesn't reduce.

B: Yes.

Y: But if they are like this, it's reducible. So it has to be reducible to a single state.

B: Ah, yes!

Y: And that shows which part it will be in consciousness and which part will it be in mathematics.

Don: Right.

Bret: Biljana.

B: And this will change the… because we have superposition of all these sub-states…

Y: Yes.

B: And when we take into account this, it will further change the probability and we shall move towards…we shall move.

Y: I think this is the basic mathematics that needs to exist to make all the calculations because we include these factors.

B: Here the sub-states are not taken into account. The superposition of the sub-states we do the reduction which do…

Y: The sub-states must be taken into account. He has something now.

Bret: Can you actually write the formula that gives the probabilities…the count of arrows for first circuit to occur, for the first crossover to occur?

Y: She hasn't tried yet.

B: Yes.

Y: Oh, already.

Bret: Can we…?

B: Separately for the first circuit.

Bret: Because we have to get that as a basis for anything else.

B: And the first circuit and the first ( )

Bret: So can we do that in the first place?

Y: Well, Michael did it; but he did not take into account…

B: The sub-states.

Y: He says, "It could be this way; it could be this way; it could be this way." He says, "I don't know," he says.

Y: But you're an expert in this.
He says, "That is something I will have to look into."
So my question is this, "A solvable problem, can you do this?"
And I never saw him again.

B: Not in these two weeks, I am afraid.

Bret: So this is not easily solvable problem to find out when the first circuit occurs, when the first crossover occurs, in terms of the number of arrows.

B: If we could do something for reasons because we need this and this and because N is multiplication, we could multiply, you know, for first step in order not to be stopped.

Bret: Ok.

B: So we could do this, and then improve, maybe.

Y: Right. That's the way all good…

B: And it should be actually correct.

Y: …theoretical science is done.

B: Because probability… when you have probability of this and probability of this, and probability of this, this is multiplying the probabilities. So we should identify the sub-states, and then multiply.

Bret: Ok.

B: We have the ingredients.

Y: Like here is a little paper by Michael called *Third Order Recursions* that is the second recursion. And ? work. And there is all kinds of papers in here. But I sorted out the ones that have to do with what we are talking about.
1:24.31
B: But now…

Y: And I think we should go over them, read them and discuss it, work on it ourselves, come together back and forth, until we get something because I think we are coming along pretty well with everything else.

B: But this is in favor of Lila because we will have these sub-states expressed in terms of (N). Then it is to be in superposition which reduces into the consciousness, with another which is terms of (N). And then another which is in terms of (N). And this is (N) third somehow. And then it is in favor of Lila because we shall go closer here.

Bret: Are the numbers…

B: To the GUTs and so on.

Bret: …of arrows involved small enough that we can specify all of the sub-states and figure out which ones we want and which we don't?

B: The sub-states?

Y: They are all there.

Bret: I understand they are all there. But we just said, they don't all contribute. So can we…

Y: Depends on what you are asking. Depends on what you want, do you want space, you want time, do you want energy levels, do you want the number of particles, do you want to know this kind of particle, the number of that kind of particle? So it depends on your question.

Bret: Yep. And past the first circuit, are we only interested in common space, circuit space? Before that we are stuck with no circuit. So we have to decide whether to sum or choose the largest space. You and I have had this discussion. But once there is a circuit, we get to decide. Do we include all space or just the space that is experienced by the individuals in the circuit?

Y: Well, that's a good question because the scientists have never realized that such things exist. So there is not real measurement in this realm anyway. It is just theoretical projections. So I think we've got to say what is being calculated.

Bret: Which may mean we calculate it both ways and find out which one the numbers work. And that gives us a clue.

Y: Probably have to do it separately and then sum them.

B: Multiply.

Bret: So there isn't a straight forward formula for predicting number of arrows verses probability of a circuit or creation of the first circuit.

Y: He made estimates. He made estimates on it.

B: We have here…

Bret: I vaguely had the thought that this was an ordinary common (atrophic?) problem, but I didn't know.
1:27.40
B: First circuit.

Bret: But we can't just write that down now. We don't know how to write such a thing?

Don: No, there are…

B: We have it.

Y: And here is the expected length of that circuit.

Bret: Is this formula believed correct?

Y: I think this one is probably close to correct.

B: First circuit this is first circuit.

Y: That's the time of the first circuit. This is the length of the first circuit on this paper.

Bret: I am not completely certain that you are understanding what I have said. You probably are close to it. And you probably have. I thought it was a very straight forward simple combinatorics problem to write down a formula that would say when the first circuit appeared in the directed graph. But it seems to be that's not the case. Am I correct in that? Or is there actually a straight forward formula that says …?

Y: Well, this is it.

Bret: This many arrows and you have got…

Don: No.

Bret: Michael Baker's speculations… And she's the expert in the field. And that is why I am asking. I thought this was a known problem. Is it not a known problem? Not a simple problem?

B: It is not easier than this.

Bret: Ok. Thanks.

Don: It is only an expectation value. It is not a specific number. It can happen very, very early on; it can happen very, very late.

Bret: That part I accept. But there is some average or mean value that is accepted as the what ?
1:29.00
Y: Which is what he calculated.

Don: The expectation value and that is known in…

Y: That is known to…

Bret: Are we not going to use that for building these graphs? Is that not the number to use for some reason, the expectation value?

Y: Well, we have been using it. In fact I… This is it right here. I said this is the number.

Bret: Ok.

Y: 0.9 times N and when you made a simulation of it came out .8587.

B: Yes. 0.9002976.

Bret: So there is a definitive formula, a well understood formula for that.

Y: It is understood.

B: And we should combine the sub-states probability for these sub-states multiplied by probability for circuit multiplied by probability for another sub-state.

Bret: (acknowledges) Is there also a formula in the same vein for the first cross over?

Y: Yes, and for the second crossover.

Bret: Ok, so those are well understood problems that have formulas for…

Y: Yes, in fact they are on this detail graph of the monopole which is in here. So the thing is you have to familiarize yourself with this, rather than just expecting me to tell you because…

Bret: I am not asking for that reason. I am doing project management question now, organizing work in order to determine needs to be done.

Y: Well, I am saying, the thing to do would be to look at what is available. And that is why we have been kind of outlining it, the overall picture, so that you can see what is needed. And then say, “Well, what do we have and what do we need beyond that?” But the sub-states are very important because that is where you get the physical measurements from. We get universal values when we just deal with (N) or little (n). But you get specific values for the mass of a particular particle by the sub-states that are described by the probability for that sub-states.

Bret: We are after space and time right now. We’re not after the mass of anything. As I understand it, space is determined by the size of the circuit. It’s one-dimensional, two-dimensional, and three-dimensional depending on how many crossovers there are. But the magnitude of space is determined solely by the size of the circuit. Is that not correct? That’s what we we’re doing.

Y: The size of the circuit at that particular time.

Bret: Right, Ok.

Y: But when there is no circuit back in here, we would still like to have something about that.

Bret: Yes.

Y: But this is the important part of the curve so far as…

Bret: It sounds like this is largely understood. This is…needs discussion.

Y: This needs more discussion.

Bret: Is that not true? Do you have some other thought? Is there anything uncertain about this part?

B: Yes, it is because here the specific arrangement have not been taken into account, just the number of arrows.

Y: That's right; and so these have to be adjusted. Their values…

B: But the question I asked was, "Do you agree that this is well-understood and it is this part that needs discussion, or is there anything uncertain about…?"

Y: Yes, the shape of this curve as it passes through here.

Bret: Well, that'll be done by calculation.

Y: This is known, and this is known, and this is just drawn in.

Bret: As I…but the problem is defined by…above the first circuit space is the number of individuals participating in the circuit and nothing else. And therefore that completely…once we calculate that, we will have a complete definition of this unless you think there is some other factor…

Y: Well, the crossovers…

Bret: That aren't included in that. That is the number of dimensions and whether it's…

Y: Yes. But there is more crossovers after the number of dimensions are three.

Bret: Yes.

Y: There is more crossovers or more energy…

Bret: Ad the question due to that is what?

Y: Well, it's…is there a question about that?

Bret: You said that this is…we need to take that into account. And I am asking you in what way do we need to take that into account since we are only interested three dimensions on the maximum?

Y: Well, no, we are interested in the intensity of the energy levels that are generated by…about the crossover four.

Bret: Later on we are, but not in this graph. We are doing one task first and then another. Is this problem?

Y: Well, if you put that modifier on it, yeah.

Bret: Ok.

Y: But on this graph on here is things about energy. I was talking about the strength of various forces and the energy transitions, phase transitions.

Bret: Yep.

Y: From one kind of energy, we have… Initially we have just one force; and then the strong force separates from that, and we have the strong force and the weak force and the electromagnetic force in another group.

Bret: That's all true, but unless that somehow changes space time, we're calculating space time. And then we'll calculate those things. Unless those change space, we can split those as a separate step.

Y: They don't change space/time directly, but it will change the odds for it because it might be a crossover that is superfluous to the space/time and… But it's an arrow that is forwarding time. But the space isn't being affected.

Bret: So there is something for discussion there. We have to figure out if that has an affect.

Y: Yes. I am just trying to understand your question and finally figuring out an answer. I hadn't considered it.

Bret: Hum.

Y: Of course, what I want to do is figure it all out.

Bret: Well, that is what we have to do, piece by piece.

Y: By moving, we have to do it place by place. I am running out.

B: So first we should find K by using Alpha.

Y: You want to see that happen?

B: I want, yes.

Y: Ok.

B: Maybe not now.

Y: Well, I can do it right now. In the *Radical Theory* there is a formula.

B: Yes, it was one over square of something.

Y: No.

B: Ah, yes I know.

Y: It is in the Appendix in the second part of the Appendix. We take the value for Alpha.

B: Ah, yes, we stated this.

Y: We talking about it.

B: This is what I thought K is, one over square of Alpha, this one. Isn't it so? K is square of Alpha minus one, one over square of Alpha?

Y: So here's the…

B: Ah! It was one, plus one.

Y: Here is the value for Alpha. Do you want the value for Alpha or the invert of Alpha?

B: It is one hundred thirty seven, yes.

Y: 137.03599976. So we take…

B: I should write this down.

Y: You take 137 and take the square root of it. So it is 11.70 is the value. And then you have to add one.

B: This is physics (psyched?)
1:37.16
Y: nis…

Bret: That (codataing?)

Don: (acknowledges)

B: (?)

Bret: So 137.

B: Alpha to minus one is 137.03599976 $^{\pm}$50 accuracy.

Y: Now all you have to do is take the square root of that…

B: Yes.

Y: And add one.

B: K is one over square root. 137.03599976 plus one. It is (design?) by mathematics. And (here?) is 11.7
1:38.23
Y: So it (7.7?)…

B: Because Alpha is now this is the K now.

Y: That is the number of disciples plus Jesus.

B: (acknowledges) Laughs. Yes. (?)

Y: That's K, you wanted K; you got K.

Don: Should we make copies of those notes for everyone?

Y: I can't decide that.

Don: Everyone should… everyone have a copy of those notes?

Bret: Which notes are those?

Don: That pile in front of you.

Bret: This?

Don: No, that.

Bret: This on my machine.

Y: Don't ask me.

Bret: I am asking which ones you are referring to.

Don: That pile that Yogeshwar has been referring to.

Y: Oh, this.

Don: Yes. All the things that we should workshop.

Y: Well, everybody should be roughly familiar with it and see what's… and…but not believe everything you read.

Don: (acknowledges)

Y: Because a lot of it has been superseded… but does need to be done. The questions are asked there and some of the answers. I have got some of the answers in this folder.

Bret: Really, the first step should be to define the questions we are trying to ask.

Y: Good. I thought you were doing well with that.

Bret: And then…

Y: Ask some more.

Bret: Well, depends on whether we take off and do things or… Ok.

Y: So, but the way to do that is to take it down to a copy machine and run it off. Somebody like Karuna or Namrata could do that.

Bret: That gets the raw information, but organizing the questions is separate stuff.

Y: Well, they could be organized better than they are because there is a lot of duplication. Some things… the reason I picked them is they looked like duplications; but they have my writing on top of them.

Bret: You can't work on a problem when you haven't decided what you are working on shooting in the dark. You don't know what you are going to hit. So the first thing is what is the question? And it sounds like the question is to come up with a graph of space and time; and then later to add things to that to do with energy.

Y: And then we need the recursions of those graphs.

Bret: Right. Do you want?

Y: But you can use one thing to reinforce another. Like you can take a physical measurement made in two-dimensional time/space and re… And then take the square root of it and give you a value for the one dimensional chart. So you can work both ways. You can work with the Lila end; you can work with measurements end; and you should take advantage of everything we can take advantage of.

Bret: Certainly, but we still decide what the question is. That is how we answer before circuit, after circuit.

Y: This is one of the forms of this equation. Where this is…

B: Recursion.

Y: Recursion over (N) exponent of (e).

B: Yes.

Y: At one time, Bret, you copied some of this data onto your computer. And I think I have a print-out copy of that here.

Bret: And which data was this?

Y: This kind of data that I have written out.

Bret: Do you remember a context for when I copied it and what I was doing with it?

Y: You were just trying to organize things. And you got it all neatly typed up. But nothing was done with it. And I have it also on the hard drive of this computer. We'll gradually…

B: Yes.

Y: It will be a mess for awhile. And we'll gradually get it together. The trick is to keep fairly general; and then gradually come down. It is tempting to dive and I am going to solve this problem to twenty three places.

B: So the first circuit was inflection point, the first circuit?

Y: That's not the first one. No, there is all these F numbers. Here, here, and here the inflection point is here.

B: Ah, yes, here. It was here… Ah, it was when this limit forked structure actually…

Y: No, it's *pi* over 2. *Pi* over 2 times (N).

B: Ah, *pi* over 2 (N) which was obtained by…

Y: That's the number of imaginary time units. Here is a very good summary of the physical measurements. It gives it in terms of time. This is now; this is in terms of density; and this is in terms of temperature. That's how they do the work, the scientists. And these are the events or the phenomena that are being measured. These are the particles that are involved and when they come into existence. It is a very nice summary.

Don: (acknowledges)

Y: It needs updating, but it is still gives you a good idea. And definitely a copy should be made of all that. So I'll put that on that pile.

B: I was…but this was different, it was square. I was thinking of random walk approach for finding.

Y: For finding the F formula.

B: For finding the distance, yes, for finding the distance. Where was it? But it was square of this.

Bret: Magnitude of space, you mean?

B: I'll find it, maybe.

Y: The one by Wernicke.
1:46.58
B: By it was Wernicke.

Bret: I remember that being about the magnitude of space.

B: What is the distance traveled if a particle move in 2-D space randomly.

Bret: Right.

B: And the formula is square of *pi* half (N); so it is different because we have here ( )

Bret: Well, what do you think this distance equates to in the universe we are looking at? Do you think it is space or is it radius of the space? What are you thinking that that distance corresponds to, right now?

B: His thinking is quite different. He doesn't include all the ways of thinking of Baker's. It is quite different. It is… like we have 2-D space or a plane; and we are moving randomly to it. There is one circle no forks.

Bret: I accept that.

B: It is quite different.

Bret: You are looking at this and wondering why it differs from another formula.

B: Ah ha! yes.

Bret: So what sort of thing are you thinking about that you are wondering about the difference. Are you thinking about…?

B: Yes, yes. I thought this was the inflection point. But Ok, maybe not.

Bret: I see. Just wondering, just wanting to catch up with what you are saying.

Y: Here is the value of K for different sizes of circuits. Here is Bret's book. The value of (e) done by Seeley. It is done in *Mathematica* so it is the same value.

Bret: And what is it about this, do you want?

Y: Well, there is a lot of the data. That's measurements. You asked about measurements.

Bret: Ok. A lot of constants that I looked up and assembled. Calculations are trivial once we decide what to calculate. For me, it is a philosophical discussion first to what defines space and what defines time before and after circuits.

B: Now twelve billion years from Big Bang.

Bret: Even older than God.

B: Hum?

Bret: Even older than God.

B: This is interesting.

Y: Punita, you look like I feel.

Don: Na I just trying to…like with the probabilities, I was looking back to mapping it to states of consciousness, not just probabilities and numbers so that's why to me the specific probability of something is important because that's what occurs in consciousness and …so I am just…

Y: Good idea. It's a good way to understand it.

Don: I always have to go back to that underlying think, not just the mathematical.

Y: Yeah.

Bret: What is space to Wheeler or to Paul Davis? That's what we are wondering. That individual's experience of the space they measure, what would it be to them because that is the number they will come up with? Hence the individual viewpoint as a way discriminate what matters.

Y: Individual's viewpoint, not God's eye view.

Bret: Yeah.

Y: Einstein did it; Feynman did it; Paul Davis did it; Wheeler did it; and several others. And that's where every break through that they had was done.
From taking as if he was riding on a photon or on an electron or he was down inside an atom and wondering what it is like to be an atom. And that's a definition of consciousness, what it's like to be that state of knowledge.

Bret: Since one of the questions involved here is the question of what contributes to the measurement in the first place, what structures and phenomenon. I am still… I am hoping you could say something, or do you have something to say, (you suggested you did) about whether there is ever stillness, in this measured universe.

Y: There is timelessness. That's still.

Bret: But in the experience universe, in the conscious where it is measured, is there ever anything that is actually still in the universe that has no movement?

Y: Well, when you use the actually…

Bret: Sorry, in the conscious universe?

Y: In the illusionary world?

Bret: Yes. I thought you objected to the (it's thought?) but we hadn't got discussing it.
1:53.36
Y: Yes, we still…I haven't thought about it either. In the meanwhile, I have been thinking about a pain in my neck.

Bret: Ok. You might have had something to say.

Y: I might have, but if I do, I'll let you know.

Bret: Ok.

Y: I think it's a good question. We are out of time. And so we'll have a go at something at two o'clock. What does that mean? No?

B: No, I'm…

Y: In India they shake their head sideways to mean 'yes'.

B: The other way around.

Y: The first week I was there I was looking for a cab and they were going (shaking their head side ways) and I thought they meant 'no'. And it means 'yes.'

Bret: You found the cab; you just didn't get the ride.

Y: I found the cab but he thought I was…I thought he was turning me down that he already had another fare. One time coming from the airport at 2 o'clock in the morning, I got in an Indian cab. It was half way from the airport in Deli, to Deli and he ran out of petrol because he couldn't afford to buy enough. But he hoped that we would get there, but we didn't. So he said, "Never mind, I get." So I laid down in the back seat for an hour and a half as he trotted off with the can. He went I don't know how many miles, got some petrol. He only had about a liter when he came back. And he had to take two rupees from me to be able to afford to buy it. I mean…And in Madras, we use to have to push the taxis to get it started because they had no battery. Oh what a life that was!

Don: Did you ever see the movie phantom India?

Y: Hum?

Don: Phantom India.

Y: No, I never saw it.

Don: It was…who was…It was a famous French director. He took a crew to India for months.

Y: I saw the river. It was about the Ganga.

Don: The way he started out, they bought this big bus for all the crew and equipment. But it had like nineteen inch wheels. And in India at that time, it was an old bus you could only get eighteen inch tires. So at every…they would always be wearing out. And they would always get these eighteen inch tires and pound them over the rim. It was just sort of how India always works.

Y: That is the way it works. You went around there once.

Don: Ah, yes.

Y: Tales of India.

Don: Ok.