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Y: OK, before we carry on with this radical theory, you'll present what you have come up with over night, and then I'll come up with my usual variation on a different paper. But we will start with you.

Biljana: There are several points I want to stress out. First of all when talking about connectivity, there is a specific parameter which might be introduced into the picture and might be of interest and this was named lambda. And it is how many relations or arrows should be subtracted from the picture in order a graph which was connected to be disconnected.

Y: To be different?

Biljana: To disconnected.

Y: Disconnected.

Biljana: Disconnected. It was connected and to be disconnected, or the other way around. How many, for instance, arrows are needed to be added into the picture in order (for) a disconnected graph to become connected.

Y: I have a question.

Biljana: Yes.

Y: Does it make a difference between whether it is a non-directive graph or a directed graph? In your analysis, does it make any difference?

Biljana: It is different in one point and this is in directed graphs. You couldn't reach any point through the same path through which is possible to reach it in non-directed graphs because you have additional limitations.

Y: Right.

Biljana: So this should be taken into account.

Y: So the numbers will be a little different.

Biljana: The numbers will be a little different, yes, because this is additional. The direction of the arrows is additional information, additional limitation. You couldn't reach just any point. So the under lied or undirected graph or as you say the directed

is (annoyed?) taking into account Lila Paradigm. But still in existing theory, sometimes if a certain specific path is of interest, a starting from one point and coming to another, it could be possible in the undirected graph, but not possible in the directed graph.

Y: Right.

Biljana: Now there are two points which might not be of interest specifically in Lila Paradigm, but also it might be. For instance, there is question how many notes or agents or individuals should be taken out of the picture in order for a graph which was connected to become unconnected, disconnected. This is one. And the other parameter is how many arrows should be taken out in order a connected graph to be disconnected. Or a disconnected graph to become connected. And it is not always so easy to see. I was thinking about some specific graph which will be of interest. For instance, if we observe this as an undirected graph, maybe it‘s not of interest but it is easier. For instance, is it... Will any point be reachable from any other point if I take out just one arrow?

Y: (Acknowledges)

Biljana: And then the number of the arrows might be not always the crucial point. Maybe a specific arrow if we have a certain assemble, a certain specific arrangement, as for instance in tau, anti-tau or whatever.

Y: Question.

Biljana: Yes.

Y: Do you start with a completely connected graph like you have drawn.

Biljana: I might start, I might not.

Y: It might not be completely.

Biljana: It might not be completely.

Y: Or it might not be.

Biljana: Yes. Then it might not be connected. Then the question arises, how many arrows do I need in order to make it connected.

Y: OK.

Biljana: Now another point. I’ll come back to this one. But let me present the list. Now the second point is. Remember yesterday when I was explaining how I have understood radiation. I started by explaining that once we got a circuit into the picture or strictly speaking because once implies time, when the state of affairs of the relations of the arrows, allows us to have a circuit, and it is also to be stressed that this point is reached after, after on the connectivity curve, we reach the point which is X = 1 were X is connectivity. This means after this point as we add more and more

arrows, actually after this point, the number of relations is greater that the number of individuals themselves.

Y: (Acknowledges)

Biljana: And then the probability for a certain individual to be connected is greater than the probability for it not to be connected. But it should be stated explicitly.

Y: Yes.

Biljana: But now there are two ideas one by one. First of all, you said, that when I have presented my point. I said there might be, for instance, 7 arrows into 7 relations into the circuit. And then we have, for instance, two crossovers which means we have reached two dimensionality.

Y: (Acknowledges)

Biljana: And then since we have a circuit and since the circuit is treated like just one arrow, then although in the classical picture so to speak, the one dimensional space distance is this one. Between, for instance, A and B: Nevertheless, nevertheless all sudden since we have a circuit since we have already introduced two dimensionality, then the distance of any other individuals should be the same. And it will be the length of length quanta equal to the number of individuals in the Hamiltonian, in the spanning Hamiltonian. Now it should be always stressed that we are working with the spanning Hamiltonian. At that point you have made the remark that they are not just 7, they are a great number.

Y: (Acknowledges)

Biljana: But it might be just 7. It might a disconnected baby universe.

Y: Yes.

Biljana: But in order this disconnected universe. Now conditionally speaking you have greater meaning in sense of the common knowledge of present time and space. These assemblies should be connected to the greater Hamiltonian. Or to the greatest Hamiltonian which presents the present state of affairs in the universe.

Y: So this is the separate one. This is off by itself and you say they should be a connection?

Biljana: This is another point I am making in the… when introducing all these structures this should be added at which state of affairs, for instance, not to. I mean it don’t want to.

Y: It makes a difference. It makes a difference whether the arrows is this way or this way.

Biljana: But it should be stressed maybe somehow in the theory.

Y: (Acknowledges)

Biljana: This is connected to it the discussion I presented for lambda parameter. Lambda Parameter is a parameter which states how many arrows are to be added in order to have something.

Y: I got your point now. Yes, I agree, it should be apart of it. It was at this very point when I left Adelaide where Baker was and came. First I went to Europe for many months, and then I came to the east coast of Australia. And he has been busy with a family and a job and I been here, so we stopped.

Biljana: Yes. But this is of interest, it is really of interest.

Y: Yes I think so.

Biljana: So.

Y: So what have you got on it?

Biljana: For now, there are other questions. Maybe I'll come back to it.

Y: It's up to you.

Biljana: So this baby universes. It is actually a fact that the probability for this baby universes to be connected is greater than the probability for them not to be connected once we have reached the point n = I where n is the total number of individuals and [I] is the number of spanning of outgoing or ingoing arrows, or states of direct knowledge. Although it is effects, still it should somehow be included into the picture exclusively.

Y: It would be concern for the evolution to the current situation. But the current situation extant situation now theoretically is stable because of the skewed curve. They are keeping it there. We are all keeping it right on the edge of chaos so that the degree of connectivity averages out about the same from one billion years to the next billion years as that appears to be. But to get to that point, to show the evolution like we have been going to the curve and following it through, the evolution of it, what you are saying would be very useful.

Biljana: OK. Also when. Don't point it out also that it is not all the same. What structure we have in picture and I also stressed it out in certain point in time. For instance, for F2 it might not be crucial. But for F5, for instance, I know as a fact that there are 21 different non-isomorphic graphs connected 5 arrows. For instance, first of all you have this picture, this picture, and many other which are isomorphic.

Y: And there are 21?

Biljana: There are exactly 21. I know this as a fact.

Y: OK

Biljana: So these are 5, for instance. These are n dimensional. Then I should have a certain way of obtaining them in order to have all. Then we have this one which has one closed loop into it. One, two, three, five, six, then another non-isomorphic. There are many isomorphic to this one. But one which is not isomorphic to any of them is this one where the closed loop is in the middle. Then this one is non-isomorphic to none of them.

Y: The magical pentagram.

Biljana: The magical pentagram. For instance, this one is isomorphic to this one.

Y: (Acknowledges)

Biljana: It could be obtained by this one.

Y: (Acknowledges)

Biljana: But ah, neither of these are isomorphic to this one. Then we might have a rectangular introduced into the picture and one which is outside. And then we might have this which is of great importance in Lila Paradigm. This one which is, we have here degree 3, degree 3 for the first time actually.

Y: I would think that in the Lila Paradigm these all may have, in the consciousness, will have the appearance of a different physical effect of some kind. Might.

Biljana: Might be, yes,

Y: I don't know.

Biljana: There are twenty one of these.

Y: Yes.

Biljana: Ah also when we introduce F5 into the picture which is the expected number of 5 individuals to

Y: Five connected arrows.

Biljana: Five connected arrows. Then if we have a specific pattern of all these ones in mind, then this probability should be divided by 21 actually because there are 21 of them which are not.

Y: This is the point you were making yesterday, both of them going different ways. But it… Michael said this to. But five is as high as they go for any even semi-stable particles. Like this is tau.

Biljana: Tau. Ah, yes, this is tau; it is four structure.

Y: Four is muon, three is electron. The families don't go higher than that. Well, I think they do, but they decay so rapidly into five or four or three. They decay so rapidly that they can't measure it. And so it is just taken as energy.

Biljana: (Acknowledges)

Y: I think it goes up to n because there can be arrows to anyone. In other words [I] can equal n.

Biljana: Yes.

Y: And so you could be millions of billions of types of particles. The particle, scientist's call them resonances.

Biljana: Resenence.

Y: Resonance.

Biljana: Ah residence, like left out somehow.

Y: No, the vibration resonance.

Biljana: Ah resonance.

Y: And each one is a different resonance. They don't call it particles because they can't find them because they last. The decay time is of the order of one Planck time, so short that they can't measure it. Even in principle, they couldn't measure it. So I am just saying though that there, that the formula is simple F5 is simple and doesn't have that added part with e m n. That part is left off. For if it is 5 or less because the effect is so small. But when you get to F27 or F50, well then the recursive effect on the e terms becomes important. It affects the probability in a significant way. That's why you have some of the equations include that terms of n of e. In the F formula and some of them don't. Yes, this one, but that part that is added onto. [I] factorial n to the I – 1, under the root here.

Biljana: Yes, we have [I].
&
Y: [I] factorial

Biljana: [I] factorial (N) times Y – 1

Y: Right.

Biljana: (….)

Y: Same time this becomes important when [I] is greater than 5.

Biljana: When [I] is greater than 5.

Y: That is the same thing you were saying.

Biljana: Yes, yes, for instance, A to 0 is one and doesn't change. A to 0 is one.

Y: Yes.

Biljana: In a way. Also this resonance mentioning. Maybe it has something to do with the fact that the very state of affairs, I don't say time anymore. I was aware of it even at the beginning. But I am trying to develop a working.

Y: You have to train your brain.

Biljana: The way of expressing. The very state of affairs we introduced one dimensionalities, maybe not enough, but two dimensionalities. The very same state of affairs some call resonance include the picture.

Y: Then make resonance between them.

Biljana: The resonance between them.

Y: And then you do a third one, a fourth one, a fifth one, there's more resonances.

Biljana: Yes, yes, and orthogonality? Between them, as you mentioned or not, or orthogonality between them.

Y: Yes, there is. Because each has a crossover, there's another dimension.

Biljana: Yes, great. But we must differentiate between which you are doing this but, it should be stated explicitly somehow. What arises out of Lila Paradigm alone, as it is, and what arises out of comparison of the outcomes of Lila Paradigm and the physical particles themselves.

Y: Yes.

Biljana: You differentiate, of course, but this should be stated somehow implicitly. What I am hearing in my mind is when I am talking orthogonality, I have this picture in mind. And this is how I explain to myself, maybe wrong, what energy is in terms of Lila Paradigm. And why the fourth crossover is, introduces instability. The way I explain it to myself maybe we haven't this reach point yet.

Y: Why do they decay?

Biljana: Why do they decay? I could explain to myself. Yes, once I introduce two dimension, crossovers.

Y: There is a reason which I hint at in radical theory. What it is, is that when you have F4 you can draw it two different ways. F5 you can draw it, do it.

Biljana: 21

Y: 21 different ways, so there's 21 paths. Path ways of decay, they call it, ways that it can be taken in a simpler form. In other words, you can write without. You can F5 can have a sub-state of F3.

Biljana: Yes, it has.

Y: But that's an electron. So to say there is a decay path from F5 to F3.

Biljana: Yes, but what I was pointing out is we should be able to differentiate between what comes out of Lila Paradigm alone. If it is possible at all; maybe it is not possible. And what arises out of comparison of the outcomes of Lila Paradigm, two physical particles. You know, I make somehow a difference. For me, it was the discovery, for instance, to see that I am allowed while thinking about Lila Paradigm. I am allowed to think also in terms of illusionary space/time. And it made things easier for me.

Y: (Acknowledges)

Biljana: Once I reach that point it was easy for me to see that, for instance, different in length quanta, when I am circling around a smaller, so to say, conditionally speaking around a smaller circuit and a bigger circuit. Clearly I am introduce into picture a difference of periods of something which is a wave.

Y: (Acknowledges)

Biljana: It was easy for me to see once I have seen. I have realized that you allow this. You allow this comparison between, which is known in physics now, and which arises from Lila Paradigm alone. And you are jumping from Lila Paradigm to measurements back to Lila Paradigm, back to measurements and then you complete your picture. And this is marvelous, this is excellent but I… What I am saying is, prior to this discovery of mine, I thought everything that you want to present comes out of Lila Paradigm alone. I am trying to make a point.

Y: It has to, it didn't develop that way. I developed from both ends at the same time from the physical measurements and from the assumptions of Lila Paradigm.

Biljana: Yes, yes.

Y: But when you have finished and you have discovered it, then you have to back track and see that you go from the assumptions step by step. So that in the consciousness of the individuals, they are conscious of exactly what is measured. So I am not quite clear what you want. I think I have done that. And in some cases I have spelled it out like in the case of Alpha, I've… We haven't done that yet. But I have it, to go step by step, so there's no big jumps, so that people can follow the logic at every step. So I am not quit sure what you are asking for.

Biljana: For instance, maybe I should clarify myself more in order to be clear. So if I am allowed to think in terms of orthogonality as it is recognized in contemporary physics then many conclusions could be derivan out it (derived out of it)

independently of Lila Paradigm. Maybe this is the way how new theories are developed. And you are right; of course, we are not outside illusionary space/time.

Y: Well, once we make…

Biljana: No matter what does it mean.

Y: Once we make the connection between Lila Paradigm and directed graphs, then we can use the directed graph principle to describe physical phenomenon and leave the Lila Paradigm out of it.

Biljana: Yes.

Y: Accept that you have to show in your symbolism, in the directed graphs, you have to have certain rules that allow for comparison and collapse of the wave function. That is reduction. You have to have rules that replace the logic of the Lila Paradigm. Otherwise you can't explain how this is made up of this, and this. This arrow and this arrow how do the get connected. They get connected in the conscious sense of a single individual which is unitary. They don't have that in the physical world.

Biljana: Yes, yes.

Y: So. But once that's done, you establish the rules that cover the Lila Paradigm part of it. You can do it all just by graph theory or you can do it by matrixes.

B: Yes, yes.

Y: But you have to establish those rules, and those rules really contain the Lila Paradigm without saying what it really is.
Some of the professors I talked to said, "Well, just make rules."
I said, "That doesn't explain what consciousness is."
He said, "Oh don't worry about that."
Well, I'm worried about it because I think it's the truth, that consciousness does have an explanation. And it is derived from fundamentals and that as long as they stick to just materialism, they'll destroy the world just like they are already doing. Because just dealing with it from a materialistic point of view and leaving the truth of our own non-physical selves out of it, you don't have the compassion and understanding and love for each other that will save the world from its own destruction. Now, that's why I won't leave it out. But it could be done in principle.

Biljana: So you say actually, for instance, when we haven't reached that point maybe you will explain later, when we define the energy. So actually in order to understand the concept of energy, I am allowed to have this picture of false space/time when I have orthogonal waves. This is easy for me to understand and if I take these assumption then I'll understand Lila Paradigm too. But it comes in my mind out of the picture of false space and time.

Y: Yes. I think this is where the square root of –1 is hiding.

Biljana: OK. Maybe, yes. In a way because we derived it out of the results of Lila Paradigm anyway.

Y: So we are talking about orthogonality and the square root of –1. We're talking about different versions of the same thing. But how to handle the mathematics, I don't know. But if I could explain the principles behind it to you, then maybe you can do the mathematics. Ah, or I'll have to study Penrose's complex math, his complex numbers until I understand them completely because I have to take and see what is behind the complex numbers. What is behind the square root of –1? What is square root of –1 in the Lila Paradigm and so far? No matter whose explanations about it, I find out they don't know what they are talking about either.

Biljana: Maybe Gauss, you know Gauss.

Y: I know of him. He went crazy.

Biljana: He is the one to blame for introducing square root of -1 into a picture of wave. Whenever you have wave and you have waves once two dimensionality, you introduce waves. Because there…

Y: Exactly.

Biljana: There is difference in length quanta.

Y: I chased it down that far but I couldn't take the next step. How do we get from two dimensions into his? I think he just found a mystery and put a label on it, square root of –1 which worked out mathematically. But why? When does it represent in ultimate reality. That's my question and if I had that, then I could answer your question about what you were asking about.

B There are two mysteries actually. We have e to [I] (fee) is cosine (cos) (fee) + [I] sign (fee) and both are connected to it with waves. Because cosine is a wave and sine is a wave.

Y: Yes, These are continua and continua is a second order effect of the Lila Paradigm. First we have discrete. Then we have states of consciousness of those discreteness's. And then we put them into a single state of the individual. And then we have a continuum between them, a continuum of space and continuum of time. Then we have a continuum. Now we can talk about sine and cosine. We can talk about trigonometry.

Biljana: Yes, and here you know this picture. If we have here C then and this is because you have, you mentioned, you have to study the complex number, I believe, the complex wave factor of Schrodinger's equation as well. Or the complex numbers as introduced by Beros. We have, for instance, this the real part of complex function and this is the imaginary.

Y: Right.

Biljana: And if you this, then this is then this, this, magnitude is described as module of W E to (fee), E to [I] (fee). And here we have square root of –1.

Y: Now let me ask you a question. This is one dimension, this is another dimension, but I don't know what that means. What is an imaginary dimension? Is it orthogonal to this? And if so how is that represented in my presentation of what space is? What is two dimensional space? What's that got to do with an imaginary number? What's it got to do with the square root of –1? I don't see what it has to do with it. I followed this in his book.

Biljana: Yes, I know this is way to represent. This is a way to go deep into it because…

Y: Yes.

Biljana: Yes, it is directly connected with the state of affairs in Lila Paradigm when we introduce a closed circuit and two crossovers. Yes, because the moment I have a closed circuit and two crossovers, this very moment, I have two, I have vibration.

Y: So, a closed circuit has to do with the square root of –1 in this arrangement. Otherwise, we'll have just orthogonal two dimension. One of them won't be imaginary. What they call imaginary must have something to do with the circuit that that circuit makes things different to the dimensionality. And what difference is that? If we knew that, we would know what you are asking.

Biljana: Yes, I know. I see the connection. First of all, the connection here is obvious that if you have, if we observe, the moving of this point around the circuit, and the projection of it's moving, we'll be walking like this which is a wave.

Y: Yes.

Biljana: And like this which is another wave orthogonal to this wave.

Y: But to get it in terms of the Lila Paradigm we can instead of saying we move around like this we have to say there is the passing along of the state of direct knowledge from this one to this one, to this one.

Biljana: Yes.

Y: And then when this one over here, for example, gets all that direct knowledge states and they are united into one state of consciousness for this individual, then for the whole circuit, then he's in a different state than he would be than if he were just in a non-circuit arrangement of two dimensional space. And so orthogonality means something different. In other words, we are going to have logically to do it in terms of states of knowledge and then unit them and think of it that way. And I think that would give us what the square root of –1 is.

Biljana: Yes, another point maybe at this point in Lila Paradigm or a state affairs, when a closed circuit and two crossovers are introduced, maybe at this point we still have, not square root of –1. It could be also as well explained in a simple face plane

where we have here something and here something else. Maybe at this point we don't need imaginary access; it could be as well explained in a simple two dimensional.

Y: Who's Israel? What is the word you are using? What explained? I couldn't hear the word. I don't remember.

Biljana: I said we could explain two orthogonal movements

Y: Yes.

Biljana: Which are due to two crossovers and a circuit arrangement not by introducing yet [I] and square root of –1.

Y: Ha, ha.

Biljana: Maybe at this point it is not needed yet. Maybe later on it will be needed when we introduce energy. Maybe at this because at this point maybe it is sufficient just to have a face plane. Maybe this is what, this is the word that you didn't hear. Face plane.

Y: Yes.

Biljana: This is what Poincare. Henri Poincare has done. Henri Poincare.

Y: Yes, I know of him.

Biljana: At this point, we have one variable here, another variable here. We have a circuit and we have a point which is moving through the circuit. And then we just observe the projection of the moving of this point around the circuit and we have two dimensional, two dimensional orthogonal waves. At this point, we don't need yet [I]; we don't need it yet.

Y: In order to describe light, the photon we do need it.

Biljana: We do need it, yes.

Y: According to Feynman.

Biljana: But this is three dimensional.

Y: Yes.

Biljana: I say at the point where it is two dimensional.

Y: Ha, Ha.

Biljana: When we have three dimensional, then, yes, we have orthogonality, we have (….)

Y: When you have amplitudes, we can take the square of the amplitude, yes. I'm just remembering Feynman.

Biljana: Ah, yes, Feynman, yes.

Y: And how he explained it.

Biljana: Also which might be of interest is that e is lemmas of 1 + 1 over X to X when X goes infinity. Maybe this means something. This is also. And this. For instance, how it is connected to this might have… But actually maybe this is wrong. It might have two points of, what is the word when you accumulate, two points of accumulation, of points around it. But actually this is just ( ). If we have two points, then we have vibration.

Y: (Acknowledges)

Biljana: Two points of accumulation.

Y: Interesting.

Biljana: OK, maybe. Also I wanted to say when I was discussing the connection of Lila Paradigm to physics.

Y: Yes.

Biljana: That maybe there is more to it. Why. You have stated, and I believe correctly, that we start. That F2 comes into picture or the perception of time in the consciousness of individual.

Y: (Acknowledges)

Biljana: When. After Planck time elapse so there is more meaning to Planck's time than just measurements, and we should know what. You know what, you know what. You know something that physicist do not.

Y: Yes.

Biljana: But maybe they did know something by introducing Planck's time into the picture. It has to be meaning outside the measurement.

Y: Well, yes, there is a meaning, is that the wave length gets so short, that the frequency goes so high because time is so short the wave length gets so short that the energy gets so high that it goes into a singularity. And there's. It makes no physical sense at the Planck time. So the place where the Planck time, anything shorter than the Planck time, has no physical meaning in physics.

Biljana: Goes into singularity.

Y: Remember I showed you that formula for Planck time.

Don: I have it here Yogeshwar.

Y: Yes. So the length of it is dependent upon the size of the Planck's constant, the gravitational constant, and the speed of light. The greater the speed of light, the smaller the Planck time will be.

Biljana: C

Y: C

Biljana: Just C.

Y: That C is the speed of light to the fifth.

Biljana: To the fifth, yes.

Y: This is what makes the Planck time so short; you see the light to the 5^{th} is a big number. And this is the smallest unit of energy that can take place, Planck's constant divided by 2pi and G is the gravitational constant. They can't figure out why big G is in there. What does it really mean? And I wrote a paper on that which we will discuss in a few days. And you take the square root of that, gives you the Planck time here as 10^{-34} of a second. Now, the meaning of this is that if there is anything shorter than this, then there can't be anything shorter because the speed of light can't change. But so if you made. You can't get an energy unit smaller than H, so you can't get smaller. These are fixed.

Biljana: May I write this down.

Don: You can have that. I made that for you.

Biljana: Thank you.

Y: That's for you.

Don: There is also Planck length.

Y: Further on.

Don: That's another one of Planck's constants. It's in another paper. Planck's constants.

Y: That's nice.

Biljana: OK

Y: I wouldn't mind having one of those myself. One more.

Don: For Planck length. That's so you have the whole picture. I'll print them out for you.

Y: Or you can just put it on the machine.

Don: I don't have it here.

Y: So I think your thinking is good. Now we were brain storming.

Biljana: Yah, yes.

Y: And that's the way we are going to make progress. But I think now we should turn our attention to working on the overall scope of the Lila Paradigm because there is more to come. Before we go on with the radical theory, here's a paper that I wrote on the 17th of April 1997. And the authors are H.C. Berner and S. C. Draut. She checks my logic and corrects my English. And the title is computing the mass ratios of the charged leptons using labeled directed theory. And I'll just read part of it. This is the abstract: Comparing the number of arches or arrows, needed to be included in a connected labeled directed graph structure in order to expect there to exist within that structure a substructure that represents a particular type of lepton.
For example, an electron to the corresponding number of arches needed to expect another type of lepton. For example a muon. A close approximation of the rest mass ratio of the two types of leptons is a theme. So you were suggesting that we write a paper that says this up front. Maybe I should have included numbers. But it is a short paper giving the F formulas. In this case they are called M formulas for mass and the ratio and just a couple of pages there with some references and some notes and a diagram.

Biljana: Great.

Y: Now this diagram shows the whole picture for the positron, electron. In this case Z here or zed is the electron and [I] is the positron. And we have three crossover arrows. And I have a dotted line here to show what the sub-state is. That sub-state is the sub-state of the electron if it is in a circuit situation. If not we just have a three dimensional picture. But you notice here, we have a positron and an electron and that is one dimension. But it has to be part of a three dimensional, a three arrow sub-state. This is another subject, just that one. So that makes this also an electron, and this is also an electron which is not said in this paper. The end is just 26 here. There's 16 arches.

Biljana: Three arrows. A.

Y: Ah, there's A is how many is in there.

Biljana: A is sixteen arrows.

Y: And then B is what's within this sub-state here. A is this one that's used in the text to make the explanation. Ah, I'm out of these so this should probably be copied. This is the last copy I have. But I'll let you have it over night if you want. And maybe he can run off a copy.

Biljana: Thank you.
(51:42.8)

Y: (….) don't want to read through it now. We can do that later.

Don: I won't be able to do it today. I'll do it tomorrow. I can do it tonight.

Y: OK, you brought the graphs. You can get the graphs A, B, and C out for you to look at. These, these, and this one. Now number 10 in a radical theory, paragraph 10 page 30, yes. Here is 10 on this blowup graph. Here's 10 and 11. Here's 11 and here is 10. OK 10 the point of inflection of this inflation curve is at pi (N) over 2 or n over pi over 2. 2 over pi? times quanta or just 2.2 times 10^{23} time quanta which is 2.5 times 10^{-32} second from the start of time. At this time, at about 1.1 times 10^{-32} agents are in the largest giant circuit. So at the point of inflation most of them are already connected into the largest giant circuit. This little n at this time is less than the n of the extant circuit. The extant circuit would be now. The extant circuit is 2Kn over pi, time quanta. So our time. What does this say?

Biljana: End of space/time from one crossover.

Y: Yes, OK. But here we have the end of time, and now. What does that say?

Biljana: End of three crossover time, now, size of universe.

Y: Doesn't give a formula.

Biljana: End of three crossover time.

Y: Well, anyway this is the formula. Since (K) which is pi over 2 at this time, times the end at this time cubed is the magnitude of space generated by the arrangement. See equation 2 earlier in the paper on the size of the universe. The size of this universe, of all agents in this circuit monopole are conscious is 17.14 centimeters. So at this point of inflection, the size of the universe is about like this where we have 17.4. of a soccer, football.

Biljana: The ball you gave me.

Bret: Sounded larger in the text books.

Y: And this is essentially the end of inflation, right at the point of inflection. The inflation rate still goes on, but it starts to slow down. The grand unification estimate for the size of the universe at the end of inflation is about 10 to 15 centimeters. That is according to Guth's paper on inflation in 1984. By this time, just after the point of inflection of inflation most of the baby sub-universe monopoles have merged into the largest circuit. During this period multiple versions of the agents appear to be being created as the various fermions. Due to the different pathways to get to a particular individual, each one gives to the observer in his consciousness a different fermion. It might be an electron here or the same individual, let's call it X is also. But it is over here, and another one is over here, and another one, and another one, and another one, and another one. All based off individual X due to the different pathways. You have an idea now, at this point, how many arrows there are crossing over the circuit. At this point, there's about 40 billion trillion arrows crossing over the circuit. And each

pathway allows for a different particle over here for every individual, all little n individuals in the circuit because the one dimensional space/time circuit monopole is imbedded in the two dimensional space monopole sphere. And both are imbedded in the three dimensional monopole sphere the agents in and connected to this largest circuit which are 99.999% of all the agents that exist are each conscious of those dimensions of both space and time in the single state of consciousness that include 1D separations between physical things, two dimensional areas and one and two motion. That is straight line motion and curved or accelerated motion all in a three dimension unbounded space continuum in which it own view point of these things is located. I'm trying to give a summery there. That's this universe, and any scientist that knew particle theory and cosmology reading this sentence would say this man is either mad or he has really got something. The temporal consequences of this imbedding of monopoles will be covered progressively until the end of this section. The temporal aspect of space/time produced by the one dimensional monopole begins with the first singularly crossed over circuit and lasts up to K2 little n over pi time quanta. (See equation 1) the time when the inflation curve joins the standard big bang curve which is described in the next paragraph which is 11. That's the point where it joins together, this point 11 with this line. The inflation curve joins the standard big bang curve which doesn't have inflation in it. So this line up here or this line going back like here is the standard big bang that doesn't have inflation process. Since they discovered inflation, since Guth wrote that in 1994, there has been evidence after evidence, after evidence supporting the inflation theory. And they don't even know that the Lila Paradigm also supports it which was first worked out in 1984 incidentally. There was a student of mine who wrote from my recording recordings, he wrote the first Master's Manual, Lawrence Noyes. He has done some intensives in Yugoslavia with Desimir.

Biljana: Skanda? Yes I know him.

Y: Well, he asked me a question. He says, "You say our whole universe is just us. You just keep saying that. I want to see all the details."
I said, "OK, I'll work it out."
And three months later I had the outline of the Lila Paradigm. I had actually been working on it since I was 28 years old, but I was thinking of everything in terms of continua. Continues space, continues time and it just doesn't work. So inflation is dependent upon discrete time units and discrete length units and dependent on comparison in the state of consciousness of existing non-physical individuals.
OK. Point 11. For the inflation curve joins the standard big bang curve. Without inflation it goes back, back, back, back, back, back way off here. And remember this is log, log and so it's going to be a long ways back and tiniest realm of time and space. It was so ridiculous even they couldn't believe it.

OK. Paragraph 11. The total number of extant non-denials or arrows that form our universe is 2(K) n over pi time quanta where (K) is about 12.7 and n is 1. 38 X 10^{-23} individuals so that the number of time quanta is 1.2 X 10^{24} time quanta which is 1.3 X 10^{-31} of a second. This is 10^{-31} of a second and this is 1.2 over it. The size of the universe at this point is Kn^3 length quanta. We haven't discussed how yet, how length quanta are determined. It's in the paper, radical theory. But we haven't discussed it yet. But the point is that it is cubed. So the size of the universe now is a cubed state. But back here at 10^{-31} of one dimensional space my calculation here

has been cubed. It's been cubed to show that it fits the standard big bang curve because they figured it out in cubed. They used three dimensional space. But it's actually 1/3 of this height according to the Lila Paradigm. One dimensional. So it would be 1/3, but I called this, cubed it to show that it comes out exactly on that line. That matches exactly theirs which is calculated entirely differently. The big bang, this curve was worked out by Hawking and Penrose. And it is exactly the same point as Kn^3 length quanta which tied it. So they're tied together. I can't see how the Lila Paradigm can be wrong. There may be some lacunas in the logic, and there may be some incomplete explanations, but it's not wrong as far as I can see. Not only are the number not wrong, but the description of ultimate reality it seems to me, by my own self experience (first person experience) it must be right. Now this satisfies me. But I just want you all to know that that is the state as far as I am concerned.

All right. The size of the universe is Kn^3 LQ which is about 18,255.19 centimeters or you can divide it by 1000 and you get…

Biljana: Multiply.

Y: You divide to change it kilometers from centimeters would be 10^5 would be .18 kilometers. Is that right?

Biljana: Yes.

Y: All but about 3 ten thousands percent of all the n agents are in this largest and now only circuit since all the smaller circuits have merged into the circuit at the point forming one non-physical circuit monopole that produces the electric and the colour charges, the colour charges, the strong force that carries the strong force. That was worked out by that man. Over there's the book called *The Jaguar*.

Catherine: Murray Gell-Mann.

Y: Murray Gell-Mann, thanks, Dar, who was in the next office from Feynman. He got the Nobel Prize for working out the strong force theory, called the colour theory. And he also started the Santa Fe Institute which works with complexity theory. And they have worked out (that reminds me to mention) that they have worked out a program called SWARM which does all this. They have this program already. And he looked into it to some degree, and for some reason decided not to use it.

Bret. SWARM includes simultaneity and this does not.

Y: We could use it and modify it.

Bret: But it was easier to just write the code and did it without it.

Y: Now, I know. Even though the time aspect of the space/time generated by a single crossover ends at about 10^{-31} of a second, the time aspect of the space/time generated by the monopole formed by the two crossovers continues until colour confinement which is described in paragraph 12. Now, we want to look at that on this chart. End of first crossover time. This is the end of the second crossover time. And what does that say?

Biljana: Hadron confinement.

Y: Which is the same thing as colour confinement. The hadrons have the nucleus that are structured by the strong force, the colour charges, the gluons binding together the quarks. And they are bound into a two dimensional bag. If you can imagine a bag made out of two dimensions. They think it is three dimensional. But they will find out at CERN next year that this is the only explanation for it because they will have as a result their high energy. They will have a quark plasma where they are out of the bag. But they will be out of the bag so short a period of time that, that time period will be 10^{-5} of a second before it decays. So that's a prediction. Now we are on this point. Paragraph 12. See graph D at this point. The duration of the two crossover monopoles is up to 2 X Kn^4. Does that fork show clearly on there?

Bret: I see squared in this paper.

Y: Time quanta which is about 2 X 10^{48} time quanta, or about 2.3 x 10^{-7} seconds.10^{-7} seconds is right about here. So it will be not to the minus 5^{th} when they find this out; it will be 10^{-7}. This is the instant of time of the confinement of the quarks and hadron bags, the chiro confinement. Chiro means handedness. Right handed or left handed. There's the right or left handed is one of the, when you look in the mirror, there is the reverse, or not reverse. And it is one of the characteristics of fundamental particles. That they are right handed or left handed. This is because it's a two dimensional situation, and there is on third dimension. These particles. The strong force takes place all inside this two dimensional realm, flat land. You've got a paper now on flat land. Now why is this so? That explanation I have not given here. I have left it that it is the superimposition of one dimensional realm, two dimensional realm, three dimensional realm, are all superimposed on each other and reduced by the unitariness of the individual's consciousness and that blend is responsible for this being the way it is. But it should be described more carefully. The standard theory estimates this time to be roughly 10^{-6} somewhere between 10^{-6} and 10^{-7} second. And that's the same time that this formula that I have given in the text here, Kn^4 divided by pi over two. What happens is that the quarks which are in are in the two dimensional space aspect of the two crossover circuit monopole produce space/time continuum get imbedded in, that is bagged, by the three dimensional space/time continuum because the two crossover monopoles is imbedded in the three crossover monopoles. I should have dashes between cross and over and over and monopole.

It reminds me of a joke I'll tell you. A puzzle, you like puzzles. The size of the universe produced by the two dimension aspect of the two cross-over-circuit-monopole is Kn^3 times the square root of 2n, I think that should be LQ instead of TQ because we are talking about the size of the universe. Got that?

Biljana: LQ instead of TQ.

Don: Where.

Y: After Kn^3 and the square root of 2n

Biljana: It is corrected here. Only here it is not corrected.

Y: I've got TQ instead of LQ. It should be LQ.

Don: OK

Y: Which is 1.5 X 10^{84} LQ or 5 X 10^{15} centimeters which is exactly on the center of the big bang extension curve. That point right there. The reason that I did it that way is because I would have had to get all the papers on the grand unification theory, familiarize myself with them and pick out the formulas that give this value for the time and the space, the size of the universe. And I just said, "Well, look, it comes out at the same point as this line. And this line was drawn from their beginning point and their end point."
So I did it with compass, pencil, and straight edge. So I used everything I could use to make up for my dyslexia. Any crossover. Where are we now? Am I lost? Ah, yes. The time aspect of the three crossovers produces time that can continues beyond the end of time produced by the two cross-over-monopole.
Now, we go to 13. The time aspect of the three dimensional space/time continuum continues up to two times Kn^3 over pi TQ, which is 10^{72} TQ and 4 X 10^{17} seconds which is 12.7 billion sidereal years. And we have talked about this else where, that this is within the margin of measurement errors by all the different, 5 different methods that are used to estimate the age of the universe. But it is outside the measurement error that they claim for the microwave cosmic back ground instrument which is 13.7. This is a prediction of the age of the universe at the current time in which the inverse of alpha is measured as 137… Recent measurements the age of the universe are of this order of magnitude. The size of the universe at this time is Kn3 2n not the square of 2n in this case but of 2nLQ, which is 1½ X 10^{96} LQ. This should also be about the number of electromagnetic photons existing in the present. How many arrows crossing over, taken n times? I'm not quite sure how to figure that out. And I haven't figured it out; I said that it should be because it almost matches n^5. Or it's n^4, isn't it? Times 10^{23} X 4. This value is the size of the universe is 5 X 10^{27} centimeters. This value is exactly on the projected big bang, right here. And it agrees with the best estimates for the magnitude of the universe.
Some people say, "Well, there is no magnitude to the universe."
But the observable universe they admit there is a size. And they make estimations of it, and it is within about ½ of one percent of this value, of 5.04788200 X 10^{27} centimeters. Any crossover arrows in excess of three produce only consciousness of greater strength of the electromagnetic and accelerate forces. They have an effect on mass also which I didn't include in here. Hurry! We're finished.

Biljana: So here should be two after all not four because we have for one dimensional we have Kn on first, and Kn on second, and Kn on third. You said 4. It should be two after all.

Y: I thought I was reading 4. It should be two. Exactly. You got that.

Don: Yes. It is 2.

Y: Then you have already caught it.

Bret: Was it printed?

Y: It printed part of a 2 and I read it as 4. So it should be 2. Now, I want to go with you, over this. Start here. What does this say?

Biljana: No time.

Y: And there is no space also, nothing physical whatsoever. And what does this say?

Biljana: Fragmented time and space.

Y: You know what that is. These are these bit and pieces of baby universes and even smaller than baby universes. And what does this say?

Biljana: Start of inflation.

Y: Right here. OK, now we come up here. These are coming together. What does this say?

Biljana: GUTs.

Y: Grand unification.

Biljana: Grand unification theory 1997 phase transition.

Y: Alright, this whole thing, this part in here. And this says?

Biljana: Start of one, two, plus three crossovers times.

Y: Ok, increasing common space/time. They're getting commoner and commoner. The fragments are coming together so it becomes more, and finally they all join together into a common circuit. And this says what?

Biljana: One monopole, end of inflation.

Y: And this says.

Biljana: End of one crossover time.

Y: OK, I say that we all live in this space subjectively. That in the space where we dream, the place where we are viewing from, is as if located at a point in space but superimposed over the top of that is a two dimensional space. What does that say?

Biljana: End of two crossover time.

Y: What does it say where.

Biljana: Increasingly all of space/time.

Y: Yah, but it doesn't say where second crossover time starts. That takes us to these curves. (Brings up different charts.) Alright, now this is one dimensional starting from

here on. It ends here. But the two dimensions starts at F2 here and reruns the same pattern. Now, in a circuit you have a certain pattern of many, many crossovers arrows. You start at one place and go around you are going pu, da ta, ta, tat. It is like reading the whole pattern off. That's what gives you this whole curve here. So even though it may start at a different place, it all ends up in the consciousness of the individual, in the same order because it is all in present time because of the circuit. So this unfolds in the same pattern as this one dimension. The two dimension unfolds but the difference is that the pattern of sequences is the same, but it's in two dimensional consciousness space. Then this is the start of the third here. What does that say?

Biljana: Second recursion the "real" realm.

Y: So called real in quotes. This is where starts form and galaxies form, and all these things take place that were in that chart I showed you about the whole history of the universe. Yes, that one. That's this one. They know something is going on back here, but they are not quite sure what. When you go back down this line here, the speed of light after you get around this point of inflation starts to slow down and it gets slower and slower and slower until you get a circuit with one crossover. There is only 27 individuals or something like that and so the speed of light is almost like a snail until there is one crossover. That is true of alpha. And all the different constants get smaller and smaller and smaller and smaller and smaller until it fragments

Biljana: Actually the circuit as you have it in your writings when we reach (K) F of 27 meaning that 27 individuals are pointing to one individual, the circuit is made of 7 not of 27. Isn't it so, to be precise? Doesn't matter, maybe.

Y: That's the circuit but when it is at 27, it has to be across the circuit. You have to have 27 individuals in that. So the 7 is one place and 27 is another. It's later.

Biljana: I know, but…

Y: To have a circuit and have arrows pointing to 27, you have to have 27 individuals in that circuit.

Biljana: Yes, you say earlier in you paper at the point when you have 27 arrows.

Y: That's F27
(1:32:18.7)
Biljana: Which is F of 27 either individual's arrows outgoing or incoming.

Y: But that is not necessarily in a circuit is it. So.

Biljana: It is not necessarily in a circuit but you say in your paper that it is at this state of affairs when a circuit of 7 appears.

Y: Yes. Just after this, you'll get this. So you are right. If we use the phase just after. These are the three monopole worlds, one dimension, two dimension, three dimension, and put them all together and you get this story. And you get this universe. That's the Lila Paradigm. There's a whole other Lila Paradigm. It's called

how to take advantage of this knowledge and evolving your own state of consciousness and ability. That's a whole other book. OK. So that the end of my presentation today.

Biljana: Thank you, amazing.

Y: What do we want to do now?

Biljana: Maybe this matrixes. You mention at one point that know something more about matrixes.

Y: I do.

Biljana: I told you that I could present my paper about matrixes which I made inspired by John Nash (*A Beautiful Mind*) film, Movie. It is funny. I have done it. Maybe we could show it now.

Y: You have it?

Biljana: I'll draw it.

Y: Oh you're going to draw it? Yes. OK.

Biljana: Maybe I have it. I designed a graduation thesis for one of my students and she did it.

Y: Before I forget it I am going to ask the boys a question that is similar. Have you seen the movie "What the Bleep Do We Know?" She has given me a DVD of it.

Bret: Is that the one with Marlee Matlin playing basketball or is that another one?

Don: I think so.

Y: Playing basketball?

Bret: A little dark skinned kid and she is walking by and he starts throwing the basket ball to her.

Biljana: Yes.

Bret: I have seen it although I wouldn't mind seeing it again because it is…

Biljana: Amit Go Swami also Hameroff.

Y: I was thinking of Saturday night playing it and inviting everyone to come. We could ask them. So it would be at 7 at night or something like that.

Biljana: Today.

Y: No Saturday. Saturday at 7 o'clock. Would you extend an invitation to the girls?

What the Bleep Do We Know?

Don: Yogeshwar, so Biljana has repeatedly said that F27 is when all the arrows are coming in 27 in or 27 out. Isn't it any configuration of 27 arrows?

Y: Yes, it is.

Don: OK. Because she keeps, she seems to be fixated on that and keeps drawing that picture. I just don't want that to get.

Y: Well, I figure it the other way around. I figure that it is gradually going to unravel.

Don: OK, yah, because…

Y: Because she is getting this one unraveled about time and if she keeps working on that all the rest will unravel because time is number one.

Don: Seven PM for the movie.

Y: Seven PM. Within 5 minutes, we will start this, the disk.

Bret: OK.

Y: OK.

Biljana: So in this movie *Beautiful Mind* which is a biography of John Nash. At one point John Nash and Martin Hanson who is also a famous mathematician from Princeton University and four other friends of theirs, they are in a bar. There is, I'll draw it here. So there is one blond girl which it their first choice. And they are all interested in her. We have one blond and we have two red-haired girls. I have done it in two dimensions although there are four friends, so it should be in four dimensional matrix. But in order to make it simple, I have made a two dimensional array of matrix to explain this situation. And they come in the bar. I have somewhere here in my laptop. And maybe later on I will find the scene. They come there and they are looking at this beautiful girl and all want them. And Martin Hanson says at one point, he says, "Gentlemen, as you remember Adam Smith who was famous economist from the 19th century, he has developed a theory named. The theory says if in a market situation every individual is doing according to his own…"

Bret: Efficient Market.

Biljana: Uh hum. Yes, in a market situation when you have different interest included if you are doing for your own good, if you are affairs are done in such a way that you are just concerned for own advancement, and you discard the others, then we have invisible hand. This is the theory of "Invisible hand". I remember now. This is the theory of "Invisible Hand" of Adam Smith and everyone else will get advanced. Everyone wins, everyone else will be.

Y: That is what he says.

Biljana: That is what he says. So Martin Hanson says. You remember the '*Invisible hand*" theory Adam Smith. Then, gentlemen, all for himself…
So he says, "Let's all of us go to get the blond girl."
So this is his theory. But then John Nash he thought for a few seconds and all of the sudden, he seen the whole picture. He has seen actually. And we should remember that in 1992 he was a Noble Prize winner for a game theory. And the rule in game theory at this point was *Minimax Criterion* on John von Neumann and Alan Turing. And taking all this into consideration just in a few seconds, he saw that Adam Smith theory is incorrect and both *Minimax Criterion* of John von Neumann and Alan Turing is insufficient. He has seen it all at once. He has seen that if we are to apply John von Neumann theory and Alan Turing theory of *Minimax Criterion,* then no one of them should get the blond girl. I have denoted values to this situations and I have shown on array of matrix that *Minimax Criterion* is insufficient and that only John Nash's subtle point is solving this situation correctly. Namely, we have columns here in this array of matrix are for John Nash and rows are for Martin Hansen. We have the blond here. The red starts here, the blond here, and redhead here; these are the girls. And now if both Martin Hansen and John Nash go for the blond girl, they will collide. And no one will get her. Let us suppose that her value is 100. If after this if any of them (Nash or Hansen) goes for the red head, there are two red heads, then the red heads will also refuse them because she will be offended for being the second choice. So the red head will also refuse them. And so if both of them go for the blond, then they have zero, zero for Hansen and zero for Nash.

So the first A11 feud (conflict score) is 0, 0. If, however, Martin Hansen goes for the blond and John Nash goes for the red head, they won't collide. There is no intersection of interest here. Then Martin Hansen will have the blond one without resistance, so he will gain 100. John Nash will lose the blond forever, so this is minus 100. He will gain the red head which is worth 50, 100 points for the blond and 50 points for either of the redheads. This is minus 50. So we have minus 50 points here. If the situation is the other way around, John Nash gets the blond and Martin Hansen the red head. Martin Hansen gets his second choice; she will not refuse him now because he goes first to the red Head. This is another point. So he will have – 100 + 50 = -50. And John Nash will get the blond girl without resistance; he has the whole of her. So he has 100 points. Finally, if John Nash goes for the redhead and Martin Hansen goes for the other redhead, then they have 50 and 50 because they have only their second choice which is 50 points for each. So this is the array of matrix. The point is to show that *Minimax Criterion* which is ruling, which is in power now days in theory of games is insufficient to solve this problem properly. Namely this is the point, not just the array of matrix. So I will show the insufficiency of *Minimax Criterion* of Von Neumann and Alan Turing and show the advantage of John Nash settle point. For this, he was awarded a Nobel Prize in 1992 although in a multi-dimensional case not just in two-dimensional. So to the *Minimax Criterion* in games, we should play in such a way that if our opponent answers us in most intelligent way for him, then our losses should be minimal. This is *Minimax*. So in chess, I always suppose my opponent will answer the best for him. So of all the minimal choices for me, I choose the maximum. So this is the *Minimax Criterion*.

But in this case, it doesn't work. For instance, let us see the choices for Martin Hansen first. If Martin Hansen chooses the blond, now we are working on this row.

He has two choices because first numbers are for him. He could have either zero or 100. 100 is better but the opponent without him zero according to *Minimax Criterion*. If he goes for the red, he could gain –50 or 50. 50 is better but the opponent without him –50 because the opponent will allow him only the minimum. So maximum out of these two minimums is zero. So what he gets according to the ruling theory, the theory which is in power now is zero. He will get neither blond or the red head.

Now the choices for John Nash. The columns are for Nash and the second numbers in the array of matrix. If John Nash goes for the blond, he could get either 0 or 100 points. 100 is better but the opponent will allow him 0. So John Nash has zero as his choice. If he goes for the red head he could gain either –50 or 50. 50 is better but the opponent will allow him –50. So he has –50. Out of these minimums 0 and 50 maximum because this is what *Minimax Criterion* requires is zero. So if we apply *Minimax Criterion* which is in power in theory of games, we'll obtain zero. Neither one of them will get the blond girl. It was presented in the movie as the blond is scattered out (leaves) she disappears all at once. This is what John Nash has seen in an instant, this whole picture. So what we should do is cooperate. If they cooperate which is opposite to the "*invisible hand theory"* of Adam Smith, then they will gain more. This is John Nash's theory of "*cooperative strategies*", in game theory. This is John Nash's subtle point. This is something else of *Minimax Criterion*.

Y: That's the difference between capitalism and communism. But what will replace it, this one with 50/50? Is that you have to understand the other individual and cooperate. Why would you cooperate if you were just a body? There would be no point. There is my side and I am right, I am George Bush and we're going to bring democracy to the world whether they want it or not. I said the other day that unless it is non-materialistically based, no materialism will succeed, no material economy, no plan, no system will work. You have to have some compassion, some love, some cooperation at least some self sacrifice. If you don't have that, this is based on the prisoner dilemma.

Biljana: Yes, exactly. This is what I saw yesterday when you gave me the book. Maybe I'll get it. And the first thing, I opened it, I saw the prisoner dilemma. Then I remember this. I have this, the fragment of the movie, also, the insert of the movie here some where. I'll need some time to find it. Yes, this is the prisoner dilemma.

Y: It is the same thing.

Biljana: Slightly different, but, yes, basically the same. But it is nice. My students did it with the pictures of the blond one, and pictures of this red one. And they have animated this.

Y: Now yesterday you told me that this was related to the Lila Paradigm.

Biljana: It is. You explained it.

Y: You boys got anything that you want to take up with her before we end off?

Don: You were talking about GUTs yesterday and the rules. These are the definitions. (Gives her a paper)

Biljana: OK. Thanks, might be helpful if we find connection with this notion in Lie groups that XY + XYZ + ZX = 0. If we find this, then we might.

Y: It might be useful. But if we don't find it, we should drop it.

Biljana: We should deal with another one.

Y: After another week or two, I think we could talk about how to form the mathematics of a Lila math, Lila mathematics, just starting with the Lila principle. How would we write addition, subtraction, multiplication, and division? What does it mean? What is an operator? Is it the act of an individual or is it the act followed by the comparison and so that you get a result? This is this beginning thinking. So we were talking about the possibility of making our own math based upon. And if we could get definitions for orthogonality, we could solve the square root of minus one problem which we were getting close to solving today. But we still have some things to cover, some details to cover on the Lila Paradigm. This folder is full of them. This is things that might interest Biljana. I have shown you some of them. See this? This is a poster that I put up at the conference on consciousness. It was bigger than this table; and I won second prize.

Biljana: Great! You deserved the first, but they were not ready.

Y: David Chalmers was the judge.

Bret: Were there three posters?

Y: No, there were about 300. So that's something. There is this article. There are some important points there to discuss.

Biljana: Yes, I have read it because in 1995 I was in Berkeley and it was *Scientific American*. When I saw the title I bought it all at once. (Immediately)

Y: I want to go over the complete list of constraints, also so you will have that complete list, and we will have that.

Biljana: When you said comparison a few minutes ago when talking about building a new mathematics, you mean the sameness of the attribute of direct knowledge? Do you mean this comparison, or when different state of consciousness to the unitarity of the individual are taken together?

Y: Well…

Biljana: Both?

Y: Well… One leads to the other. The comparison is a result.

Biljana: Of the sameness?

Y: No. The result of the comparison is due to the unitary. And then that made comparison. Then you can see whether they are the same or not only if they are being compared. But if they are not being compared, there is no way to tell whether they are the same or different.

Biljana: So in this mathematics, there should be two operations, two different operations.

Y: That's right. There should be one for direct knowledge and one for consciousness, one for comparison and one for where it is the same, and one where it is different where the result is difference. And then we have to get into the magnitudes. So we have… If they are the same, then how many are the same? Something along those lines. I think that would be fun to work that out.

Biljana: I think so because also logical will be included and all these things known in Boolean algebra and in maybe the fuzzy logic. I know fuzzy is fuzzy but in a way. I don't know if you are familiar with Lotfi Zadeh's theory of fuzzy logic.

Y: No. I'm not. I am just surveying things that we have to take up. Here is another example. Quantum spin of fundamental fermions are determined by the largest circuit of the Lila Paradigm. Up axis of the quantum spin by the largest circuit in one of the orientations. That is, if you go around the circuit in one direction, you get spin up. And spin down is going the other direction. So when you choose one direction, that automatically tells you that the other axis is the opposite.

Biljana: The other direction being over the crossover.

Y: No, not over the crossover just around the circuit.

Biljana: So you could go the opposite way?

Y: Yes, and that would be the spin in the opposite way. You can go either way just as you said.

Biljana: So it makes the graph undirected?

Y: What?

Biljana: It makes the graph undirected if we are allowed to go.

Y: Yes, if you allow either way, the spin to be either up or down.

Biljana: It is a point because if we should take this into account.

Y: Spin is the rotation of a "field" around the fermions. That is angular momentum. This is connecting it up to quantum theory. The Lila Paradigm entities are not mathematical, they are real. They actually exist. Add this to the paper just before the word people. These are my notes.

Biljana: This is why you stress extant, extant, they are existing in a way. Isn't this so? Extant.

Y: The universe is in deed deterministic. However, the question is whether it is determined by interactions and random quantum fluctuations or is it determined by non-physical individuals. The source of de Broglie. You know de Broglie?

Biljana: Yes.

Y: OK, of his waves are the local sub states. The word concept near which he used, connection wise, the non-physical individual's consciousness is under consideration. And I go on with notes like this. Here is about Bohm's quantum potential (ach?) over 4pi and notes on Bells theorem and notes on the meaning of local in the Lila Paradigm. And the delay of interactions and the speed of light, how it gets into it. The mathematics of the Copenhagen version of quantum mechanic excludes the observer if (Krammers?) transcendental version is used. And on and on. I got pages of notes. Every time I would read a book I write notes that would be brought up because of what they have. Steven Hawking he says that a theory of everything must have unification forces and particles answer what the boundary conditions, be restrictive to this universe, have few arbitrary elements, be simple and resolve a general theory of relativity in quantum theory. So these are the requirements of a theory of everything. Well, I think the Lila Paradigm does all those things. And on and on and on.

Biljana: I have in my book something about the concept of Bell experiment having an error in it, a conceptual error. Maybe some time I will tell you because he is taking into account just comparisons and we don't know the actual state of affairs. We don't have a complete list of errors. It is like having two students who are taking a test and out of 100 questions, the first student has answered 99 questions and the second student has answered 97 questions. And we ask what is the minimum overlapping of questions. How many questions are answered differently by the students? The smallest number and the biggest number. The smallest number is two. Two questions are answered differently, but it might not be the case. We don't have the whole list of misses that is important. Also it is like we have. There is a difference between Einstein's way of observing things and Bell's. For instance, if we have a deck of cards, if we have two decks of cards which is important when we are dealing with probability and we take out one my one. And we differentiate between the red ones and the black ones.

Y: I've read about this.

Biljana: OK Great.

Y: We are almost out of time. Here is another derivation different than Michael's of the F formula, the F1, F2, F3. This is by Wanniski, a physicist in Germany, the random walk derivation. And this is the only copy I have. So we'll make a copy of it. His friend (Amuck?). I think this is more accurate actually. Closer to the Lila but it is still. Well, you'll see. OK we are out of time. We'll meet again at 2 o'clock in three hours.

Punita: I have the document. I will make a copy of that also.