#37
Formal talk-05112006 Morning day16
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Recording 37

Y: Yes, I'll do that.

B: (acknowledges) You'll do that.

Y: I just wondered if you have anything. If not, that's fine.

B: This one. I was thinking over this whether I understand it well. So here, whenever we have difference in, so to speak…in wavelengths or the illusionary moving of the information through the circuit. Then this difference comes out as particle, for instance, boson, the first crossover creating a difference in wavelengths of the illusionary moving of the signal all over the circuit.

Y: I follow you. I suggest that I do what I am going to do first. Then if that is what you have because it will become clearer then.

B: Yes. So we have space on the vertical axis. And we have time on the horizontal axis on this. And there's… two things that we have to do is to find out what the value is for the points on the curve having to do with both time and space. But they are different. The formulas for the 'times' is one thing. The formulas for the 'space' is another thing. The time of the beginning of a segment of this curve is different from the end, the time of the end, if that makes sense. If we have this (dot) here on the curve, time is one thing here. And at the end of it, which is the now, the time is another thing. Then we have another category. All these were running together yesterday. We have another category that when…I think we better change the word recursion. There is the original pattern; then a blown-up copy of that.

B: Yes.

Y: A blown-up copy. That blown-up means the time is later for the first crossover circuit at a certain time. If we square that, the time will be blown up, magnified by the square. We say squaring it; this does not mean spatially squaring it.

B: Yes.

Y: It means temporally. The amount of time is proportional to the square, to the number of arrows needed to expect this first crossover circuit. So how many arrows, that we square the number arrows, needed to expect this first crossover circuit. If we square it to get what happens when the second crossover circuit occurs, then we get a lot more units of time, the square of it. So that's why I have drawn this line straight across here. Then if we…it's…Every time we put in more arrows, they/it increases the amount of time. So if we have the special thing, which is also squared, this curve here has been blown-up by the square of the arrows that were involved here. And now we have the end of this copy, this blown-up copy of this segment of the curve. So we have to have the number of arrows here for the first crossover. To get that, we have to use a formula. That formula is given by Michael Baker. And that should be written into our table, that formula where it says, “First crossover.” I got it on something. We’re just looking for time now although space is involved here. Then we have to get the formula for the number of arrows for the end of this original pattern. We square that, we’ll get the time for this. So if we square the number of arrows based on the formula for this, if we square it, then we get the amount of time for the end because it’s a blown-up version of that part of the curve. Then we do the same thing again. We blow-up this by the cube; instead of squaring it, we cube it. So the amount of time…Now where do I begin here? I don’t know. So I suggest what we do is get the formula for this, the formula for this, plot this on a graph, then square it, and plot those figures on a graph and draw a line in between. Do we need the formula? For the…I withdraw that question. I want us to figure it out. The formulas are on there.

B: Yes.

Y: That’s copied right out of Michael’s paper right onto that graph.
9:13
B: Yes. I know (?). I have written it more clearly. I am looking for this.

Y: The problem with…

B: These are the formulas for this first X boson and for the fourth square of twenty-four N over this. This is the time.

Y: What happened to the sine and cosine?

B: No, this is the length. Pardon, this is the space. This is by LQ. So this is the second co-ordinate; it is space.

Y: Yes, that’s for space.

B: And this is for time, N arch, arch tangent.

Y: That’s the one.

B: Q over N plus one, this one. This is the first. They are changed here.
10:24
Bret: You want that last here (…?)?

Y: And there is a value for that first crossover; and I gave this value of the number of arrows which is 1.56545919 times 10^{23}. Now is that on the table?

Don: Yes.

Y: And does it say, “First crossover?”

Don: Yes. But the formula is not on the table.

Y: That's…I can't hear you.

Don: The formula is not on the table. The…

Y: Well, it should be.

Don: Yes. It should. I just need to know which formula to put in.

Y: So, the one she just said.

B: N arch co-tangent of Q over N plus one T Q. This is the co-ordinate. Then it is multiplied by T Q. N arch tangent of Q over N plus one. Multiplied by T Q where T Q is Planck time over square of 2 N.

Y: That is correct.

B: This is the time. And for the second co-ordinate which is space, you have N fourth square of twenty-four N to the third, over third square over six N squared L Q, the elementary length quanta. This is first crossover or X shell.

Y: Now Punita.

Don: (acknowledges)

Y: You have. You said you had that number, that's the number of arrows, is that indicated on your table that that is what it is. Or do you just have the number?

Don: It's in the extant choices column.

Y: What column?

Don: Extant choices.

Y: Aha. Ok.

Don: Which I thought was…

Y: Now we want to change that into seconds, and what we do is multiply it times the value for the T Q, and I have that here.

B: Yes, it is.

Y: You have a second's column or?

Don: Well, I…I do have a figure here for seconds.

B: If it is…

Y: Yes, and that is correct, I am just…

B: 10^{-55} it is right.

Y: I am just…

B: It should be. The time quanta should be the number multiplied by 10^{-55}, just the time quanta, not the whole.

Don: Yes, well, that would be right, because this is 10^{-32} and was…

B: Ok, Ok, you have done it all, Ok.

Don: 10^{23}**.** So what I will do though, I will move that over into the Lila time kalp. And a Lila space kalp so we have both those.

Y: Ok. Now the end, now he has here a note. He says, “Zekeres end is one thing. That’s when the total, everyone is in the spanning Hamiltonian.” So Zekeres end is not what we want. We want it based on K is equal to 12.7. And if we multiply K times N T Q that would give us the current end time of the original pattern.

B: Over *pi* over half? Over *pi* over 2, or not?

Y: For time? I am not sure that’s correct for time. I know it’s correct for space. Why should it be correct? We will have to have a discussion.

B: Ok, maybe, maybe, maybe.

Y: We’ll have to have a discussion. We could have that right now. About what makes…

B: Maybe K N because you…

Y: Time in a circuit.

Don: Is that n in that formula small n or large N?

B: It is large N and it… it is the small n. But it should be obtained from the large N. It is the small n; but L Quanta should be obtained for length…Planck length.

Y: We have a circuit. And we cross it over; this makes time. This makes space between this and all the other. I should have dotted that. But time, how much time? A unit of time consists of an A → B• →C• situation. So the question is how many of those exist when you have K arrows on average coming out from every individual, all n individuals in this current circuit, the extant circuit which is little n times K is ‘who’ many crossovers. So how much time would we have? Would we have K n, or K n squared T Q?

Don: Is the time dependent on each pair of arrows crossing over from one individual?

Y: Then you would have to have the square root of 2n divided into it.

Don: No, we would have more. What I am asking, “If we have three arrows crossing over from one individual.”

Y: We have K arrows.

Don: Yes, but just how we calculate if there are three arrows over? Do we consider this a unit of time, this a unit of time and that’s a unit of time? Or are there just two because there are two arrows?

Y: Depends on whether you’re after the first recursion, the second recursion.

Don: Well, right now we’re at the beginning of time.

Y: So we are considering one arrow. And then we consider it and the circuit as one sub-state.

Don: (acknowledges)

Y: Then we figure how many of those types of sub-states we have.

Don: (acknowledges)

Y: So we are not multiplying one times the other. We are just summing. How many of those sub-states have one arrow and a circuit.

Don: Ok, that…

Y: So that would be, it would be, and the circuit. That would be K n.

B: Kn, yes.

Don: K small n. Yes. Ok.

Y: But to change it, each arrow doesn’t… Well, if you are using T Q, then you don’t have to do this. But if this was Planck time, you would have to divide it by the square root of 2n. So to get the number of arrows for this point in time, we need to solve this equation.

B: We might do it, now. Multiply 12.706.

Don: Isn’t it K minus one times small n because the one arrow…you are comparing the one arrow into the circuit with each other arrow.

Y: Yes. Sorry, but I think you are right; it’s T minus one, I think which is exactly what we have here. So it’s…the number of arrows is 1.6185 times 10^{24}. So this is the end of the first, of the original pattern. I’ll you give to it in terms of time, 1.87245 times 10^{-31} seconds.

Don: 1.87245?

Y: Yes.

Don: Thank you. And this is the end of the first crossover period.

Y: Yes, which I have called the original pattern or call it what you want.

Don: (acknowledges)

Y: First crossover makes time. And the first crossover creates space, both. So it's space/time…is being represented here.

B: Yes.

Don: Ok, now I am confused. Was this just the formula for the end of the first crossover?

Y: The end of it.

Don: Ok.

B: The end of the original pattern and…

Y: Yes, right there.

B: And the beginning of the first crossover, not the end.

Y: No, the beginning was already done down…We did that one already.

B: (acknowledges) So the beginning belongs to the original pattern.

Y: It's already on this piece of paper. The beginning from the first crossover is already done.

Bret: The end of the pattern is the end of adding arrows.

B: But the first crossover introduces time and space as I understood.

Y: Reduces?

B: You know the formula.

Y: I couldn't hear you.

B: The formula I have…

Y: The formula arch/tangent.

B: Is for the first crossover.

Y: Yes. But what that…and then that's on this curve.

B: Ok.

Y: Now, where is the end of this curve?
22:30
B: Yes, yes, I understand. Now you are (?)

Y: It comes in right there. And I said that was Kn, K Q 1.8 times 10^{-31}. And that's where this is plotted, right there. Now this is a blow-up. But on this graph, it's not blown-up. It's this one right here. But the space is wrong on this because this is plotted as if space were three-dimensional. And it's not; it's just one crossover. We're going to have another crossover, but that's going to be a projection which is this. It's a projection of this because this value is now squared. Ok, well, that's our next job…is to square the first one. And I have already got the number of arrows here. You ready to write?

Don: Yep.

Y: 2.45066248 times 10^{46}.

Don: Ok. So this is…
24:20
Y: The number of arrows added on the first crossover squared. You might call it… He's called it recursion one. But, I don't know if this is the blown-up for the…when the second crossover occurs.

Don: You could call it expansion.

Y: Expansion explains it. Stretched, multiplied, whatever.

Don: Now when we say…

Y: I am going to give it to you in seconds.

Don: Ok.

Y: 2.83472629 times 10^{-9} seconds. And that should give us our second curve.

B: Minus 45 and 55 for the time quanta is minus 9.

Y: That's when it starts.

B: And this is plus 46, not minus 46. Ah, yes, plus.
(Bret and Don having a separate conversation)
Bret: You are doing it the way I am doing it.

Don: That's time quanta.

B: Without them. Yes, time quanta…

Y: One thing at a time.

Bret: That is how you co-ordinate people. That is why fifty percent of software projects are never delivered.

Y: Never.

Bret: Nope, that's the average.
26:20
Y: The company goes broke before they (?)

Yes, there it is, this is the shape of that curve. This is the first blown-up or first recursion. First recursion, I have called it the virtual realm. Didn't you have that on your chart some place?

Don: I have first recursion; I have virtual particles.

Y: Yes, that's the same, the realm where they occur. I think that's where it ends for them. Well, it was 10^{-20} actually. So skip that for now. But this is plotted correctly, partly correctly, space is wrong. Ok, now we want the end of this end point right here. We want the time of that n which is… should be the square of this.

B: K minus one times n squared or "Wait!" Cubed, squared?

Y: That should be squared for time because this is the squared curve. I want to double check that, that is correct. Yes, that is correct. And that should be R-2? Yes, R-2 D-2. You ready to write numbers?

Don: Yes.

Y: All right. This is the number of arrows 2.61953717 times 10^{48}.

Don: Time quanta.

B: Time quanta.

Y: Time quanta. Multiplying it times the time quanta value.

B: Minus 55.

Y: It's…

B: To 10^{-7} should...
29:04
Y: It is 10^{-7} actually (?) You're guessing. The difference between 55 and 48 is 7.

B: Yes. So you ready for the next one, what it is in seconds?

Don: Yes.

Y: 3.03006674 times 10^{-7} seconds.

Don: Are we also going to do space definitions?
29:38
Y: Yes, we are.

Don: Ok, because we didn't have one for the first recursion.

Y: Space?

Don: Space.

Y: No, that's right; we're not doing…we're doing times now.

Don: Ok, fine.

Y: One at a time.

Don: Very good.

Y: Now we are going to do the next point. Where does this curve exist from? It's going to be out here some place.

Don: (acknowledges)

Y: But how big the space is, I don't know yet. So the beginning of our untitled, we'll call it cube curve. That'll be a good name for it, cubed. So the beginning of that is the first crossover cubed. Tell me when you are ready for the number of arrows or the number of TQ.

Don: I am ready.

Y: 3.83641211 times 10^{69}. And I'll give it to you in terms of seconds when you are ready.

Don: I am ready.

Y: 4.43764833 times 10^{14} seconds. That's about…

B: This is 269…

Y: The time when the first stars were forming.
31:43
B: 4…14 not 44. 14 why? 44 14.

Don: 14…Yeah.

B: 14. To minus 14 in seconds.

Don: No, plus 14.

B: Plus 14, yes, yes. Plus 14.

Y: It is plus 14.

B: Seconds.

Y: Yes, which is about the time of the formation of the first stars.

Don: A billion years ago.

Y: But we'll check that against that recent thing that you printed out which gave the… They re-estimated the time of the first stars forming. And we'll check that. But we don't do it right now.

Don: (acknowledges)

Y: We go step by step to get through this. Now we have one more time to get. One more time and that is the…we need…Yes, Kn minus one cubed T Q. That's the formula.

Don: That was the formula for this time?

Y: No, that was…it was squared. I don't know what this means.

B: This is…

Don: What was the formula for the cubed curve?

Y: For cubed curve?

Don: Yes, for time quanta.

Y: That was the beginning, the one I just gave you.

Don: The formula for that. I have the value and time quanta…

Y: It's just the cube of the formula for the first crossover. Arch/tang. It's just the cubed form of that.

Don: Yes.

Y: And now we're going to…

Don: I'm fine. I was confused.

Y: We are going to go to the end of the cubed. So that's…would be an ordinary time that they talk about. It is cubed time that they measure. And it…we are using K minus one.

B: n.

Y: n cubed times TQ and that should give us… I will give you the number when you are ready.

Don: I am ready.

Y: 4.23971679 times 10^{72}.

B: Not second, seconds?

Don: No time quanta.

Y: No, that's time quanta. And in terms of seconds that's 4.590415826 times 10^{17} seconds.

B: No, 17 minus…to the…

Y: Times10 to the 17th.

Don: That's correct.

Y: To the 17th, not minus 17.

B: Ah, 17.

Don: Yes.

B: Why not 15? Ok, maybe, it is…it is…

Don: We have got seventy second (72) seventy two minus …

B: Yes, I know.

Don: Minus sixty-five (65).

B: Ah 72, I have written seventy.

Don: Yes, that's a seventy-two.

Y: Yes, it's a seventy-two.

B: Seventy-two, Ok.

Y: Now, I think all these times are wrong because we didn't divide by the square root of 2n. I'll show you why I think so. You were suggesting that earlier, that we should be, maybe, doing that. If we change that number I just gave you, of 10^{17} seconds. If we change that into years, it's 151/2 billion years.

B: (acknowledges)

Y: That is not the measured value now. Since their improved experiments…they have five different experiments with totally different approaches to estimating the age of the universe. And they average around 13. So if you divide 15 by *pi* over 2, you get around 13. So on the basis of inspection, then I think that must be the right approach.

B: Yes, yes, yes, because they are all spread out in manner of *pi* over 2.

Y: But you have developed a reason for doing it.

B: Yes, yes.

Y: To calculate it that way, so the formulas have to be changed to multiply by 2 and divide by *pi.*

B: Yes, exactly, because these are all averages, so to say, normalized crossovers, normalized.

Y: Yes, normalized crossovers.

B: Normalized over the whole, and this is always divided by *pi* over 2.

Y: That's why I was jumping up and down when you said that a few days ago.

B: This morning I also mentioned. This morning I also told you.

Y: So that gives us this value, and gives us another value here for time that is going to be projected out. Now, let's see if I can clear away all that and do space.

B: For the elementary length of space, you also divide Planck length over square of two n. Isn't it so? The same as for that?

Y: Yes, but that is not for a circuit.

B: Maybe, it should be because for the notion of space, you need three not two. So maybe it is LP over third square of 6n to square. Isn't it so?

Y: Maybe.

B: Because for the notion of space, you have three arrows.

Y: Yes.

B: And F of 3 is third square of 6n square. Maybe, you do it this way. Maybe you do it right.

Y: Maybe.

B: We should triple check.

Y: Maybe, I think we need to think about it some more, at least I do. We need to discuss that a little more. You might be right. But even so, that is not a fit for the circuit. When we have a circuit and we have…this is A B C D, then we have one length quanta between here and here. And we have n of them.

B: (acknowledges)

Y: So.

B: You lose one arrow somehow.

Y: So it is n times LQ. And there are K arrows on average. So for an individual, so that's K. But do we have to do that again and square it? I don't know. We need somebody like her to answer that question for me.
40:47
B: We shall think. But now…but you start with this one, isn't it so? You start with n arch cosine, and then for the seconds (?)

Y: Yes for that.

B: We start with this one which is…

Y: That tells you how many arrows are in existence. But it doesn't tell you how many units of space.

B: Yes, yes. We shall see now.

Y: So when you have one crossover, there is that many arrows. But there is many more units of space because of the circuit. You can treat the circuit as one; or you can treat it as little n. If you treat it as n, you have to multiply n LQ. And you can't go by the F formula.

B: Yes, you should treat it like n, I believe, because, seemingly I stress… It is like information signal seemingly. Ah! Maybe one arrow, yes; maybe one arrow for the notion of space, one arrow; and then on every two case, you know. This is K; these are K's. For every…the crossovers are K. For every two of those crossovers, you have one space.

Y: Yes.

B: So unlike time where we have nK…

Y: But there is…

B: Now, we have…for every two K's, we have one notion of space. And the second is Ok, the…

Y: But that's…but there's n Individuals here …

B: Yes, I know there are n, I know, I know.

Y: so it has to be multiplied by little n.

B: By little n.

Y: And divided by two.

B: And divided by two because on every two there is just one nK over 2.

Y: Yes, I think that is correct.

B: If we follow the same logic as for the time, then it is so. For this individual A, we have a bifurcation here, and a notion of one-dimensional space. And this is the same for all of them. They are n. These crossover arrows are K, but divided by two because on every two, I have just one space. So it is nK over two if it is the same logic as for the time.

Y: I don't think we used the same logic because with time, it was linear and space, it is bifurcated. Time is two arrows in a row and space is created by these two arrows.

B: By two arrows. Yes, this is what I say. These two arrows belong to K which are the…which is the number of crossovers.

Y: Yes.

B: So this belongs to K.

Y: Yes.

B: And this belongs to K. So we need two…

Y: But that's different…this…

B: We need two…we spent two arrows out of all K's…

Y: Yes, I agree.
44:18
B: Two have one additional arrow (?).

Y: Yes, I agree, but that is a different logic than for time.

B: Yes, it is different. Yes, it is different…

Y: Ok, all right.

B: It is different in somewhat different. Yes. But…

Y: A little bit different.

B: A little bit different too, this.

Y: Now I was after something here. It’s already calculated. So we want Kn divided by 2?

B: Yes, I think so.

Y: LQ. But the question is...

B: But now should…now, they are also spread over… now, now if… aha!

Y: Yes.

B: Again over *pi* over 2.

Don: Then again, isn’t it K minus 1?

Y: Certainly.

B: (acknowledges)

Don: Because K minus one crossovers.

Y: It is definitely.

B: Aha! Yes.

Y: Yes, it K…

B: And then we lose one. Then, maybe, still we have nK if we lose 1.

Y: Or, maybe, we want K because that is the one.

B: Aha! You see this is one? One is from the arrow…one is from the circuit.

Y: Yes.

B: But we need…but it takes also…also from…for each two of the K’s, we have one space. But this taken care of in…by introducing *pi* over 2.

Y: But do we want K or K minus one? I settled the question for myself by seeing how the numbers came out. I had two choices. And the one agreed with the measurement; and other one didn’t. And I figured that’s the correct thing.

Don: Ok.

Y: That’s working both ends.

B: (acknowledges) Yes, one arrow is from the circuit; the other is from the crossover. And they form 1-D.

Y: So, do we want K or K minus one?

B: But it is also true that every two arrows out of the set of K's form another notion of one-dimensional space. And this is all spread out. So this is taken care of by dividing by *pi* over 2. So it is n K minus 1 over *pi* over 2. Because there…

Y: All right you have the value for K.

B: We have many K's.

Y: The value of Kn…

B: K 12 over 12.706.

Y: (acknowledge) Yes, here's Kn. So we want Kn minus…we want K minus one n. So we're going have to do that. Ok.

Don: I have a figure for K minus one.

Y: It's 11.70623764.

Don: Yeah.

Y: But, you don't have it inserted in the calculator.

Don: No.

Y: 11.70623764. And then we want to multiply that by little n. And we have a value for little n? Yes, times 1.382583329 times 10^{23}. So, Kn, put that down for reference purposes, is 1.618484901 times 10^{24}.

Don: Now, that was n times K minus one.

Y: Yes. N times K minus one.

Don: And small n.

Y: And have to multiply that by the value for LQ. Now, comes another discussion. What is the value for…?

B: I am opening *Mathematica*. In order you need more accuracy than this. If you want I could open if you need it.

Y: You can run it to twenty-three places.

B: Yes.

Y: In principle. So if we take the Planck length.

B: Up to fifty places.

Y: And we want to know what the Planck, what the length quanta is; we'll have to decide what…

B: I believe I have seen somewhere, but I am not sure. Maybe I am mixing with...I am introducing into picture this handwriting of Baker's. But I believe somewhere, I have seen or maybe I thought it should be so, that L quanta should be Planck length over third square of 6n squared because we have three although one is from the circuit.

Y: Yes.
50:56
B: And maybe they'll steep (?).

Y: That's all right. Why not? It would be from the circuit.

B: Yes, yes. So, isn't it…If we follow the same logic as for the time? In time we have two arrows. And here we have three arrows. So it should be divided by F of 3 which is this one. I don't remember whether I have seen it. For instance, he… Aha! He uses it, you know, but for other purposes.

Y: Well, as I said, you may very well be right. How do we know? I can't follow the logic at the moment.

B: The logic is this one you know for the time quanta.

Y: Yes. It's true.

B: The elementary arrangement, yes…

Y: That I know…

B: F of 2 is 2. But this came from F of [I] is [I] square.

Y: Yes, I know that too.

B: Of [I] minus one…

Y: By heart.

B: To come to this one, [I] minus one factorial n to F of [I] is [I] square of [I] factorial n to [I] minus one, for [I] equals 2 F of 2 is square of two n.

Y: I know all of that.

B: Yes, I know you know. But to come to the point and you have here three arrows.

Y: Yes, I know that.

B: It is third square.

Y: But why does what applies to time apply to space? That's the logic that is missing.

B: Ok, Ok.

Y: And as I said, you may very well be right.

B: We shall think.

Y: But…

B: We shall think. You know, in this way, we shall think. To follow the logic from the beginning, and then we shall come to the point. Shall we do it in a circuit or separately.

Y: Should be in a circuit.

B: It should be in a circuit because this is when we introduce time quanta, yes.

Y: Yes.

B: When it is in the circuit then for time, we have for time…we have a referent individual here and a crossover, or even without crossover, we have time.

Y: I am looking for my calculations on space, and I don't find them. All right what I want to do so we don't just spin our wheels. I want to end this subject for this morning I want to find my calculations that I have all ready done for space. One-dimensional, two-dimensional, three-dimensional, and we'll discuss that after I find those. That's what I did with time and that's how we can do it. You may very well be right, and I suspect you are actually. But…And then we can take up another subject.

B: But also it could be two because we have this crossover here and this is… The other is from the circuit and we have one perception of 1-D. So we have these and this one then this…

Y: So with one crossover how many should there be. How many… I think it easy to figure out the number of time quanta, of space quanta. Of what is the value of the space quanta, that is the question. How does it relate to Planck length? But if you come up with it, let me know. But I want to not just shuffle through papers and not find anything. I want to find those papers and the answer will already be there.

B: Then we should know why for Planck time is used.

Y: Planck time we know, the square root of 2n.

B: I know that is…

Y: And time is always the same no matter where. But when…because this two arrows…

B: Because of dimensionality

Y: Exist everywhere. But logically for a fork, it should apply just the same for space.

B: Yes.

Y: But what about the space? You divide that into Planck length and that should give us…but I just…before we do that, I want to find the calculations I have already done so that when we do it, we'll know whether we are right or wrong.

B: Yes.

Y: If they match, well then, they should be. Beside we have something else to do that is a different kind of thing that is going to be useful. Darshana is translating the assumption into Sanskrit.

B: You know, when you have this, you have one Planck length and one Planck length which are in centimetres, which is also charge, which is in favor of this. But somehow, energy is here and charge into picture.

Y: It's the smallest unit of energy; it's also the uncertainty of location. You can't get it more accurate than that.

B: Yes.

Y: That is a good way to reason from that. Oiii!

B: You know if we…for instance, if we take unreduced H, then we are thinking in terms of definite number of case. And because…

Y: H bar? H bar, I think is H over 2*pi.*

B: I'm trying to figure out whether this 2*pi* stands for the same reason as our *pi.* But, maybe…it might not be the case.

Y: Well it's 2 *pi* rather than *pi* over 2.

B: Yes, it's 2 *pi.*

Y: And I think that's because it's space rather than time.

B: Yes, and it's wavelength. Wherever you have wavelength, you get 2 *pi.* But…

Y: (acknowledges) Because that's going around the circuit. That's taking this circuit as separate pieces instead of one arrow. It's little n arrow; but if you take it as one, then you have time, common time. So that means that's the basis of complementarity. One gives you waves; the other one gives you particles, two ways of looking at the same thing. One is taking the circuit as one arrow; and the other is taking it as little n arrows.

B: (acknowledges)

Y: I was going to do something. Now, what is it? We need to talk a little bit about what we are doing. We need to work out more on that when I find what I need to find. But we also need to talk over about are we going to write anything? Or when you go back, you then…you could work more on it as you wish.

B: Yes.

Y: What will we be doing? Well, first of all, I'll be Perth having holidays and trying to get well. But I won't be able to leave this alone for very long. So I'll be working on it in some way. But if we were to write a paper, I think we should seriously think now what kind of a paper. How technical would it be? How mathematical would it be? How general would it be? Who is our audience? Who do we want to talk to? Or do we want to talk at all? Maybe we don't want to write a paper. And I would like to get your thinking on it; and I'll share mine too. What are your thoughts now that you have got a general feel for the…not only the Lila Paradigm but the state of confusions about some parts of it?

B: Whenever you start something, there is creative confusion. It is creative chaos. There is the theory.

Y: So what to you think? Should we do something? And if so, what are ideas about it? Or if not, do we need to develop or refine more? You sometimes mention one year, two years, five years; I would like to get more a feel about what would be done over that period of time. Who might do it? What might be accomplished?

B: I don't want to introduce now more confusion if I start thinking loudly (outloud). But first, maybe in order to have a summary or like minutes from these meeting; or at least, to get this all stable in…

Y: Is that happening? Are they doing a summary or?

Don: They are just…

Y: They are just getting down what is there.

Don: That's a transcription.

Y: And a rough edit.

Don: Very rough edit.

Y: If they can hear it, they write it.

Don: Basically, yes. But if there is a word that is obviously been misstated, they will correct it.

Y: I see. Ok.

B: I have an idea, for instance, to write down all that we have somehow commenced or concluded, or have done. For instance, how I should begin this smaller book, I'll call it, or larger article, for start, in order to have summarized what we have done.

Y: (acknowledges)
1:04:1
B: For instance, I should like to start, first of all, your sutra. If we have it in Sanskrit, it will be wonderful. Then the log, so on and so on. But then, maybe, to note, to state the barriers, so to say, of contemporary science. To begin with Pierre-Simon de Laplace de Marquis, in his *Mechanic Celes* which was published after *Principa Mathematica* of Newton. And in his enthusiasm he exclaimed, "Give me a good mathematical equation; and give me precise instruments; and I'll predict for you the behaviour of the universe and tell how it was 10,000 years ago."
But then, we shall state, "But theory of chaos says 'No matter how precise a mathematical model I have, it could get me into chaotic behaviour." And have this illustrated with this method of the doubling of the periods. To have it all on paper, you know, what we have said, to have it on a paper, first of all, for us to clarify, but do correctly, do it to the best of our possibilities. And once we have it, we could draw out one article of artificial intelligence and Gödel's law. One article for physics, you have more of one. One article for mathematical logic, one Monte Carlo method and simulation and operations research, complex networks and so on. Even groups, somehow the definition of the group of what we have find so far. And so, first of all, this should be all clarified for us. For instance, I should start this way. So first, theory of chaos, then Laplace says, "Give me precise instruments." But principle of Heisenberg shows no matter how precise instruments are had, it is not sufficient. And now we introduce our findings in physics later on.

Y: (acknowledges)

B: Then we state the logic is also insufficient which theory of Gödel shows, and then a summary of Gödel's Law of incompleteness. We had just three presentations, short presentations, on this; but this a whole logic need.

Y: How would that be affected by the Lila Paradigm?
1:07:31
B: It could be useful. But we are using some of it. I am using some of it because it is not just the Gödel's law of incompleteness. It is a whole logic. It is all the best statements in mathematical logic beginning from Raso and Whitehead, then Quine, Hosteder, De Morgan, and even Penrose. Penrose has several chapters in *Emperors New Mind* on Gödel's law also in *Shadows of the Mind*.

Y: (acknowledges)

B: His books.

Y: I have them there.

B: Yes, I use it in my discussions when I introduce, for instance, fantasy rule.

Y: Which rule?

B: Fantasy rule. Remember when…

Y: Yes, but you described it.

B: Yes. So all this comes from this theory. And logic is also one branch, maybe, or if not more, it is useful to state. Theory of Gödel says, ‘A robot has limitations.” Theory of incompleteness proves that we cannot have consistence in completeness all at once.

Y: Ok…

B: So we are stating now the barriers of contemporary science. First barrier, mathematical model, is not sufficient. Theory of chaos shows. Second statement, instruments, no matter how precise, are not sufficient because we have inherent possibility mirrored in Heisenberg’s Principle of Incompleteness and Neils Bohr’s Principle of Complementarity which show that this is not sufficient. Third point, logic is not sufficient. Even logic is not sufficient. What we are doing now is following some logic. We are making our brains like this…

Y: Yes.

B: …in order to come to something. But logic is not sufficient because it is an inherent paradox, an inherent imitation. And it is mirrored in Gödel’s Law of Incompleteness. And after, we state all this, we ask, “Is this the end of science?” No, we propose an entirely new paradigm in order to overcome all these limitations.

Y: Aha!

B: And point by point, we show we overcome the limitations introduced by the Theory of Chaos because limitation in Theory of Chaos come…have their origin partly in equations being continuous. But we propose a discrete model.

Y: Yes.

B: So we overcome in a way the limitation introduced in science by Theory of Chaos. This is first point. Second point, the insufficiency of instruments.

Y: Of?

B: Of instruments which is Heisenberg Principle. We also overcome it by introducing our paradigm. Our paradigm is discrete, somehow not fully, because we still use their measurements which are based on insufficiency of instruments. But in a way we have theory; we have theory. So this is second. Third, so logic, the insufficiency of logic. Yes, a robot is limited, and a few sentences about it.

Y: Yes.

B: Our body is also a robot. But…maybe, another story.

Y: Ok. I follow you know.

B: Yes. And so...

Y: How long do you think something like that will take?

B: It will take a few, two months at least.

Y: At least.

B: I'll engage my students, you know. I'll define now similar works for them. I'll say, "Please you work boson and leptons. And you work Guth's model inflation universe; you, cosmological constants, and so on."

Y: Ok.

B: And I'll, at least, give them, draw all these pictures of the three-dimensional perceptions and so on. And we could cross many of these. We could say, finally, "No, this is not useful; this is insufficient; this could be better; and so on." But first of all, we should have all these stated.

Y: (acknowledges)

B: And now partly with this, I'll define doctoral thesis. One will be Monte Carlo because it is so well defined; it is pure beauty. It is beautiful. Monte Carlo, all the simulation, all which you have done, for instance, on your charts; it should be done with computer simulation. And this is well-defined for them. They like physics like this one because it is well-defined. It is time consuming; but still it is well-defined, so one of them will do it, or two of them.

Y: Can you do this backwards?

B: How? What do you mean backwards?

Y: Randomly, just put in a lot of arrows; and then take away.

B: And take away? Yes, yes, it could be. Also I…

Y: I showed you that article about Hawking working backward.

B: Working backwards, yes.

Y: From the present.

B: Yes, it should be.

Y: He is suggesting this also.

B: Yes, it could be done. Also a simulation could be done, a real simulation by…and which will be when introducing random numbers. This is what we are doing just as the as in American Flag Problem. We have line; but these lines, in our case, shouldn't be of equal distance. But they should…the first distance will be square of 2n. The second is third square of 6n square. And now we have different distances and just throw away, you know. It could be simulated; animation could be done. It is beautiful in java applet.

Y: Ok, go on about the writing.

B: Yes.

Y: What might else be done the writing or the…?

B: And then finally, the beginning of the mathematics. One break-through, as far as I see it, was the statement that we are starting…working with groups. And we have stated that a set of arrangements, not non-physical individuals but whole arrangements, forms a group. And now the mere fact that the members of these elements of these systems or sets are matrices…this mere fact guarantees that this is all the linear transformation possible in matrices are, possible here. But even more, it guarantees that it is a group.

Y: And this might take…?

B: Because the set of matrices is group, and now we recognize it?

Y: This may take a while to develop this?

B: Yes, but even the start is something.

Y: Oh, yes.

B: You could write a paper. I have found that this is a group and so, so, so. And I mean that. I am not after articles myself. Whatever we do is fine. I am so grateful to be here. For me it is fulfillment.

Y: Ok, you have given me a rough idea. I would like to ask the boys about what they think about what might be written before I give my ideas. Do you have any ideas about what would you like to see or be a part of?

Don: Well, the emphasis I would like to see is always tying it back to the reality like we talked about calculations and so on but always tying it back to how perception is constructed and making sure…like how transitivity comes from the unity of the individual that there is no separation between ability and the individual and just to keep tying it back to basics; and…because that is what I see. The calculations can go off everywhere. And then we are…

Y: They certainly do.

Don: Yeah, but…

Y: It becomes all the physics, and biology, and sociology. And it could be…take ten million people to work out all the details.

B: Yes.

Y: But what for?

Don: So that we always…we can check our errors when we get off somewhere where are we missing in the basic underlying reality and that connection.

Y: Well, we can do that without writing anything. Why write?

Don: Well, in communicating it to people…

Y: What for?

Don: To communicate the truth to them.

Y: Ok. Any other thoughts?

Don: No.

Y: What would you like to see written up if anything?

Bret: I have no desires. Methodology sounds good. I am working on an experiment right now so I…

Y: Fair enough. Now, I'll give my ideas. I think the basic value in the mathematics, the logic, the technical details, the detailed description of why the forces have the ratios of strength that they do, I think this is very useful for mainly one thing: to show that the Lila Paradigm is basically correct. It may not be correct in every detail. That may take some years or decades to be sure of. But that it is on the right track and it shows promise by…because it is so fundamental that those technical details could support that it must be on the right track. Or deny it in which case then, it can just be dropped if it doesn't fit. But so far, I think, I am satisfied that it seems to be on the right track and is worth some investment on the technical details because you can't measure individuals. You can't see them; you can't detect them; you can only be in a state of direct knowledge of them which doesn't even include consciousness. So in order to get something to verify the assumptions, we need technical details.

Secondly, why write it up? Well, so that this is shared amongst other people. But in the end, is it to be able to make a more technological society. Or is it so that the people can grasp what is the fundamental reality? Well, it is probably some of both. It's all right to have a lot of technology as long as it is rooted in the truth itself rather than just the technology, just rushing off in some direction that half right and half wrong. So it's worth communicating to others so that all of life is better off. Or one level above that can say, "It doesn't really matter, any of it, doesn't matter." And fundamentally, I think this true, that it doesn't matter. But if God inspires us to do something, then it would be a mistake not to go with that. That's where I'm at. And sometimes I think we don't have time to do too many details; and that we ought to

get something out that is lightweight and easy to understand, but deals with the ultimate realities. But on the other hand, will people pay any attention to it if it doesn't have technical details to go with it even as an appendix or situations or something like that. So, they can talk to their scientists and their philosophers and say, "What do you guys think?"
Somewhere in here it's about the right thing. I don't know how much longer I will be alive. It may be a matter of months; it may be years; it could be twenty years. Who knows? But my main purpose here with you is to at least get someone else who is able and has the educational background and the professional experience to be able to grasp some of the ideas at that level that also has the interest in doing so; so that if I do die before long, the whole thing won't be lost in a mass of technical confusion. So we have about a week and a half to do something about it. See how much more we can get sorted out.

I still think we have something to do yet on space. And I am…I want this afternoon the first period to be devoted into a re-discussion of the basic unit of space and the logic and the consciousness and the knowledge having to do with it. So if we get that, then we'll be able to leap on some answers with regard to what we were trying to do this morning with regard to space. Time went all right; I am thinking we almost understood time. But as transitivity would be for time, I think there is a missing logical principle for space.

B: Yes, of course. Transitivity…

Y: And let's see if we can find it.

B: Yes, great!

Y: Ok. So let's take a break now. And in a couple of hours, we have a class, the last of this book, this scripture. It has been years that we have been working on it, haven't we?

Don: Yeah. Say, "Good by," to an old friend.

Y: We have done chapters two, three, and will have completed four. First one I have skipped over because these people already have done that level.

B: Thank you so much.

Y: You were saying.

Bret: I have a quick question. I think I asked this before, but I don't remember for sure what the answer was and I want to check it.

Y: If it is brief.

Bret: Very brief. What did Kripalu think of Lila?

Y: He had no idea of its existence. He left his body in first week of 82. And the first work I did formally on the Lila Paradigm was in 86. I had only fundamental ideas that

I had been working on since 1958, but those never came up in discussion with Kripalu. I can say one thing about Enlightenment Intensives that he commented. My guru brother, Amrit Desai, who taught Yoga and still does in the US, he has the biggest yoga ashram in all of America.

B: Yes, I know him.

Y: And when we first met he asked me what I did. And I said, “Well, I do Enlightenment Intensives.” He says, “Oh,” and he got very interested. He said, “Well, I have got an ashram in Pennsylvania. You come and give one there. And I can have you give a talk first. And then we can have an Enlightenment Intensive.” I said, “Yes, Ok.”
So I went and gave the talk. All kinds of people signed up for the intensive. Then I got hepatitis. So Ava did the intensive. But then soon as I got well, I gave another intensive and invited Amrit to come and attend; and he did. He was very impressed. He kept doing Om, Om, Om; and I kept saying, “No, just do the technique.” I said, “That’s all right for mediation by yourself; but this is an Enlightenment Intensive, no more OM, Om, Om.”
So he did; and he actually made some progress. He did not have an enlightenment experience but he thought it was a wonderful technique, and was moving in the right direction. So he took this back to his Ashram, got his main people, and had them take an intensive from somebody that I had trained in New York. And then they went back. And they decided they would put on an intensive. So they did; and they mixed it up with primal therapy. Purging, yelling, screaming, crying, getting your emotions out, doing all that, a lot like Zegerod or Silvano. They try to get them emotionally to experience something; and they call it enlightenment. So a few years went by. Kripalu comes to America; he is at my ashram. And he says, “Yogeshwar, I don’t think you should be giving Enlightenment Intensives.” I want? And I asked why and he said, ‘Well you are doing all this purging out.” And I looked at the translator, Vinit Muni, who was translating into English. And I looked at him and I said back to Kripalu through the translator. “I will have to talk to Vinit.” So I did and found out that he had heard from the people at Amrit’s ashram about how they do Enlightenment Intensives and told Kripalu about it. So there is a wonderful principle that Lakulisha has. When you are misunderstood don’t explain it especially if your guru misunderstands you and you’re innocent. It is wonderful because you get the guru’s good Karma.
1:26:30
B: (acknowledges)

Y: And he has got a lot of good karma and you get it. So I didn’t say anything. I just let him say, “Yogeshwar, you shouldn’t be doing Enlightenment Intensives.” But what a wonderful way to be misunderstood!

B: Thank you.

Y: That’s why I had to revise versions of the Master’s Manual. I made a big point about not doing this emotional thing. Not trying to get people to yell and scream and say, “Oh, God,” and crying and all these things. That’s fine. But it’s not conducive toward enlightenment. It is conducive toward getting your emotions released. It’s a different thing; it’s a different purpose. They do that because they get bored. The masters get bored. And they want to have some action. And they want to have something that they can call Enlightenment Intensive and they can pay for their new house.

B: Even in management they say, “Never apologize for less than perfect performance.” You know, in favor of you saying never.

Y: That’s Lakulisha’s thing. It’s the same as Diogenes, the Greek Diogenes. He said, “Let yourself be misunderstood.”

B: (acknowledges) Aha! Even St. Paul says something like this.

Y: Yes, he learned it from Diogenes, not himself, but the writings of Diogenes. And this is the teaching of Lakulisha. There is a question whether he got it from Diogenes or got it from his own *sadhana* because he lived after Diogenes. He lived just 2000 years ago, right after Jesus died. Lakulisha was incarnated in India. I some times wonder if it is the same individual.