#24
Formal talk-29102006 morning day9
Lila recording day 9, morning
29/10/2006
061029000
2 Hr 1 min
Recording 24

Y: Overnight. Before we start our more rigorous review of the Lila Paradigm… Sounds like a good combination to me. So would you start? You guys ready? Here we go.

B: Regarding the simulation process, which is really amazing and I was really impressed. It is a whole field opened for future investigations. But I sensed even yesterday that something is wrong in the picture. And now I know what it is. And we have discussed with Yogeshwar this morning. The ranges in which these random number happen to find themselves should be equal, should be of equal probability. If we use random numbers and random ranges between them, then for some of the arrows to appear, the probability will be greater than for the others, and this is not the case. This was one point and I'll illustrate it with example and how it could be done because in these cases cumulative probability should be taken in to account. Not just probability but cumulative probability which is actually as you are taking first one part of the probability distribution curve then you are taking greater part then you are taking greater part. Or, for instance, these (Gulls?) distribution could be presented in a chart when you have cumulative probability like this. This is cumulative probability. When using Monte Carlo, cumulative probability should be taken into account. For instance, at every step, at every stage of this process… I am not implying time, because this states are… as I mentioned not in time but in order to be clear we should denote ranges for every individual to appear. For instance, because you have used four digits for your simulation, I stick to it and then we could…

Y: Yeah, that's just what the calculator presented.

B: Yes. This is the range of the calculator. For instance, for A we denote probability from 0000 to 999 then this is, for instance, for A we have 0000 until 999 and any number which will randomly fall into this range will be chosen as the start of the arrow, or the knower. And then for B we have… So this is C, this is B, this is E, this is F, this is C then a range from 1000 to 1999 is for B, range from 2000 to 2999 is for C, 3000 to 3999 is for D, 4000 to 4999 and so on and so on. So we have both cumulative probability because these numbers are rising, and also we have equal probability for each one to happen. And it is of crucial importance in our case.

Y: Yes.

Bret: Can you explain cumulative.

B: Cumulative, now I'll give you and example. I'll give you an example and it will be all clear. Then we should maybe simulate three or four steps to see how it is working by using operator the same way you used it.

Y: Yes.

B: If you want. The other point was… I'll come to this later some of the connections being disconnected, state of no knowledge, strictly speaking for states of no knowledge maybe same ranges should be provided. It is implied but.

Y: I think it should be.

B: It should be because this is what is happening. They had both choice to… to chose non-physical individuals could chose to be in state of knowledge. They could choose not to be in state of direct knowledge, and this is what is happening. And this is what the whole theory of magnitudes is based on. So in order to have really simulation, in order to really simulate the processes, we must have these states of no knowledge.

Y: Before you go on, it's important to remember that we are starting with an assumption, that it is random, that the choices are random. And this is not necessarily true.

B: Thinking of this, I was thinking of this, because I have written. Losing arrows important, otherwise something outside… Otherwise you imply… You make an assumption that there is another information coming from outside which is urging arrows just to cumulate in a certain direction.

Y: That's not necessarily true what you just said. That's an important point it needs discussion.

B: Yes, I know. I have stressed it here like teleology. 'Telos' in Greek is purpose. There are great discussions in theory of chaos by Prigogine and so on and so on, whether the universe… whether the unfolding of the universe is teleologic. This means purposeful.

Y: Is it intentional or purposeful.

B: But if you don't have this purpose, somehow in form a information added into the picture, then it's totally random.

Y: There's a fine distinction though between a free-willed choice and a random choice.

B: Yes.

Y: Just because it is free willed, doesn't mean that it is random or not random. And if it is free will then it can't be something outside that makes you do it. So that distinction has to be made very precisely and we haven't done that in our discussions.

B: It should be.

Y: And I am just saying that now. Then assuming it's random then we can do the Monte Carlo system. But that doesn't mean it's precisely correct. As I said on the edge of chaos, it approaches randomness because (N) is so large. If there were only three of four individuals, then we would be all over the place. But (N) is so large and… there is a difference between having a reason for doing something, and choosing to do it in accordance with that reason or choosing not to do it according to that reason. That's free will and so the reason is not necessarily an outside influence.

B: I didn't imply that it is outside, it could be inside, but this is additional information. I haven't said outside, it could be inside. But this is an urge… An it urge is an information and it should be added into simulation process if we want to be accurate.

Y: Yes, I think it should be included, but it should be included as not a contradiction to free will.

B: Yes, this is what teleologic means whether I am holding that the universe is teleologic or not.

Y: He does not make that clear. (Frikadine? Probably means Prigogine) does not make that clear in his writings.

B: Who?

Y: (Frikadine? Prigogine?)

B: Ah, Prigogine. OK Prigogine is Nobel Prize winner. He is just a Nobel Prize winner, nothing more.

Y: Ok, that said now we can go ahead with the Monte Carlo.

B: I was thinking about it... You have it in your picture, of course, when you are explaining the human bodies, and the biological forms in regard of Lila. When you are saying, these structures perceive themselves as being physical and in order to survive this is their purpose. So all of the sudden they should have purpose.

Y: But it is illusionary. There is false information that they are getting that's making them think that they should have that purpose.

B: Because this is the oldest discussion. The relation between free will and destiny in perennial philosophy.

Y: As long as we know that's the case we can go ahead.

B: Yes. Now what is Bret cumulative probability? I'll do a simple example of customer coming to the cashier. This is a very simple process. I'll do it fast just to see.

Y: The cashier.

B: The cashier, for instance we are to decide whether in a drug store we should hire a second cashier or not. And this should be done based on the real situation of customers coming to the first cashier. And we should for instance make an assumption that if three minutes for a customer are average time of servicing the customer. And if it is in the picture then we shouldn't hire another cashier for instance.

Y: (acknowledge)

B: So we have simulating the process. We are recording the process of customers coming to the cashier. For instance we have noticed that ten customers out of one hundred have been served for one minute. Then twenty customers have been served for two minutes. Thirty customers have been served for five minutes. This is sixty, forty, twenty these are for three minutes and this is for one minute. This is like a distribution curve. But in this case, sometimes, maybe in our case also, if we include the states of no knowledge. Sometimes two distribution curves are necessary in order to do the simulation process and this is the case in customers coming to the cashier. So this is the table for servicing the customers, and we have another table for customers coming. The simulation process of them coming because these two are included into picture. I have five minutes for a customer but maybe in this five minutes, ten more customers have come. So the time of the customers coming should be also included. And, for instance, we have for ten customers; ten customers have come in the first five minutes, twenty for the third minute. Thirty have come in the time distance of four minutes. Forty two minutes and twenty one minutes although this is not Gauss curve or distribution but anyway. So next column here should be probability. For instance here probability is 0.1 for ten customers. For twenty it is 0.2, 0.3, 0.5, 0.2 the total being one. And now cumulative probability is adding these. For instance if we multiplied this by hundred we have ten, then twenty, then thirty, then forty, then twenty. This is probability and some cumulative probability is when we summarize them. In order to have ranges, this is what I have done here explicitly because they are increasing. These ranges are increasing this is cumulative.

Y: They are increasing what? What are they increasing?

B: The range. The first range is one thousand...

Y: Ah these values.

B: These values are increasing, yes. This is actually cumulative probability in cases where probability is the same for each individual coming into the process.

Y: (acknowledges)

B: But here it is not the case.

Y: No, it is not.

B: They are not equal. So the cumulative curve will be… We have here, ten and twenty is thirty, thirty and thirty is sixty, sixty and forty is hundred, so this is (known

itic?). So this is cumulative probability. And now on the basis of cumulative probability the ranges of random numbers are determined. Now the first range if we have just two digits, you have four therefore I have taken these ranges. For two digits from zero to nine is one range, the second range is from ten to twenty nine this is cumulative. From thirty to fifty nine, from sixty to ninety nine because we have two digits. This is the table for servicing customer, and the other table for customers coming. We have here fifty, thirty, forty, twenty. That is too much. It should be hundred because these are also probability. And we have also ranges here, for instance, for our… We have first cumulative probability fifty and thirty-eighty and twenty-hundred. And ranges for random numbers are, zero to forty nine, fifty to seventy nine, eight to ninety nine. And now we do the simulation process. We have table in which we have customers coming, customers serviced, and we have cashier busy.

Y: Cashier what?

B: Busy. And we cumulate the process. For instance, here we have the random numbers which helps us do the simulation. For instance, the first number is seventy nine; first random number picked is seventy nine. We go to the first table and see in which range it belongs. And now it should be noted that the most probable value of servicing the customers is five minutes. So the curve here goes like this. The most wide range is for the most probable event. So the probability of random numbers happen to be in this area is greatest.

Y: Yes.

B: It should be noted in our case they are the same. If they are not the same the picture is not accurate. There are other questions here about the randomness of the number, is it really random?

Y: Yes.

B: But that is another issue. Paul Davis has a chapter on it. For instance, the first number is seventy nine we find where it does belong. It is in this last area/range… so we suppose that… and because this range is for three minutes then the first customer has been served for three minutes.

Y: (acknowledges)

B: This is what the random number points out. Then we have another random number, for instance, fourteen for the coming of the customers. So here we have one column for the random numbers for the servicing. They are seventy nine, nineteen, twenty three and so on and so on. And here we have random number for coming. So for both processes we should have different random numbers. This is for servicing and this is for coming. And, for instance, the first random number for coming is fourteen. And we see fourteen belongs for servicing. Fourteen belongs to this first range. So the first customers has come five minutes after the store has opened. So for the first customer we have five minutes. So cashier busy, cashier waiting. So for the first customer when the store was opened cashier was waiting for five minutes; she was serving him for three minutes. So the process ended in eight

minutes. And so on and so on. And finally when we have the whole table done in this way, we add all these multiplied by the average number customers. For instance, the total time of servicing was eight hours and we had hundred and twenty one customers. When we divide this, we obtain the average number of servicing customers. If is it two minutes, then we are not suppose to hire another one. But if it is greater than three minutes then we should hire another cashier. So this is how it is done. We must have cumulative probability in order to simulate the process and we must differentiate between the probabilities.

I was thinking also about simulating this other process. And you have told me this morning that they have done it actually in physics. But in our case to make a simulation when the distribution is Poisson is not actually recommendable because this is done for discrete elements and not for…

Y: Monte Carlo system is not accurate in that case.

B: Yes.

Y: Important point.

Bret: What is the point about?

Y: The point is that they have done that very thing in measuring the mass of the tauon, for example.

Bret: Sorry, which that very thing are we discussing? I did know what that very thing is that you are referring to. What is that in the first place?

Y: What it is referring to is that if you have a phenomena that is Poisson distributed you can't apply the Monte Carlo random approach in analyzing the data.

Bret: Poisson distribution is continuous on.

Y: Digital.

Bret: Discrete?

Y: Discrete, yes.

B: It is discrete. It is our F of 2 or F of 5.

Bret: But Monte Carlo is discrete. What is the problem?

B: [I] factorial.

Y: Well, they have applied both to the mass of the tau particle. They had two different experiments. The experiments are set up quite differently depending on the second. One analyzes the information on the basis of Monte Carlo distribution where the other one is set up so that you just find the medium of the distribution. It is

interesting that the one that comes up with the medium of distribution which is a Poisson agrees exactly with our calculation of the mass of the tau particle.

Bret: Our calculation not theirs, ours?

Y: Our one that is based upon the Poisson distribution, which is like the F formula here, agrees with their measurement. Whereas, the measurement made using Monte Carlo analysis is about two to three percent less.

Bret: You started saying that and then you corrected how you are saying it. So you have not said it in one piece; and it is not completely clear. And at one point you said, “Our calculations.” Are you only talking about their result for them or our results and how it compares?

Y: Both.

Bret: So.

Y: The one that their experiment that uses the Poisson approach agrees with our theoretical analysis using the Poisson approach wthin one ten thousandth of a percent.

Bret: OK.

Y: But the Monte Carlo setup experiment is about 2 to 3 percent less.

Bret: Than ours.

Y: Than ours.

Bret: How did they account for the discrepancy between their experiments since they didn’t know about ours?

Y: They just didn’t. They just said the one done by Perl was wrong.

Bret: Which one was that?

Y: Dr Perl, that’s Poisson setup.

Bret: See, all you have suggested is that perhaps our calculations are wrong to.

Y: They could be. And we have to have an analysis to see which. What do we mean by right? It’s depends on what you mean. Is your assumption of what the ultimate reality is?

Bret: Yes, yes.

Y: And this could be the crucial test. And they took the Poisson one out of the co-dates information, threw it away and put in Monte Carlo one because it is more recent. But when I showed this to a physicist in Canberra at the University, he says,

“Oh well,” he says, “Their error bars on both of them claim that the other one is simply wrong because it is outside their error bars. They couldn’t possibly be wrong. And both of them say the same thing.

Bret: Yes, yes.

Y: So the matter is unsettled. That answer your question?

Bret: Yes.

Y: Ok. This is a very interesting test actually; but it would be good for us to run… We have done one using the Baker analysis. And now here we could do this Monte Carlo analysis precisely and see if that agrees with the second set up using the Monte Carlo analysis system experimentally. And she is showing us what we have to look out for here. Was there more?

B: When trying to make a program or algorithm for applying, for instance, Monte Carlo method for magnitudes or for just recognizing the patterns, the difficulty will be to recognize the patterns. I was thinking about it. In the matrices I have shown the method for recognizing these simple structures of a…

Y: In matrices?

B: In the matrices, yes. Recognize these simple structures, but it will be not easy to algorithmically to recognize the patterns. It is easy when you have the picture and you …

Y: That’s the hard part.

B: Yes, it is the hard part. I was thinking maybe pattern recognition method but it is also more (posit? or Poisson) than ever.

Y: Yeah, but you have to put in the information for them to recognize.

Bret: I did a partial solution to this in the first simulation where you wanted a count of structure of a given number of arrows that were valid. And I ended up doing some interesting things about reflecting it up essentially into space and coming up with a binary number and seeing if it was connected as the proof. It is a problem.

B: In the matrices it could be done. For instance, the way these structures have been recognized, the others could also; but it is too complex.

Y: They were recognized by persistently studying it. And then suddenly the light comes on and they… Oh, that could be this. Then they check it out; and sometimes it’s right and sometimes it’s wrong.

Don: In one of the papers that I gave you on network evolution in biological systems…

B: Yes.

Don: They have, they discuss that very problem. You'll note they are recognizing specific patterns and frequencies. It might be something ( ).

Y: But they have to… You have to have the input of what patterns to look for. So first of all, you have to see what any of it stands for. It's an interesting question which… Usually the way it is done in science is just that people who get very familiar with it finally they will see through. And it's… Einstein did that very well. He was able to do that. He would sail his boat out on the lake. And suddenly he would be thinking it over and he'd get it. And sometimes months would go by and nothing would happen. I don't know what to do about it. There is nothing, I don't think.

Bret: Unfortunately we have a further step. We have to teach a completely stupid computer to do it. So we have to have deterministic rules.

Y: We don't have to, but if we succeed at it, it is very radical.

B: I believe we shall start during this two weeks. About fuzzy logic, shall I go through it now?

Y: Yes. Yes, do it now.

B: At one point I have mentioned fuzzy logic as possible approach to Lila Paradigm. There are two different fields. There is fuzzy logic which is similar to discrete mathematics logic, to this proportional calculus I have maybe mentioned maybe not when I was presenting Gödel; but it is there. So there are different logic system to be built and there is one fuzzy logic built by Lotfi Zadeh from Berkeley. I have met him. I have listening to his lectures. So there is one field and the other field is fuzzy controllers and fuzzy control systems. Controllers have been made on basis of fuzzy logic. And many, many, many different cases have been solved by applying fuzzy logic.

The essence of fuzzy logic is, we have fuzzy sets in which the variables are linguistic. They are not numbers; they are linguistic. For instance, we have a fuzzy curve, for instance, for the age of a person or for a temperature. For instance, we have one curve for being young and this is young, young, very young.

Y: (acknowledges)

B: And even more young. And we have another curve for being old. And they are inter-lapping. They are partially merged one into another. But they are linguistic. So in many cases when we are measuring temperature, for instance, we don't have the precise temperature. But we say it is warm or it is hot or it is cold or it is very cold or it is less cold and so on and so on. So we have linguistic variables as an input. So the main feature of this fuzzy set is linguistic. This makes them fuzzy because linguistics is not mathematics, it's fuzzy. So it is linguistics, linguistic variables. And these are based, for instance, in our case, we shall see maybe the patterns appearing because this is what we have. And, for instance, once we have such a curve, we search for tau particle, for instance. And tau particle is both here and here in those two sets. And we take… on this curve we have one value, and the second

curve we have two values. This is the first step. Find the linguistic variable into the fuzzy set. And the second is… and this is what makes this be an expert system. Now speaking in computer language, this is an expert system. And thus second stage is to go to the set of rules established. This set of rules might be similar to the set of eight rules you have given.

First rule is.
Every non-physical individual who chooses to be in a state of direct knowledge, or every non-physical individual could choose to be in positive state of no knowledge, and so on and so on and so on and so on. We have set of rules stated. And now we have the input which is the linguistic variable. This input somehow we convert into a number by using fuzzy sets, then come to the knowledge base. And finally we should go back to the linguistics to have linguistic output to say, "Yes, today is very… Today you should…"
For instance, for temperature you should use this and this. Depends there are different processes in the (quantrell?) system theory where this is applied. For instance, this is a feed back process. And online we should improve the values in order to have better output. And this final stage is def-patefaction. We have patefaction then set of rules or knowledge base and finally def-patefaction. The input is linguistic variable, the output is also linguistic variable and it is worth mentioning that in this final process this output fuzzy set is not easy to recognize. The form which it has because it is based on linguistic variables is not easily recognized. So in order to find the exact value and transform it into a linguistic variable, this wake point of this curve should be the balance point. What was the word? Center of gravity? And in order to find the center of gravity, there is a very interesting procedure, for instance. We could cut this out of a piece of paper, for instance, and just hang it. And when I grab it at a certain point and just hang it, I have one gravity line. And then I take this other point and then hang it. Then I obtain another gravity line. And the intersection is the gravity point. And so I just read what this gravity point means in terms of linguistics. So the input is linguistic and the output is linguistic. And it is now very much used in different processes.

Y: This has pointed out an interesting thing to me. I was laboring under a misapprehension. What you are doing here is identifying a pattern in an overall situation. So you could, for example, you could count the number of those patterns. That's one thing. It's not what I was talking about.

B: I know. I thought of that. Maybe I just mentioned it to you to exclude it.

Y: What I am talking about is, you see a pattern like that and this represents what? In the illusionary physical world, is that what? That's a different question. So I was thinking of that. And you two were thinking of counting, for example, the number of this pattern in this situation.

B: No, no. Just it was… It seemed to me interesting in mentioning it. Either…

Y: Fuzzy logic can be used. I can see how it is used to do this…

B: Yes. I haven't finished, I have this point here. And this point will be in favor of what you are saying.

Y: Ah, you haven't talked about that yet. Ok.

B: Yes. I wanted to point out that as you said, "Yes, fuzzy logic is not maybe applicable."
Why? Because there is a difference between probability and fuzzy sets. And what is this difference? For instance, we have in probability… for instance, we have two bottles and one is with milk, for instance, or juice and it is favorable to drink it. And the other is poison. And when we say probability… and they are both the same, I don't know which is which. And, for instance, the probability to take this or this is half, is 0.5. And it is 50/50 chance I'll drink milk or poison.

This is probability. And fuzzy is… I have one fuzzy curve for milk. This is a little milk, more milk. And I have another one for poison. And so when I pick zero for the parameter fuzzy logic P small B 0.5, I have milk and poison together mixed. So I won't die. In this case, I'll either live or die. In fuzzy logic I'll be just sick. So this is the difference and our situation resembles this one.

Y: It does?

B: I wanted to show it to you.

Bret: It's unclear to me what is fuzzy about picking up one bottle or another bottle. What is the choice being made and why is it fuzzy?

B: We have just one bottle, but you know…

Bret: The distribution of. All right, Ok.

B: In this fuzzy 0.5 means half poison half milk.

Bret: Ok, so some process gives me a bottle. And there's and even distribution as to what is in it.

B: And the probability you had one bottle. But probability of 0.5 means 50/50 chance it is milk or it is poison. You have one just bottle, just one bottle. Maybe not the patterns you know. Maybe something else.

Y: That actually happened to me. I was working for my father-in-law who had a dairy, cow's milk and all that. And my job was to bottle the milk. And you had to take samples every once in a while for the government. And to preserve it, you put a poison in it…to preserve it. And I had these two bottles there. And so I just reached down and grab one and drank it. And it was the poison bottle. See? Now look at me. That's what happened. Ok.

Bret: This will be perhaps significant to you. This shape is the result of the output of the system. The shape encodes the information. The method of determining the center is an analog computer.

B: Yes.

Y: Yes, which works on…

Bret: Mapping physical processes from the assumption that they are evenly applied.

Y: On a continua.

Bret: Yeah.

B: And just another point. This is the third what I was thinking this night. That at least one logic operation could be applied to Lila and this is *Transitivity*. I wanted to say more, but maybe we don't have time. I have written all this out.

Y: *Transitivity*.

B: In basic logic we have union of set which is OR in this picture. An element either belongs to one set or to another, it is union. Then we have *Intersection* this is AND and Multiplication. One element belongs both to this set and this set. Then we have compliment which is *Negation*. We have A and not A, so call Van Gelders. We have all the elements which do not belong to A belong to not A. This is discreet. In terms of electrical circuits this AND applies to serial (series) connection of this disconnections and in order current to flow over the circuit, we should have both closes. This is *Conjunction*. And we have this junction in case of OR. So this case is applied to parallel connection of the circuits.

Y: Either.

B: Either, yes. In order for the current to flow, just one should be closed. So this is for OR.

Y: (acknowledges).

B: Then we have *Negation of Negation.* We should think about it in terms of Lila. *Negation of Negation* is the same entity. The junction is… We have these values for A and this values for B, and this values for the junction, for instance. If both are true this junction is true. If just one is true, this junction is true. This is another of these disrupts.

Y: Yes. OR.

B: This is OR and *Conjunction* and *Implication*. About *Implication* I have shown you an example. *Implication* is correct in any cases and is not correct just in the case where A is correct or B is correct. And what I stressed at that point was the previous…

Y: I remember that example.

B: If the first premise is incorrect, the second correct, the result is correct. This is *Implication.* Then we have *Equivalence* is correct if both are true or both are false. So it is one in this and this case; and it is zero in the others.

Y: What is this? (Refers to a symbol written on Biljana's papers)

B: Lila in Greek.

Y: Yes.

B: Lambda, e, lambda, alpha. And finally we come to *Transitivity*. There are more of them, for instance, there are some of them… Very interesting ( )…

Y: This would be very important when we are analyzing the knowledge and no knowledge states. That would be a rigorous approach we could use there. Ok.

B: Yes, so this is the basis. And we come to *Transitivity* and this could be applied to Lila straight forward. In *Transitivity* we have if arrow and S is S is T this implies an *Implication* is this one. And we should always check with these tables, arrow equals T which in terms of Lila Paradigm. For instance, the operation in Lila Paradigm should be state of direct knowledge. We have set; this is clearly set of non-physical individuals. So the elements of the set are non-physical individuals. And one operation is to be in state of direct knowledge. In another operation, I believe it should be, it should be a basic operation, not just opposite of this, not just inverse of this, but another one positive because we state the positive state of no knowledge.

Y: We need to discuss that at length.

B: Ok. Yes, of course. And so *Transitivity* is A is in state of direct knowledge of B and B is state of knowledge of C. *Implication* is A is in state of knowledge of C which is *Transitivity*. So at least one basic logical operation would be recognized.

Y: I can't say that I understand that about how that takes place. You can just say that it does; but in ultimate reality what's going on there?

B: It's more complex. We have to discuss.

Y: We will discuss it.

B: And we already have. The difference between A being in enlightened states of A and A being in states direct knowledge through the circuit.

Y: Yes. So there is plenty to discuss in there these logical rules. But logic is not always king.

B: I agree although I might appear not. I agree.

Bret: George Bush is president.

Y: Yes. That's a proof right there. Ok, now we see what we can do. First I'll have a little introduction on how in principle to make a consciousness chip. I promised that I would go into that. This is the 24th of June 1998. And I say in the Introduction.

> It has been argued successfully in my opinion that physical theory precludes the possibility of making a non-living physical system that includes consciousness as one of the function of that system.

And I cite Chalmers and McGinn.

> If so according to current physical theory, artificial intelligence if taken as including consciousness as we humans know it, is not viable. However, there may be a way to save 'AI' (artificial intelligence). It is generally agreed that physical theory is incomplete. A number of people have suggested that the missing component in the physical theory is whatever it is that originates the reduction of the vector state. That is the collapse of the wave function in quantum mechanics. In standard quantum theory the source of quantum reduction is unknown and the reduction is presumed to occur randomly. If we knew what makes one of the many possible superposed quantum states to be actualized if an observation is made, we should be able not only to bring about the completion of physical theory but also to develop a theory of consciousness. These theories should, in turn, show us how to design a physical system in which we can detect consciousness and perhaps an interacting consciousness chip.
>
> In principle the reasoning is valid. One suggestion as to the source of quantum reduction is that there is a physical hidden non-local variable. See Hameroff and Penrose.

We saw Hameroff last night in the Arizona dessert in Tucson. That's just outside of Tucson where he was sitting with all the cactus in the back ground. Anyway they say, Hameroff and Penrose, say.

> And unknown quantum logic inherent in fundamental space/time geometry is responsible; it is the hidden non-local variable.

I'll say that again, "Unknown quantum logic inherent in fundamental space/time geometry." That's what they say. And I think it is correct but it is still unknown. They haven't pointed out, I don't' think, the correct quantum logic that's inherent in fundamental space/time geometry. It's the individual making a choice.

> Henry Stapp in 1996 has called this hidden unknown source which indexes one of the superposition quantum states. He calls it the 'felt self'.

The 'felt self'. When you feel yourself, that's what kind of language he uses. I think it means self-consciousness.

B: Self-knowing.

Y: Self-knowing is what we would call it.

> Whereas John Von Neumann in 1932 and Eugene Wigner in 1961 suggested that the cause of quantum reduction is the process of conscious observation, that in conscious observation somehow one state is selected out of the many possible quantum states.

What is this agent that causes the collapse of the wave function and is conscious? What is this 'felt self'?

Leibniz in 1714 and Griffin in 1997 and Hameroff in 1996 and others have suggested different versions of some non-aggregate fundamental physical particle as the cause of quantum reduction. Suggestion that amount to various forms of Panpsychism and Pan-experientialism which is what Griffith calls it, that every particle causes the collapse of the wave function. They don't say how one experiences consciousness as a result. So we have Panpsychism causing a physical particle that is able to cause a physical particle that is able to experience.

But that's all the further they… that has those properties will explain how it can take place, or what it has to do with us.

I consider this approach to be close to the truth of the matter; however, one difficulty is that the fundamental physical particles are not normally considered to be able to originate or to be conscious. Of course one can assume that some such class of physical particles exist as in Leibniz monads. However, these have not been found.

We have never found a particle that we could be sure that was conscious.

And … because they are physical they should be detectable.

And we haven't found any.

In addition, anything physical is itself actually leading us to an infinite chain of causes with no true origin.

The infinite abstraction.

Penrose 1989, 1994, 1996 has suggested that gravity maybe the cause of quantum reduction. While possibly on the right track, this suggestion does not in itself solve the questions of what free will is or what consciousness is. And so it is unlikely to be fundamental. Stapp in 1996 and 1998a has suggested that the 'felt self' is the result of a series of related events as per Von Neumann, or impulses along the lines of Williams James and Whitehead and Jeffery Chu and Griffin and Finkelstein have made similar suggestions. The Whiteheadian process of relations is the possible source of indexation.

That is the picking out of one of the possibilities.

But this Whiteheadian process has a problem of relations existing that do not have fundamental relata, that which is related or in relations to things, nouns, such as fundamental fermions or leptons or quarks. Whitehead and others propose that aggregates or relations are the only relata. As a consequence, we get knowings without fundamental knowers. We have process without a fundamental processor; we have action without a fundamental agent of that action and in general, a chain of cause and effect without any fundamental origin of that change. As Finkelstein says, "It's relations all the way down."

Instead of turtles all the way down, this turtles swim on the back of the other turtles and then, and what's underneath that, well it's another turtle. It relations all the way down according to them.

> Now that the millennial long attempt by science in one form or another to develop a complete physical theory based on relata has failed. It is natural to try to make relations or fields the only fundamental.

And that's what they are trying to do now, trying to make physical fields the fundamental.

> However, since none of the relations only base the (Justins?) resolve the question of what consciousness is, I think this approach is also doomed to failure. Chalmers has argued that since consciousness cannot be derived from physical theory, consciousness must be non-physical. I agree. And since I find it difficult to imagine that the relatam that is in the state of non-physical conscious experience, the relations, is something that is physical.

Is that clear? I am saying that I find it hard to imagine that since what is being related is the state of consciousness can be… If it is non-physical how could that which is in that state not be non-physical? It couldn't be physical.

> I suggest that whatever agent it is that is in the state of non-physical consciousness is also non-physical. Further, I suggest that both consciousness and the physical derive inextricably linked together from such non-physical fundamental agents and their non-physical relations. Here's the assumption: there are many equivalent fundamental non-physical agents, the relata, that are non-physically related, each to each. And that each agent with regard to its own relations is able to non-physically cause itself to be cut off or not cause itself to be cut off from that relation. Each of the agent's cut off relations is a possible not-cut-off relation. The agent by the non-physical and therefore a-temporal act of not cutting off itself from one of the agents selects that one out of the many possible not cut off relations. These non-physical agents are the missing component of physical theory. They are the fundament source of the reduction of the vector state fundamental because the agents and there relations not being physical systems do not themselves need to be actualized out of the many possible superposed states. Through this non-physical selection process, the non-physical agents become conscious of each other as actual fundamental physical things, fermions, leptons, quarks. In actual physical relations, bosons, photons, space/time, instead of as non-physical agents in non-physical relations that they are. The details of how all this occurs is given in three papers by Berner and Draut.

And I mention those.

> The important point here is that the making of this assumption leads to, one a complete theory of both the physical and the non-physical that can be used nomologically to compute magnitudes of physical phenomena that agree with those found by physical measurements and that make predictions that can be tested. Point two: principles that can be used to design a physical system, perhaps a chip that we as humans can interact with in such a way that we are convince with the same degree of certainty that we are convinced that most human beings are conscious that what

> appears to be a fundamental particle in that physical system is conscious and can originate a state of its relations.

That's the introduction. And then I say designing the physical chip and I give suggestions about how that could be done and the physical equipment that would be needed. Now this is specialized for people who are studying consciousness, philosophers and philosophers of science and quantum physicists. It is specialized for them; but it is pretty tight. It's a pretty tight logical system. And I cite these people who are saying these things. And if nothing else these people I am citing should themselves understand what I am saying. Now Chalmers was the convener of this conference that this paper was submitted to. David Chalmers and he kept it for a long time trying to decide what to do. And finally months later after the conference was completely over, he wrote back and said, "Well, the first part is Ok but the second part about the consciousness chip I couldn't follow."
I won't read that now; but I wanted to share that with you and I think you should really have a copy of it.

Ok I'll have to take a short break and then we will go into rigor. You made a note while I was reading.

B: Nomologically meaning nominal.

Y: Yes.

B: Like the Divine innocence. For instance, it is 'nomin' in Greek. 'Nomin' is the Divine.

Darshana: It is the thing that sticks up on the sundial.

Y: Yes, it is the marker.

B: Nominal

Y: Yes, this is where Plato got his ideas from.

B: Yes, it is Greek. I didn't caught it if it is the same.

Y: No, this means number. Nomo N O M O.

Bret: No G in front.

Y: No.

B: Ah, not gnomo.

Y: Ok, back to position one. I am going to skip the first page of the text here where I discuss a fundamental paradigm shift. I think we have had enough of that. I just will say one thing here of the title. *The Lila Paradigm of Ultimate Reality.* It is not just the Lila Paradigm; but what we are doing is making a model or attempting to make a model of what the ultimate reality is. And that is serious; it is a serious attempt to do

so. It's not just, "Well, wouldn't it be clever if we had some ideas about this. What I mean by serious is that it is not just an idea. It is supported by our first person experience of ourselves that if you go deep enough, you find closer and closer, the truth of yourself until you get to an ultimate reality of yourself. And so that as far as I am concerned, what I am trying to do here is a model for what that is. I am not really a physicist or mathematician or any of those things. I would claim that I am a metaphysician. I am talking about the metaphysics level beyond the physical what that truth is. And it is serious because as far as I can see, I am describing us. The question is what are we? And according to page two, according to the Lila Paradigm what is the ultimate reality. And we have a statement here.

> That in the Lila Paradigm ultimate reality is assumed to be the following.

And we should spend some while on this definition. I have said it twenty or thirty different ways. And this is another way. But we might refine it or improve it or make it clearer. But it is hard to get everything just right in language. But we'll see what we can do.

> All that exists is a large specific finite number of non-physical individuals each of whom originates itself into a number of separate non-physical states.

Now is it an iteration to say specific and finite?

B: I was just thinking of it just this morning.

Y: I think you would agree that it is a large number relatively speaking compared to the number of people at this table.

Bret: A varying finite number would still be finite. So the word specific would be appropriate.

Don: I agree.

Y: That's why I put the word in there. That it is one particular finite number.

B: Finite should be sufficient.

Bret: But it might be more communicative to say something like unchanging finite number.

Y: Well, that presumes time.

Bret: When you are communicating with someone that the quantity does not change, you say it doesn't change and changing number.

Y: Yeah, but you don't say something wrong in order to communicate to someone.

Bret: Unvarying.

B: Just finite.

Y: If it is finite, it is finite. And if it is specific, it has to be specific. Whatever that number is, I can't say. It might be some other number because it is what it is. This is what I mean by serious. We are describing an actuality. We are describing an ultimate reality not a mathematical consideration, not a mathematical idea. Hold off, I don't want to have a brain storming session at this point. I want a discussion between Biljana and I. And we can hammer things out at another time more specifically. But I would like her feedback here and all that I can get from her. All that exists and I think that word 'all' is very important. And then there is the word exists. What do we mean is that it is different from its opposite of non-existence. All that exist, all that is, is a large specific, specific number, finite number, a large number of non-physical individuals. Now I have called them entities. I have called them agents. I have called them nodes. I have called them letters of the alphabet. I have called them you trouble makers; but I like individuals. But we have a problem here of communicating, but also communicating accurately. And in a way that it's in this case, the individual has the advantage of being not dividable. That's what the word 'individual' means. Individual isn't able to be divided up into parts. It's not an aggregate. And I don't' think enough has been made in this paper about it not being an aggregate. I have had people read it and still think of the psyche, as he called it the psyche, as an aggregate of some fundamental particles that somehow has relationships that are called consciousness. He thought they were physical particles, Chalmers actually.

B: Not just anybody.

Y: And then I say each of whom originates itself.

Now the word 'originates' was arrived at after a long reflection and discussion with Darshana that it doesn't… one originates that they were the source. It is not just chooses. I often in the past used the word 'chooses' itself… By choosing, places itself in a number of separate non-physical states. But I changed it. And I think favorably into originates itself instead of chooses to place itself because place sounds like it's a special thing.

Into a number.

Now why do we say separate non-physical states? Break in anytime here and give me your ideas.

B: About specific I thought of unique, but unique and specific might be the same. But then determined maybe...

Y: Determined?

B: Determined because it is determined.

Y: I don't think it is determined. That being ( ) someone would have had to determine it.

B: Yes. We have not determined it, but it is determined. You know the fact that it is determined although we…

Y: That sounds like God determined it.

B: And that's specific.

Y: Sounds like it already is. Specific refers to the states. So are you referring to the states here.

Darshana: She has gone back to the original statement about the number.

Y: Oh, are you talking…the number of individuals? And I doubt that determined is the best term because it means that somehow it got fixed. And I am saying that that is not what is the case because it… like it…there was a nothing and then a number was put in, and now they are determined and this is a temporal process.

B: In term, yes, it includes term into it; and term is time in a way.

Y: Yes.

B: Terminate, terminal.

Y: I am going to give my… It's terminal. (Laughs) Terminal determine means it is not terminal.

B: Yes, yes. That's specific. Ok, that's specific.

Y: But, I don't know if specific is… You said suggest unique. Now Baker and Seeley liked unique. But that sounds like someone that has been castrated. A eunuch..

B: Ah, yes, a eunuchs.

Y: So.

B: It looks like Baker.

Y: It's a Baker term. Unique, but… He liked that…

B: He liked that because in mathematics you have uniqueness and existence of (social?). And still you have exist. And now you should have uniqueness. You have existence; you should have uniqueness. This is how it originates.

Y: This is mathematically correct; but we are not talking about a mathematical system nor a Platonic realm.

B: Yes.

Y: We are talking about the ultimate reality.

So then we have he originates itself into a number of separate non-physical states.

Well, first of all, the term non-physical sometimes I have called them Divine individuals; or you could call them Angels. In the Old Testament that is in the Hebrew Bible, God has a court, and there is the members of the court. And this is all in heaven. This is how they imagine it. Well, it is pretty close to right that there is these individuals, members, many of them. And they are not called Angels. They are just called members of God's court. And God says to them in one Psalm. He says, "You are all Gods." They were arguing with each other about who was better than who, and who could do what just like people. And He says, "You are all Gods". And then later on Jesus, when he is in the courtyard of the temple, says to them, "You are all Gods," when the same argument came up. This is what I am hinting at here, is non-physicality. I've used it rather than members of a heavenly court of God, or Angels or the word Divine. I think non-physical has a negative aspect to it though. It is simply is defining it non-physically for people to say, "Well, if it is not physical what is it?" So that has a weakness, but it also has a strength because people do know physical but they keep saying non-physical. And then later on I say, "Like God is imagined to be." So is non-physical the best word?

B: I understand these discussions aiming toward affirmative… always having affirmative statements. But, yes, non-physical.

Y: And non-physical states, I think. I don't say a large number of non-physical states because there might be many or there might be few states. Depends, but on the other hand, if we include the states of no knowledge, there is always the same number of states. And it's (word?). So, but I hesitated to put that in the initial statement.

B: Yes, yes, I know.

Y: People are go, "What, what, what is he talking about?

B: They will shut the book.

Y: So I say, "A number of separate." Now why did I put the word separate in there? The word separate is there because if we say, "A number of states," he originates himself into a number of states in mass or I accept all but one of you, that sounds like it is one state rather than a separate one for each individual. I just say that is clarified in the next sentence. But I don't know how to get this all in one sentence. I have tried it many ways. And either the word 'separate' gets left out, or you put the word 'separate' in and you don't know who it's with regard to or what until you get to the next sentence. And that's a problem. So frankly, I have had Sati work on this; I have had Darshana work on it; I have had Karuna work on it. And I've worked on it endlessly. And we still haven't solved the problem of the best way to state the assumption that is being made under the Lila Paradigm. We know what material has to be covered. But we don't know how to say it in English anyway. I don't know if Macedonian has any better. The Russian language does pretty well with technical material.

B: Actually Bulgarian is very rich…

Y: It's even better, huh?.

B: And it is almost impossible to translate from Bulgarian to English. It is like Sanskrit having twenty different meanings to a word.

Y: Yes.

B: And Chinese.

Y: And so, almost every word in Sanskrit is twenty to thirty.

B: But maybe it is good to have rigorous language like English for this.

Y: Because English has many nuances. You know nuance? Fine shadings of meaning in English. That's interesting your comment. Sanskrit might be good but nobody speaks Sanskrit so because Sanskrit is very precise and it's syntax is perfect, the syntax in Sanskrit. There is two thousand two hundred grammar rules in Sanskrit. And I was talking to my guru about it. And he grew up with Gujarati and then learned Hindi. And then he went to (Kachi?) to Benares, and he learned Sanskrit. And he said it is like chewing iron filings. You know iron? These little tiny pieces with magnets. He said it is like chewing iron filings to learn the Sanskrit rules. But once you get them, the syntax is perfect. They have not over looked anything. It was purposely made by one man, Sanskrit. Sanskrit was not a language that evolved naturally it was evolved by Panini.

B: Devanagari another name for Sanskrit.

Y: Yes, the language of the Gods.

B: The language of the Gods, Devanagari.

Darshana: It's the writing of the Gods, the script it's called.

Y: That's the script because it looks like snakes. Nagar means snakes.

B: I have learned some for a while.

Y: This is actually not a Sanskrit letter. This is brahmi form the earlier language brahmi.

B: Before Panini.

Y: Before Panini. But what to do about it? Let's read the next sentence.

B: Maybe it is perfect, you know. Maybe it is already done.

Y: I think it is in the Upanishads. I think in the Upanishads I think it is done. It is also in the Pashupat Sutras. But I have been trying to get it into English.

B: Ok, this is like a sutra you know. It is like a sutra.

Y: Yes.

B: It is like Pauna mid, pauna imadm pauna pauuna maudcyato. Puuna-sys pauua-maovaavaixa yyato
If from all you take it out, all remains. From the whole if from the whole you extract whole, whole still remains. It is like fifth sutra, fifth verse from *Isha Upanishad*.

Darshana: I don't think we have that one.

Y: Those are Upanishads. There are no sutra lessons there, I don't think. Let's look at the second sentence now.

> In regard to each different non-physical individual an individual originates itself into a state of either direct knowledge or a state of no direct knowledge of that non-physical individual.

Now that. I would prefer to have this all in one sentence but it becomes so conceptually difficult that I find that people just give up on the very first statement. So I am not sure what to do about it.

B: In Gita you also have two sentences for a verse you know. So it is… In Gita. *Bhagavad-Gita* you also have two sentences.

Y: Two lines.

B: Two lines yes.

Y: Yes.

B: Maybe it is the way to do it, maybe.

Y: A line, Sanskrit name (=) sutra.

B: Sutra or Sloka, a sloka is the whole thing.

Y: Sloka is verse.

B: Sloka is verse.

Y: (acknowledges) But a sutra means line.

Darshana: I can't find it. Which one is it?

B: The fifth. Ah this was… Ok, I… Maybe the first one. This fifth I also quoted that moves... This is what Fritjof Capra Tyth called in his tau of physics. He says about a particle. It is very significant that we came to this, you know, about the physical particle. He says, "It moves and does not move. It is out of all this, it is into all this. It is far; it is near. This is the fifth sutra the first sloka. That moves that does not move,

a particle, that is far off that is very near, that is inside, all that is outside all. Fritjof Capra quotes in regards of physics.

Y: This is the mathematical form, is the incompleteness there as stated there. Otherwise, it can't be both near and far.

> *PaUNa-mad: PaUNa-imadM PaUNa-a%PaUUNa-maudcyato.*
> *PaUUNa-sya PaUUNa-maadaya PaUNa-maovaavaiXaYyato*

B: Yes, yes. And this *Pauna-mad Pauna-imadm* maybe it was the first one. So maybe it was not the fifth. So this was the fifth, it was the one referring to physics. I should read it and find it. It is very…

Y: You can borrow that overnight.

B: It is from *Isha Upanishads*, I am sure. Ah, this is the one; this is the introduction, you know.

Y: It is the summary of the whole thing.

B: Darshana, this was what I… *Pauna-mad Pauna-imadm*, you are the same. That supreme Brahman is infinite; and this condition Brahman is infinite. The infinite condition Brahman proceeds from the infinite Supreme Brahman. This is all *Pauna-mad Pauna-imadm* etc.

Y: That is a mediocre translation.

Darshana: Yeah because *pauna* means whole, full, complete.

B: There are better translations that supreme Brahman that is infinite. And this is infinite. The infinite proceeds from the infinite. Then through knowledge taking the infinite of the infinite, it remains as the infinite alone. From the whole it… if from the whole, you take out the whole, whole remains. It remains untouched. So this is the one. And it is very bad translation.

Y: So I say when you take a sub-state out of the whole pattern, the pattern is still there.

B: The whole pattern remains. It is still there. So this is very beautiful.

Y: Right, very good. Second sentence again. In regard to each different and I'm… got the word different there to stress that each different non-physical individual. It should say a non-physical individual. Or should it say an individual.

Bret: Yes.

Y: Originates itself into a state of either direct knowledge or a state of no direct knowledge. Now we can have an argument here, I have argued it myself. Maybe it should say instead.

> An individual originates itself into a state of direct knowledge or the absence of direct knowledge. Or a state of absence of direct knowledge of each non-physical individual separately.

B: Or if you stress somewhere else a positive state of no direct knowledge.

Y: Yes.

B: A positive state of no direct knowledge.

Y: And I want you to let me know what you think would be best. After you think it over or you can… What you got now. Because tomorrow I though we would try to rewrite this. And we could think about it overnight. But this question arises should it be absence of…

B: No, not absence.

Y: But it should be a positive.

B: It should be a positive; it should be affirmative.

Y: Positive state of a negative state.

B: Because it is not inferior in any sense to the positive state of direct knowledge. It is not inferior. The choices are of equal value. They are choices.

Y: In mathematics and logic that is true. But is that true actually?

B: I understand you. This is why you always stress extant universe. In extant we have positive state. Negative do not improve the picture somehow.

Y: Well, what about just a neutral state of absence? That's not a negative and absence of something is simply it doesn't exist. It is not suppressed. Yes.

B: If it is closer to what we want to express.

Bret: Sounds to me like you are right.

Y: I think she is right too. But I just want to kick it around.

B: Yes. Yes.

Y: What about the absence. A lot of people, most people, especially theoretical physicists imagine there is this great nothing. And that is the original state. And into this state comes something, somehow, quantum fluctuation or God says, "So be it." But they start with this nothing.

B: Yes, in a way the Lila suggests that out of, I don't know the word; out of… you know Meher Baba stresses a lot, the first… How the first samskara… How the first

impulse for a God who does not know himself comes into the world in order for God to be able to know himself.

Y: I know that logic.

B: And he says, "Out of infinite nothing… Out of infinite point of nothingness the" (I am trying to translate it) for instance. what was the name not Atman but Paramatman.

Y: Paramatman or Parabrahman.

B: I'll translate it badly, poorly because at this moment I couldn't think of the original. So he said, "Out of infinite point of nothingness… ( ) Out of the finite everything, in sense *Purna minan, purna*. Out of the finite everything the infinite nothingness arose. Out of the finite everything, but everything in sense, Divine everything, Paramatma the infinite nothingness arose."
What does it mean? It is everything because it originates itself out of the Divine, out of the Paramatma. But it is nothing because it arises out of a point. But this point being originated from the Paramatma form the Divine it's everything. So out of the finite all or everything, the infinite nothingness arose. Infinite it is nothingness because it is not God it is just a shadow of God being just manifested but still it is shadow of God who is infinite. And because God is infinite his shadow is also infinite although by nature it is nothingness. It is empty of substance, it is not… It is nothingness because it is just a shadow. But because it is shadow of God who is infinite his shadow is also infinite.

Y: It is a correct description if you already understand it.

B: If you already?

Y: If you already understand it. That is a correct description. But when I first read that one when I was eighteen years old, I didn't already understand it. And so I couldn't imagine what it... The actual details of what he is talking about. So it didn't communicate. But if you already know it, that is correct.
However, that doesn't solve our problem here of describing the ultimate reality. And almost everyone who reads any of this imagines that what this means is that we start with no states of knowledge and we add states of knowledge and it gets more and more elaborate. Like the Monte Carlo procedure I showed there. This gives them a false idea. They say, "Well, how did it get started?"
It didn't get started. It is what we are trying to describe here, is what is. It's the ultimate reality. And how not to contradict that in our description of it or give a false implication, I don't know. But we should try to improve it, I think. I have written this maybe four five hundred times different ways. So...

B: Maybe just positive state of no direct knowledge to be in the affirmative. If we are not able to do it affirmatively, in case of non-physical, now it should be affirmative because the state of direct knowledge and the state of no direct knowledge are equal choices.

Y: So we have a double negative, no direct knowledge of that non-physical individual.

B: No, no. It should be… or a state… or a positive state of no direct knowledge.

Y: (acknowledges)

B: A positive state of no direct knowledge.

Y: So there is a possible.

B: To stress it is positive state of no direct knowledge. And it is of equal value than the state of direct knowledge because the individual… it's individual…non-physical individual's choice to be in state of no direct knowledge.

Y: So you think we should have two lines to make one verse like in Sanskrit.

B: Like in Sanskrit if it is unavoidable like in Sanskrit because it is a great example.

Y: Yes. Because they couldn't get it all in one sentence either. That's because maybe there is more than one individual. Ok, we'll break this down as I have done it here and go over it some this afternoon after the class, scripture class. But now we have just a few minutes left. If there is any thing you boys wanted to ask, this would be a good time. Ask any questions.

Don: I have been thinking about modeling space. And I need some problem definition here. In portraying it, should one just… I mean modeling time, should one just consider a single extant state or an evolution of a network to model time?

Y: You could do it either way. But the most accurate way would be to point out the time elements that are involved in the structure itself. You've got ABC and ABD. Each one is a separate substate and produces them both in the same time in the consciousness of A. So I think you should include time, but as pointing it out as a substate. And then finally when you get it all in one state, don't mention it anymore. But they'll have to carry that over. Don't mention time any more. It's a good question and I haven't really solved it.

Don: I am trying to model the duration that we have a perception of a passing of time. And…

Y: Yes. And B is in the past.

Don: When we are in a circuit, we have a sense of now. We have a present time.

Y: Well, you also have one in just ABC ABD

Don: (acknowledges)

Y: Are you trying to model unbounded time or…

Don: The perception of time, the passing of time.

Y: I thought you were talking about space.

Don: No, I corrected myself. I said space initially. I am sorry. I did say that.

Y: Ok, so we are talking about ABD, correction ABC. (acknowledges)

Don: Yes. But to model… when we have a circuit, we have a perception of a present time now.

Y: Yes, well, I think the diagraph ABC does model it. As long as you have the rule, those two rules. Or another way of saying it, the way Darshana has put it is that A is in a contingency state. It's not knowledge of C, it is contingent on B. But to me that is in accurate because in the diagraph A arrow B arrow C, there is not contingency because B is in an extant state of knowledge of C. So it is not contingent anymore.

Darshana: It's the consciousness that is contingent, I say, but not the knowledge. Maybe that's not possible.

Y: Yeah, well, we should talk. That's true. We should make our explanations in terms of knowledge, and as an after thought consciousness as a second step or second layer. I think that's going to be necessary to have these layers because otherwise everything just goes in their mind; and it just goes bump, just a mess.

Don: But like if I have a circuit with say twenty seven individuals in it, and I want to model a perception of time from the current time, from the present time that all those individuals share to the next moment of time to that perception of it, it would seem that I would have to introduce an evolution to that circuit of twenty seven.

Y: Yes, but they each have a separate history.

Don: I understand.

Y: Very similar and this is why somebody on Mars has to wait twenty minutes for a message to get from earth.

Don: I think I have that clear. I just want to know. I am looking at problem definition here that this is a case of network evolution from a current now to a new now.

Y: Well, the model doesn't change just the sub-states that are involved in time. In other words, you have the extant situation and that's all you ever have. And then you have the sub-states which gives the appearance of illusion, of duration, durating time. Now are we talking about two different things or the same thing?

Don: Well, this is where my un-clarity is. Is that I can see a perception of a now in the past in the circuit that all the individuals share a common now from their perspective.

Y: Yes.

Don: But…

Y: But they all have a history.

Don: Yes.

Y: But that history is in consciousness. And that consciousness is not passed along. What's passed along is the states of knowledge. Then you have to say, "What's the next one in the circuit experience consciously of those passed along knowledge states?" And the knowledge states include who each of them is; whereas, the consciousness does not include it. And you are not conscious of somebody else's consciousness. You are in a state of knowledge of someone else's states of knowledge. Sort that out and I think you'll have your answer.

Don: Ok. In a circuit is the time like say for twenty seven individuals, is the time bounded or not? In other words, they can only experience a set amount of time or not.

Y: Yes. It is bounded, just like somebody going around the earth. He comes back to the same place. He is bounded in magnitude, but unbounded in how many times he can go around. And the universe is like that according to Einstein. Some people argue with him about it.

B: Unbounded but still bounded.

Don: Thank you. I'll reflect on it more.

Y: Work on the differentiation between consciousness and the knowledge states. Anything?

Bret: Two things. From earlier, the discussion about randomness and observation. A random simulation could be considered a probe of the system to establish a background of how the system behaves on its own. The system we're actually attempting to model, a Lila universe, isn't random. It's preference if it's rather choice, not preference of the individuals involved. But a random simulation would tell us what patterns are inherent in the system itself. And it would be something to compare to. We could find out what structures arise just because of making choices as opposed to what structures arise due to the individuals making choices. The second reflects the actual universe.

Y: So what is the question?

Bret: It's not a question, it's an observation.

Y: All right.

B: If I may say something regarding this observation. It could be stressed that these different stages obtained due to simulation process, doesn't always imply time. They are separate states, for instance, just like when playing chess, maybe this is not… In chess, you also have a sequence. It is stressed actually in optimization theory that

the difference states, for instance, in dynamic programming, does not imply time. It could be the same time but different stages. There is a Bellman principle which says in optimization, you start from a certain situation in the system and then you proceed to your objective just having in mind the objective. And the whole history of the system is embedded into the initial state itself. It is just like this substate in a sense. It doesn't… The time is embedded into an extant position of the non-physical individuals and their choices. It is like a sub-state, a memory as you say. It doesn't imply time. There are different… My point was, if you have a random process of simulation, it does not imply time. Just what is the case in your simulation? It does not imply…

Y: I agree that it does not necessarily imply time.

B: But still because we are making the connection to the physical reality, it should be either time or in a way space. Now, I am talking in terms of relating to physical reality because we are also doing this later on, by introducing length quanta and elementary time units. So actually speaking in terms of contemporary science, where physicality is included, then either we have a process of time of states going from one point in time to another or it is a simultaneous process but different states. For instance, what I was meaning by this example of chess. We have… not the game of chess itself because it includes time. We have first move, then second move, then third move. But in sense of we have different configurations of the chess game. Then out of different configurations which ( ) simultaneous we might do the optimization process having in mind that all the history has been mirrored into the initial states. So we don't deal with it anyway. We just start from one state go to another state and to another state. This is called Bellman principle of optimization when in the initial state, the whole history of the system is being mirrored, s being embedded.

Y: Embedded, yes.

B: Embedded.

Y: I think there is no such thing as randomness. I think things approach randomness but some times they get so close that you can't measure the difference because our measuring instruments are not accurate enough.

Bret: Can't find the color in the signal.

Y: That's right.

Bret: The other observation I had was that in the… to date in the discussion of the inflation simulations that you wanted me to do, that I haven't completed yet, the design included the evolution of the systems through the addition of the arrows. And that's not correct. Sequential addition of connections does not reflect inflation of the universe because inflation is due to a comparison of sub-states within a static extant condition. So I've been optimizing to be able to detect patterns in the system at each addition. But what we should do is simply add all the arrows and then analyze the flat pattern, the static pattern for the time that is reflected in it.

Y: That would be accepted.

Bret: Yeah, which is essentially what you just said.

Y: Well, good. Take a break. Class time at 12:00 and we'll resume our discussion at 2:00 o'clock. Tomorrow afternoon I will take off, so we'll have the morning session only tomorrow. I want a consciousness chip. "And all the artificial intelligence people would say, "We told you so." And we'll say, "No, it's not the physical part that's doing it. It's the non-physical part that is conscious that is in that chip."