#51
Lila Talk Recordings
Set 2: 10-11-06 to 12-11-06
Day 22
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Hr 1 min 43
Recording 51

Y: So you want to go over the Fibonacci?

B: I was thinking. And…we shall have more and more ones as a diagonal, main diagonal of the matrix, provided these numbers are properly, orderly sequenced in the matrix because if they could be disordered I mean, if I put the same order as they are increasing, we have V, T, B, Y, N, R, S, and then V, T, B, Y, N, R, S. Now V is a state of knowledge of T. So we have here one. T is in state of knowledge of B, one. B is in state of knowledge of Y, one. (Drawing sounds) **[Recording time 1: 41]** N is a state of knowledge of R. Y is a state of knowledge of N. R is in state of knowledge of S. As far as the matrix is concerned, it could be these rows and columns. They are not obligatory in this sequence. But it is beautiful to put it in this sequence in order to find some pattern. And then we have V in state of knowledge of B. V in state of knowledge of B, one here. Maybe this will be other color in order to see how the pattern arises. For instance, we shall obtain a triangular matrix of ones, V in state of knowledge of B. T…now when you say T…

Darshana: Y

B: Of Y

Darshana: (acknowledges)

B: T in state of knowledge of Y. Now the second diagonal is being fulfilled. (Darshana acknowledges.) B is also on a second order. B in state of knowledge of N, you should have here once more?

Darshana: No, it's down here.

B: Ah, here. You have B in state of knowledge of N, B in state of knowledge of N, Y in state of knowledge of R, Y in state of knowledge of R. So the second diagonal is being fulfilled. N in state of knowledge of S, N in state of knowledge of S. Now we have the second. And now the third. For the third, we should have V in state of knowledge of Y, V in state of knowledge of Y. Here, we should have one here; or you have another. And also if we say V in state of knowledge of V, **[Recording time 4:14]** one here, one, one here. Or no.

Darshana: I don't know.

B: It will probably…

Darshana: I don't even remember what it was about unless I'm just doing combinations of… well, I called it knowledge and consciousness at the time with that being knowledge and that being consciousness. But now we wouldn't call it that, but all the possible combinations. And I did it a different way in the tables. (Biljana acknowledges.) I'm not sure what this was actually about.

B: You have some specific…

Y: You were trying to figure out the Fibonacci sequence.

Darshana: Well, I figured that out. (Looks through papers)

B: Ah, here. Here, isn't it?

Darshana: Yes, it was number one.

Y: This one?

Darshana: Yes, there. Well, the…yes.

Y: This one.

B: This one. This one.

Darshana: That one, yes. I was just going around the circuit here and seeing how many combinations there were. And it came out in Fibonacci series which makes sense. (Biljana acknowledges.)

B: This is…did you start again?

Darshana: It started repeating because it was going around in the circuit. But it wouldn't have to do that. I was just seeing if it worked if you kept going. And it did.

B: Yes, one period.

Darshana: It's either linear or in a circuit. Both work which sort of makes sense.

B: So maybe once again, we should start with this chart.

Darshana: Well, it depends on what we're doing. Are we trying to figure out what's really going on here or are we just applying it to a matrix to see what the pattern is that comes out? Or…

B: First to see the pattern. (Darshana acknowledges.) Then maybe something will…

Darshana: And does this involve Charles? Is he going to…? Do you have any ideas, Charles? Or do you have any questions, because I don't…

Y: My question was (Darshana acknowledges.) this Fibonacci seems to be related to the Lila Paradigm due to the directed nature of the relations and the reduction. (Biljana acknowledges.) And I just wondered if you agreed.

B: What? Pardon?
Y: If you agreed?

B: Yes, yes, this is Fibonacci because when we start subsuming, when we start, we start with, for instance, with a state of direct knowledge and state of consciousness, and then we combine them or there is a subsumption. So we have one here and one here. But then also the overall state is also subsumed which is a sum of those two which is two. One and one is two.

And then this overall is also subsumed with the previous one which is one and two…

Y: Three.

B: Three. And then also the overall is also subsumed with all the previous even more so when we have circuit. And then we have reinforced, somehow, information, illusionary information. Then this is five, and so on; then eight, and so on. The process of combining the substates or subsumption of the substates since it includes all the previous ones, it is combining with all the previous ones like layers of consciousness or constituents or internal pattern of the consciousness.

Y: Yes. But, ah. Why is the square root of five involved?

B: The square root of five?

Darshana: Oh, I noticed a few…

Y: The square root of five is here.

B: (acknowledges) because it is…

Darshana: And the pentagram. Why does the pentagram work so well? It's because as you add nodes, you reach five. And all of sudden, everything ends up in multiples of five. Um, let's see if it…Yes, just basically as you nodes. Here's the possible combinations you get as you add each one more node. And only the fives are the same, like five nodes. Let's see, (counts quietly) one, two, three, four, five combinations. That doesn't apply to this because this is going around the circuit. I don't know.

B: We should read more about Fibonacci. And yes, five is in the…five is like axis of symmetry somehow. (Darshana acknowledges.) And also the ratio leads to phi φ **[Recording time 9:40]** which is square of five plus one or two or… What was that? The ratio of this one, the ratio. For instance, if we have this is…I'll write it with A and B and then later on we shall see. This is A and B. And this is the Golden Mean. In Golden Mean, the square of five is recognized. And A to B is B to A plus B. This is where it comes from (Darshana acknowledges.) because the ratio of A plus B towards B is the same as B to A. So, every sequential one is sum of the previous ones. And now once we put here A, A, here is A; and here is A. And we find the diagonal. Then this ratio here also forms a Fibonacci sequence, this to this. We should find out the diagonal and then once we find out, we shall see now. (Darshana acknowledges.) Then we obtain here, for instance, X and Y. But the ratio is the same. The same for this X to Y is as Y to X plus Y. And now we should find this, and then square of five which will appear. And then we proceed in this manner. Then X here. If we divide X, X here; and we have X here and X here and then find a diagonal, then this new formation is also Fibonacci.

Darshana: Well, I think that….

B: And when we find all of them, yes, when we find…for instance, this diagonal, this diagonal; this diagonal which is D. D is square of A squared plus B squared, this is the first. And if here, if we look at this portion, **[Recording time 12:27]** D one, D one is here. We have square of A square plus this one. We have it on the slide show (Darshana acknowledges.) of the pentagram, (Yogeshwar acknowledges.) the whole thing.

Y: The whole story is there.

B: The whole story is there and there it…

Y: But it doesn't say it in terms of the Lila Paradigm.

Darshana: Yes, I think you were onto something about consciousness and knowledge. Maybe if you could write that up in a clear way or something…

B: (Acknowledges) Maybe

Darshana: …where Charles would get (Biljana acknowledges.) what you were saying.

Y: Yes. How does this, these ratios, involve the square root of five? And…

Darshana: Why does that happen?

Y: Yes. Why does it happen? So, on that slideshow…

B: Let us open the slideshow then. Now, if you want.

Y: Well, we can do it now or later whatever suites you.

B: Maybe, we shall see. I know that the square root of five is – yes, this is the one – uh, it is squared, square root of five plus one over two. It is derived. We have the whole variation. We have the variation. Also five appears to be a central number, or number of importance, in this theory of factorization **[Recording time 14:30]** which is (Yogeshwar acknowledges.)….

Y: Yes. I think they must have something in common.

B: Yes, because he was comparing his theorem with DNA, with other structures and always he was finding five as essential. And also if we, somehow, convert the numbers into a number system of five – with the basis of five – somehow asymmetry could be discovered. (Talks to herself while looking for something) Here is square of five over two; one half, one half. Then, if this is one and this is one half, then this diagonal here, it provides the sequence somehow; we shall see. But then this diagonal is…we have one half. It is clearly square of five over two because this diagonal here is square of one half squared, plus one which is square of one fourth plus one which is square of five because here we have square one fourth **[Recording time 16:36]** plus four fourths which is one of one half square of five. So we divide the square into one half and this is the one. This one here is square of five over two. And then he puts it down there and this plus this one gives the one. And this is the ratio in Fibonacci because we always have *this* plus *this one* gives the new number, this one which is *this one*. Then the sequence, the next iteration will be this one half *plus* the whole thing which is square of five over two.

Darshana: And that's what I've been doing by skipping every other one. (Biljana acknowledges.)

Y: Ah hah.

B: So we have – and I can do the whole thing once again and it will be…

Darshana: So in my work, the half is the arrow and the one is the double arrow, the arrow that goes over two Individuals.

B: We have here, one half. We have here, one half. We have here, one. This first diagonal is, we have seen. Shall I repeat it or not? (Darshana acknowledges.) This one, this diagonal here is square root of one half squared plus one which is four (Darshana acknowledges.) **[Recording time 18:36]** fourth squared. Plus one, plus one which is one fourth plus four fourth which is one half square of five… And now this is the sequence. Now we put this down so here I have one half and here I have this one, which is square of this which is one. Now this plus this one, this plus this whole thing, which is D, which is square of five over two. This whole thing is one half, plus square of five over two which is *phi*. Now if we do – this is the idea; this was what I was, what I wanted to show. Now, if we prolong this to here, I was doing the same only the other way around. And now I find the other new diagonal. Then this new diagonal which is B prime **[Recording time 20:02]**, will be the whole thing which is one half plus square of five over two squared, plus one. We have here one and square of this and…

Y: Now you're getting bigger. (Biljana acknowledges.) Before, you were getting smaller.

B: Yes. Now I go the other way around. (Yogeshwar acknowledges) Now it's getting bigger. Then we add this whole thing. Now, once again we put this down and we got this bigger one, even bigger; the third iteration. And now find another diagonal here, and so on. And there is another definition here. AB, AB to AC is AC to CB which is Golden Mean because AB, AB to AC is AC to the sum of these two. It is easier to see on rectangular. If we have rectangular…

Darshana: Can you turn it a little bit? (Biljana acknowledges.)

Y: Well, that's not what you said. What it says there is not what you've said.

B: It is. I'll show you now...

Y: AB is to AC as AC is to CB.

B: But CB… but AB is sum of AC plus CB. AB is sum, summarizing AC plus CB. And this is why it is a Golden Mean because…I'll try to do it on two dimensional with the same, with the same.

Y: OK. **[Recording time 25:53]**

B: So we have A B and C here. So, where this is X, this is Y. X plus – what I have said previously was X to Y is Y towards X plus Y. (Yogeshwar acknowledges.) In terms of ABC to relate to this one, we have X, which is CB. It will come another way around which is the same. We have CB, this is CB. We have CB over Y which is AC. AC is Y which is AC over X plus Y which is ACB which is AC plus CB which is AB. (Darshana acknowledges.) The pathway AB, the pathway AB…

Y: Yes, that is correct.

B: And this is the same: (Yogeshwar acknowledges.) AB over AC is AC over CB. So this is the Golden Mean. And now he proceeds. CB, this is the common, the regular mean, the middle point, and this is generalization or Fibonacci. If we put AC is one, CB is AB minus one. (Yogeshwar acknowledges.) CB is AB minus one because AC is one. So CB is AB minus one. (D&Y acknowledge.) CB is the whole thing. AB minus one. (Yogeshwar acknowledges.) And then AB multiplied by one which is CB because CB is one. Ah, no, AB is one. No, AC is one.

Darshana: No, AC is one.

B: **[Recording time 24:32]** AC is one. AB upper…go – if we go to this first one, we have AB over AC where AC is one. So AB is AC over CB. AC is one. What is AB minus one? AB minus one is CB. (Darshana acknowledges.) So he has AB multiplied by CB is one. Aha, from here, from here, from here. It is AC is one, AC is one. So we have AB – *here*. (Darshana acknowledges.) AB multiplied by CB is AC square. (Yogeshwar acknowledges.) AB multiplied by CB is AC square which is one. (Yogeshwar acknowledges). So AB multiplied by CB is one. AB multiplied by CB, we have seen that.

Y: We already, just above, see that CB is AB minus one. So they just substituted.

B: AB multiplied by CB is one. Yes. We have seen that CB is AB minus one. So AB multiplied by AB minus one is one. So AB squared minus AB **[Recording time 26:16]** minus one is zero. Out of here, AB is…we have AB squared minus AB minus one is zero. So it is AB one. Two is one plus minus square of four this and this which is four, minus – the equations is AX square plus BX plus C is to zero. X one two is minus B plus minus square of four AC minus A over two. This equation is applied here. Only all of these are ones. This is minus one. B is minus one and C is minus one. So we have here one because B is minus one plus minus square of four. And A's minus one plus one is five over two. (Yogeshwar acknowledges.) So this is one plus – minus also, but it doesn't matter – plus square of five over…

Y: Yes. So I agree that that is correct. I want its connection to the Lila Paradigm. These states, what do they got to do with what you just did? Is this…this must be doing the same thing?

B: First, let us see exactly here how is the circuit presented by this table. First we have Y in a state of knowledge of M. Y is in state of knowledge of M; then B in state of knowledge. Y in state of knowledge of M. T in state of knowledge of B in state of knowledge, **[Recording time 28:45]** and so on, S, R, M once again Y. And then the second line…then the second is B in state of knowledge of M. This is the second, the dash. B in state of knowledge of M. T in state of knowledge of – and now it proceeds (Darshana acknowledges.) T in B, S in T, R in S, M in R and Y in M. And then…

Darshana: It's just all the possible combinations of one arrow between Individuals. (Biljana acknowledges.)

Y: And two arrows.

Darshana: And crossing over to two arrows. So, all the possible combinations of those two and it just keeps going. You can go around and around the circle. You just keep getting more and more of the sequence, of the Fibonacci sequence.

B: This comes here, then comes here, and then because the circuit is over, you start with two, starting two.

Darshana: It works linearly too. Though, I'm not sure what it means though. At the time, I thought it was all the possible combinations of states of knowledge and states of consciousness.

Y: You mentioned that. That's not what we're after.

Darshana: No.

Y: We're after…

Darshana: …how it produces the Fibonacci.

Y: What it's got to do with five? (Darshana acknowledges.) (Biljana computing in background)

B: Y in state of knowledge of M. **[Recording time 30:32]** So always in connection with M. T is in Y, Y in M and then once again, S, R, Y. And then the fourth, S…

Darshana: **[Recording time 30:53]** (Flipping through pages of book)

B: Here, somehow…uh huh.

Darshana: I'm trying to find an easier one, just to make it really simple.

B: No, no. This is good.

Darshana: Oh, it's OK? All right.

B: Just to see. (Darshana acknowledges.) Or if you want, fine.

Darshana: No, no, no. if this is good for you. It just seemed a bit complicated. Here's the number of possible states that exists in each of these lines. Here you get the ratio. Here you get the ratio too which is odd. I wish I had spent more time on this early this morning because it's been so long. But I know it's each new individual you *add* into the circuit, you get the next one possible number of states of all of them in one arrow and two arrows. And I didn't go beyond two arrows, so I don't know if it keeps going or if there's something special about one or two.

Y: I think there is. (Darshana acknowledges.)

Darshana: I think there is because the whole…

Y: But it obviously produces the Fibonacci sequence though it's a mystery to me why this formula is correct.

B: It shouldn't be squared.

Y: I…

Darshana: I don't think it is. It's Page 2.

B: Ah, Page 2, sorry. (Everyone laughs.) I kept thinking, "What? Why? Why?"

Darshana: "Why squared?" (Everyone laughing)

Y: I saw it there. I understand it there (Biljana acknowledges.) why the square root of five is involved.

B: In two different ways.

Y: Yes, but why is it in this one, two, three, four, five…or one, one?

B: No, the ratio. One over one to two is the same as the ratio of two to three is the same as ratio of three to five (Darshana acknowledges.) It's the same as ratio of five to eight.

Y: Yes.

B: This ratio…

Darshana: So each new Individual you add…

B: … is constant and it is square of five plus one over two.

Darshana: That's a good point. Each new Individual you add is a new fractal. It's is the same thing exactly again as you pointed out with consciousness and knowledge.

Y: But why having two pathways does that? (Darshana acknowledges.) You have this pathway and you have this pathway.

Darshana: Ah, actually…

Y: Connect **[Recording time 33: 47]** this way and then you get there. In terms of Lila Paradigm that pattern is a graviton. There's two pathways, this one and this one; and they're different in length.

Darshana: Ohhhh! So what is it that's being compared with what which makes the next level of the sequence?

B: So, every time you add one Individual backwards, (Darshana acknowledges.) you repeat the whole, isn't this so? (Darshana acknowledges.) Because we have four – Aha, this is the pattern. Y to M then one, one, one; then B to M; then all of them once again leading to B.

Darshana: It would be good if I got a very basic example and we just used it. I could do that later and you wouldn't have to figure it all out now because that one was just a rough thing I was doing. And I lost the final thing.

B: T to Y to M; T to Y to M.

Darshana: (Flips through pages) I can find a simpler one. I'll write it down.

B: We can start one now if you want. We can start one, (Darshana acknowledges.) for instance, if you have three Individuals, M, Y, B, and first we have M to Y, Y to B, B to M.

Darshana: Yes, here it is.

B: **[Recording time 36:00]** Y. Y, B, M. This is first iteration and now a second. You start from Y to M. (Darshana acknowledges.)

Darshana: Yes, you just have two in that one.

B: Y to M…

Darshana: Well, except that it's in **a** circuit. **[Recording time 36:26]**

B: And you combine it with…

Darshana: That's it for two.

B: …combine it with this previous one?

Darshana: I don't remember. I've got a linear one here and that's a whole different thing.

B: Ah. Ah hah; OK.

Darshana: But something happens when it's in a circuit. **[Recording time 37:02**]

B: Ah hah. OK, a linear.

Y: Linear is easier.

B: This, this, this. For instance, if we start with four and we have A, B, C, D, E. We have A, B, C, D, E. We have A to B, B to C, C to B.

Darshana: All right, there's a five, five**. [Recording time 37:34]** Let's do it with five.

B: Then you have A to C, A to C.

Darshana: Oh, you are doing it with five.

B: Then B to D or A to D next.

Darshana: (Paging through book) Well, here's one with five, B, Y, M, R, S. OK, here's with just one arrow between each one. Here's with one, two, one. Here's with two, two, one, one, two, two, one, one.

B: Ah hah. That's iteration. **[Recording time 37:54]**

Darshana: In all, there's five. If you have five Individuals you get one, two, three, four, five Individuals, you get five combinations. If you have – the rest of it goes also according to the Fibonacci. If you have four, you get three. If you have – how many you think this is? Four Individuals, you get three combinations. If you have three Individuals, you get two combinations.

B: Ah. The overall number of –

Darshana: And it keeps going eight, thirteen, etc. as you add. That's all it is. It's just really simple. It's how many possible combinations…

B: Uh huh. All the possible combinations…

Darshana: …of this, and that –

B: …in, first, one elementary circuit, (Darshana acknowledges.) then you add one Individual, then you add another…

Darshana: And if you're in a circuit you can keep going around the circuit. And it will keep giving you more and more Fibonacci.

B: Uh huh. Yes, yes, yes, because whenever you add…

Darshana: Yes, which makes sense…

B: You include all the previous …

Darshana: – all the previous ones. Yes…

B: which is Fibonacci actually.

Y: Yes.

Darshana: So, that's all there is to it. I don't know what it means.

Y: Why is the square root of five involved?

B: Because of the ratio, because of the ratio in Fibonacci.

Y: The ratio is always the same.

Darshana: Of what to what?

Y: Why isn't it the square root of seven when or…?

Darshana: Is it the ratio of this to this?

Y: …or some other odd number?

Darshana: In this, what is the ratio? Oh, it's this to this. OK, it's…

Y: Yes.

B: You got square of seven in another kind of consideration **[Recording time 39:35]** which is also somehow connected with the Lila. For instance, in this Random walks of Szekeres here, he has one, then one. His thinking is different than the one of Baker's. He does not throw new and new arrows as we always do, but the whole approach is different. He has, for instance, a field of non-physical Individuals and now randomly, he makes a step. We don't know where the step – east, west, south, north – and he… because, for instance, they could be at one step he might establish a connection. And now one…if we find the square, the diagonals of this triangle of one and one, the square is the square of two because… one squared plus one squared is square of two. (Yogeshwar acknowledges.) Then here, the next step might be here. And it is once again one. If we have one here, then this…this is diagonal D, this is D-prime. **[Recording time 41:00]** Then D-one will be square of D squared, plus one which is square of three. So this is square of three. Now here, square of three squared, plus one squared, gives square of four which is two. And now, once again, we have here square of five. Now, once again, we have square of six; and now, once again, there square of seven. And this is square of seven. Square of seven is…

Y: All right, so?

B: You asked why no square of seven. (Both laugh.)

Y: Yes. It's not square of seven; it's square of five.

B: Yes, it is because it is the way how it is obtained. It is obtained in this way. Maybe the first…it…the first step is bigger. For instance, if I start with the – and then he goes to pi. This is interesting, finally. But this is another consideration. Because when he closed the circuit… he closed the circuit going in this square of eight and so on. It is like as if he has closed the whole **[Recording time 42:32]** circuit and it is as if the radius is pi.

Darshana: Hm. I was just looking at this and if you start with M arrow M, you have one Individual; you have the first - that number of the sequence. If you have M, R, you have two Individuals; you have one, three, two, four, and that's how that works. So, if you were…if it's the ratio which is important…

B: Yes, the ratio.

Darshana: …then it would be one Individual to two Individuals is the ratio of one to one. And then it would be two to three is one to two; three to four is two to three; four to five is three to five. So, if the ratio is important then that's what you're actually dealing with. The ratio of one more Individual to the previous number of Individuals as a comparison to the number of possible combinations. That **[Recording time 43:50]** compared to the next number of possible combinations. Here with three Individuals it's, three to four would be two to three. (Biljana acknowledges.) And does that mean anything?

B: Every new Individual included somehow also includes square of five into picture.

Darshana: Yes, somehow.

B: We know how. In the manner that the ratio …

Darshana: *Here* (points to something)

B: Yes. The manner explained here.

Y: Two point two three.

Darshana: So it's *this* being compared to *this*; *that* is compared to *that*. And that is…

B: It's like symmetry.

Darshana: Each is a fractal of…*That* compared to *that* is as *this* compared to *this*; yes. Why? Like, I know in a way why; but basically why? Each new Individual you add, you get a new…

B: …number of combinations…

Darshana: …that fits perfectly with the previous comparison. (Biljana acknowledges.) As long as you're doing comparing, adding up how many possible ones of one arrow and two arrows. So, that's all I've found and I haven't figured out what it means; if anything at all. It just seems strange that that should happen…

B: With every new Individual added into the elementary circuit, the number of combinations rises…

Darshana: …according to the…

B: …and the ratio of each step is a constant.

Darshana: **[Recording time 45:48]** Individual…

B: Fibonacci…we should have a book on fractals (Darshana acknowledges.) maybe; uh huh.

Darshana: Well, it won't tell us what this basically is but… (Biljana acknowledges.)

B: It could tell because there are different ways of obtaining Fibonacci. (Darshana acknowledges.) Maybe some of them are closer.

Darshana: It's very much like that one with the rabbits.

B: Basically it comes to this: with every new item added – in our case this is a non-physical Individual, (Darshana acknowledges.) and since you…if you happen to picture combinations of all of them to be of interest in that particular problem, (Darshana acknowledges.) then you include Fibonacci. By the force of the fact that it's Fibonacci because every new adds all the previous ones. Every new adds all the previous ones.

Darshana: OK. And that's all there is to it then **[Recording time 46:50]** actually adds all up.

Y: Yes. Well, that's fine. But for any one ratio…involves the square root of five plus one divided by two, is 1.618.

B: Yes, which gives a perfect symmetry.

Y: Yes. And the whole world is just full of it.

B: Yes. The moving **[Recording time 47:20]** co-planets. Maybe we should go to Professor (?) Tommich's presentation of the solar system where we also find in solar system, also, the distance between sun and the Mercury; and sun and the Venus; and sun and the Earth; and sun and Mars, is Fibonacci. If you find this ratio towards this one, it's the same as Earth… sun-Earth towards sun-Venus is the same as sun-Venus towards sun-Mercury. And it's Fibonacci.

Y: That's a consequence of gravity. Gravity is the one that we were looking at, (Biljana acknowledges.) gravity.

B: Yes. And this is how Fibonacci is intro…

Y: And it's the same thing she's doing.

B: It's the same she's doing. Yes.

Y: And I'm just trying to see if we can put two and two together.

B: OK. This is great because, yes, this is gravity…

Darshana: This is why five works in this… (Laughs) A, B, C, D – I'm going to use numbers instead because there's five of them. And if you do all the crossovers…

B: Yes, it is K5. **[Recording time 48:48]** of K5.

Darshana: So five is really special because it's the only one where every possible combination and every crossover is the same thing. Soon as you get six, you've got some that aren't like that; or if you have a lower number.

Y: Good point.

Darshana: Yes. Well, now we know. Except that, we don't really know.

B: So this is – and you count the number of combinations. So, one…

Darshana: That one **[Recording time 49:32]** should be only two because there's only three Individuals.

Y: Well, you have to count the one; the first one. It's one, one, two. And that ratio.

Darshana: So, *that* is to *this* as *this* is to *this* as *this* is to *this*.

Y: Too many *this'*s (Everyone laughs.) and not enough *that*'s.

Darshana: Well, we don't have them **[Recording time 50:08]** labeled. But A is to A; no. A by itself is to A accepting itself; as A or B. Well, there's nothing here. (Turns pages) **[Recording time 50:30].**

B: One, two?

Darshana: Yes. One possible combination of one Individual. Here's two Individuals. There's only one possible combination because you…I don't know why you don't go back to that, though. I've never used this before.

Y: I think this is worth pursuing. However, I would like to call it off for now. And each one of us as we see fit can work on it in private. We're not breaking through. And I think we need to have a fresh look at it. I know that once she gets a hold of something, (Everyone laughs.) she doesn't like to let go until (Biljana laughs.) she gets it solved.

Darshana: 'Til it's all worked out.

Y: Same with her, (Darshana acknowledges.) where I'll give up the first thing. (Darshana laughs.) You had talked about the possibility of doing something with the W boson. (Biljana acknowledges.) Nothing during your break…on that?

B: Ah, no.

Y: That's alright. I just wanted to find out.

B: It requires time because I shall a lot of – you know, I have…first of all it is system of three equations. I'll do all the equalities: this circling over the smaller circuit to equalize with the bigger. This is first equation. Second equation: circling over the first circuit equalized to the biggest circuit. And third equation: smaller to the bigger. These are three equations. But also I'll have, because here I suppose I have F of I; for I is three. And with the introduction of the second crossover, I have **[Recording time 52:56]** Y, F of I with I four. I shall have 4th square of N 3rd, of **[Recording time 53:08]** – 4th square of 24N 3rd which is 24. It requires a lot of...

Y: Yes. I can see.

B: …calculation, a lot of calculation. Then here I'll have because these are forks of three...maybe it should be simplified to suppose, since we are already doing approximation, the smaller circuit to be F of I for I is two which also makes sense because I is two is four – no, it should be I three. For the first fork structure is I three. It is an approximation. It requires a lot of… (Yogeshwar acknowledges.) At least three hours or four.

Y: At least (Everyone laughs.) with undisturbed.

B: OK. One night.

Y: Yes. OK.

B: I'll proceed it. I'll do it. I want to do it.

Y: Sunday.

B: Sunday.

Y: That's OK.

B: Although, one other approximation which is introduced into this picture is: I here introduce F of four which is not justified, actually, except for that here… Maybe it is justified because I have fork of three here. I have one crossover, second crossover then the circuit and then, if this is the referent Individual of the circuit (in whose consciousness the reduction takes place), this is the fourth arrow. And so approximately, this is F of four. (Yogeshwar acknowledges.) So the second crossover with the seemingly illusionary circling over the second circuit will be N minus F of 4 – twice, because of this, twice, (Yogeshwar acknowledges.) multiplied by Y, for instance, because now I could not use Baker's assumption that 4 X plus one, because I don't know. Maybe in one bit we shall have here (Yogeshwar acknowledges.) bigger number of circling than just one.

Y: Harmonics.

B: So it should be another variable, Y, and this is equal to **[Recording time 55:59]** 2X N. And then 2N minus F of 3Z will be 2XN. And then 2N minus F of 3 Z– which is all in the same – will be 2N minus F of 4Y. Or if it's – this is all assumption – if I suppose that Y is… that in one bit we shall have one more circling around the smaller circuit, then it would be simplified instead of Y, to have X plus one. In order to somehow to – a lot of assumptions.

Y: Some other time. (Biljana acknowledges.)

B: Uh huh. This sequence is also go to square of five which might help. You see? This sequence also leads to phi one **[Recording time 57:20]** which shows why maybe adding the new Individual… (Darshana acknowledges.)

Y: Well, why stop at five?

Darshana: You don't have to. You keep going.

B: If you have this over this, they converged over this. (Darshana acknowledges.) And they converged over this. For instance, this is one approximation which is very far away from phi. The other one is closer. The third one is even closer; this one is even closer. They all converge. This is the limit of this sequence, (Darshana acknowledges.) the Golden Mean. It's a Golden Mean because it is a mean because five is in the middle.

Y: I want to make a prediction for a **[Recording time 59:00]** experiment. (Biljana acknowledges.) We have these various patterns, and so on. (Biljana acknowledges.) In our curve these occur during this period of time. (Biljana acknowledges.) That's when these occur. And they're isolated. They're little baby universes. And you count the arrows. The arrows are bosons. So the bosons in these patterns are Higgs bosons. And they go right up to about F27 where you've got 27 arrows in a pattern. Then you get a circuit and the whole thing changes. All this…all these are Higgs bosons, as they call them. They actually involve both bosons and fermions. But they don't recognize these as fermions, so they call them proto-fermions. We have proto-fermions which don't have spin and don't in themselves have mass. The Higgs particles are scalar, so that they're not vectors. They just have magnitude and that magnitude is the number of Individuals involved in order to expect one of these. (Biljana acknowledges.) How many are in this particular arrangement – so this would have more energy or more mass than this one because you have to put in more arrows in order to get a pattern like this. And the more arrows, the more mass. And the more mass there is the more energy. (Biljana acknowledges.) So I'm just predicting that they will find up to 27 Higgs bosons and so called Higgs particles. However, they will find two or three in the first few months. But when they find four or five, they'll get excited. So the graviton is an F3; this one is an F3 because it's got 3 bosons. When this comes out, where is it? Here it is. This is the temperature of the universe. And the first time one of these will occur, the temperature of the universe will be about 10 to the 39^{th} Kelvin**. [Recording time 63:54]** And that is a prediction. Now, their accelerator doesn't go that hot. Even when they're smashing together with all that power from both ends, they still can't reach that hot. They'll be about in this area. And they'll have this far to go. Nevertheless, I'm making a theoretical prediction that it's 10 to the 39^{th} Kelvin which is 10 to the 17^{th} billion electron volts which is right here. (Looking through papers for a while) Give you few more formulas. You saw that paper I had on the gravitational constant (Biljana acknowledges.) with the big **[Recording time 66:00]** formula. (Biljana acknowledges.) But it can be simplified. And, so that big G is equal to the Planck length Q (lpq) divided by Planck time, or ptq, that ratio multiplied times the Planck length squared. Now I did a bunch of calculations on the mass of the neutrino. And they haven't been able to determine what the mass of the neutrinos is by measurement. So I can't check whether my calculations are right or wrong. The reason I'm telling you these is so we have predictions. (Biljana acknowledges.) And if you have it in Macedonia and I say, "Well, I made a prediction," and they say, "Well, you could have just written this today. Now that we've done the measurement, you could have just said you did it last year or the year before." But if you have it, I can tell them, "Well check with you." And they'll see that you already had it.

B: Here you said G is Planck length cubed (Yogeshwar acknowledges.)…over Planck length cubed multiplied by Planck length, once again, squared?

Y: Squared; yes.

B: Because it will be lpq on the 5^{th}.

Y: The 5^{th}; yes.

B: OK, it's correct. OK.

Y: The reason it's written that way is because logically it makes sense.

B: Yes, yes. It has meaning. So you predict 27 different bosons will be found.

Y: Hm?

B: You predict here 27 different bosons they will find? What will happen? The circuit…

Y: Yes. Higgs bosons, 27 different types of Higgs bosons. (Biljana acknowledges.) Their current theory predicts there will be one; another theory predicts that there will be 5. Another one says, "We just can't figure out how many there are." (Everyone laughs.)

Punita: Good prediction.

Y: So they spend billions of…billions and billions of dollars building this machine that's 27 kilometers around, to see what the answer is. One time I was trying to correlate everything that I knew about the Lila Paradigm (Lots of paper noises) **[Recording time 69:45]** on one big table. These are the F numbers. This is the phenomena that they bring about. And these are formulas and the time in terms of how many imaginary time units and the time in seconds. And if space was involved with all the…the advantage of doing that, it showed up my errors (Biljana acknowledges.) because some of it made sense and some of it didn't. But by coordinating it, it all came together. And then I was able to correct the errors and what were the radical theories. So this has wrong assumptions in it which is why I'm not giving it to you, just giving history. This is all the formulas for the Planck length.

B: So what would be, according to you, the structures of these 27 bosons?

Y: These. (Biljana acknowledges.) There would just be more and more and more.

B: Up to 27. Uh huh.

Y: Actually, this will be here; and this will be here. So you have a circuit like that. See? So that gets that structure. Or you could say that the circuit is one arrow and these are the…so there will be more and more dimensions. (Biljana acknowledges.)

B: And each one will give another type of boson, yes, just as the beginning we have…

Y: But these will decay so rapidly (Biljana acknowledges.) that they'll be unable to measure them directly. But they do measure by the affects they create. It's a nice article that Karuna got for me about how they're doing all this. (Biljana acknowledges.) It's from a science magazine. But it's using the circuit as one of the arrows; and then one, two, three, four, five, six, seven, eight, nine, ten…twenty-seven. I have one last thing for today. It's, ten to the e to the pi. (Everyone acknowledges.) And I'm not sure what the square root of minus one has to do with it. But you tie it into that formula, that equation. (Biljana acknowledges.) And what does that mean? Well, in Feynman's work what it means is the amplitude. And the amplitude has to be squared; and so you get minus one. If you square the square root of minus one times the square root of minus one you get one, don't you?

Punita: Uh huh. Minus one.

Y: Huh?

B: Minus one; uh huh.

Punita: Right? The square root of minus one squared?

Y: If you square the squares root of minus one…

B: Minus one; you get minus one.

Y: …you get minus one. (Punita acknowledges.) What does it mean? I don't see any minus one.

B: You know, the circling over the circuit brings the imaginary unit into the equation.

Y: But why does it do that?

B: Yes. Why? I was thinking also why. For instance, this is [**Recording time 74:30]** Gauss's idea, Friedrich Gauss, to represent the complex numbers…

Y: But why are we dealing with complex numbers at all? What's the advantage? I can see it in the mathematics; but I don't see what it has to do with any reality.

B: Otherwise, in mathematics you have, for instance, sine of X is…you have sine of X, co-sine of X, and e to the I X which is – I know what you are asking. But just to show some other points. (Yogeshwar acknowledges.) e to I X is co-sine X plus I synosex (sine of x) **[Recording time 75:28]** which are all vibrations or circling around the circuit which we have. And if we…

Y: But we're circling around the circuit. It's non-physical and it's generating space in the illusionary realm of the consciousness of Individuals. (Biljana acknowledges.) But what does it…and, but it's not actually circling.

B: Yes, I know; I see. It's continuous.

Y: It's going to a circuit.

B: Never mind. It is going to a circuit. It has a period. And whenever it has a period, we have I into question. I which is square of minus one.

Y: Uh huh. I believe you.

B: Yes. I know.

Y: But that's in the mathematics. (Biljana acknowledges.) What's it got to do with individuals and their relations? OK, go ahead.

B: If we scramble this…if we present this as a sequence, we have, for instance, X minus X3 over 3…or plus…X5 or five factorial and so on. And here we have X squared minus X over four factorial; and if we add this together we get e to X. So this is why if we summarize this sequence with this sequence we get e. This is where from the connection between complex numbers and the possibility to represent them into a plane, comes from because when we have complex number this is presented as if this is the…for instance W. We have here the real part of W. We have here imaginary part of W. This is X; this is Y. And W is square of X squared plus Y squared when this angle, alpha, is arc tangents **[Recording time 78:04]** of the imaginary part over the real part. And also it is, this W…so the W could be represented as model from W, e to the I to the imaginary over the real part. This is how I is presented. I is… in this way, we have I. And another way to have e to I is, e to X is one plus one over X to X demus (?) of this one, demus, when X goes to infinity. And if we have two accumulating points this is also (?). **[Recording time 79:08]**

Y: Let me ask a simple ignorant question.

B: I know you said…

Y: Why not just use Y here and no imaginary coordinate for the coordinate? Why not just use Y? Why use imaginary in the first place because somehow it enters into sine and co-sine? With the trigonometry that I studied, (Biljana acknowledges.) the trigonometry of sine and co-sine and arc tangents and tangents didn't have anything to do with imaginary numbers in trigonometry.

B: When you observer the moving of the representative point over the circuit, its projection is sine and co-sine.

Y: Yes. That I understand.

B: And sine and co-sine introduced I into picture in such a manner that e to I to X is co-sine of X plus I sine of X. And we have also in particle physics, very often we meet this.

Y: Yes, I know. And I don't know why it's there. I is square root of minus one. So why couldn't…if minus one has to do with the coordinates…we're talking about minus one below the origin? Are we talking about a minus one and taking the square root of it? I don't see where the minus one even enters in. Because you can just move the origin and you don't have any minus anymore. (Punita laughs.) See what happens when I quit the university; I didn't study the complex numbers. I only finished advanced calculus.

B: I was thinking also of these questions. And I was searching for an answer. (Yogeshwar acknowledges.) It is not so simple to do it because it is hundreds of years of mathematics to come to this. If you have e to X, you have neither co-sine nor sine. And e has a meaning. (Yogeshwar acknowledges). But if you have e to I to X, then you have co-sine and sine into picture. So I should be inevitably **[Recording time 81:52]** I is needed into picture in order to have projection which is sine or co-sine of moving of the circuit.

Y: Yes. I believe you.

B: Without I, I don't have neither vibration, nor sine, nor co-sine. So vibration is included. Vibration brings into picture I which is square of minus one. Now maybe the answer could be found if we go like this. We have I which is square of minus one. Then we have I squared, which is minus one. Then we have I and I and I which is minus I. Then we have…which is…

Y: So, that's closed. **(?)**

B: And we have also this equation: e to I to p is minus one. We have circuit here also. We have, like, traces of circuit in this equation, and minus one. So minus one is somehow connected with the circuit and with vibration.

Y: Right. And that's exactly how Feynman used it, to describe the photon.

B: What is square of minus one? So we are asking, "What is this number, or this quality, which if we take it twice – which we self reference it – (Yogeshwar acknowledges.) brings us to minus one?" Because to square something…

Y: Exactly.

B: …to square something is to take it, and to take it once again. (Yogeshwar acknowledges.) To take the same thing…to do the same thing once again, it is self reference. (Yogeshwar acknowledges.)

Punita: You've got a negative area.

B: A negative area, yes, an imaginary realm which really does not exist. For instance, according to Lila, all that exist are positive integer number of non-physical Individuals.

Y: Are we talking about the complement to space?

B: If it is outside (Laughs) what exists? Because you say, "All that exist is this." Somehow, yes; it introduces something.

Y: Yes. Well, this is in the right track. What?

Punita: You've talked about energy as area. (Yogeshwar acknowledges.) And here you have a square with minus…the square root of minus one on either side, the area of which is in the square root of minus one which is a negative energy, or a negative…

Y: Well, it's minus one, actually.

Punita: Yes, that's a negative.

Y: Yes, a negative area. I don't know what that means.

Punita: A negative energy; if you look at area as energy. I don't know what that means either. But…

Y: I don't know what it means either.

Punita: But the same terminology applied…

Y: I know you can say, "Well we had so much energy and somebody took it away. Now we have less than that (Punita acknowledges.) and so that was the negative action." But that's just making an arbitrary origin.

B: We are searching for something…

Y: I think it's a mathematical trick and it doesn't have any physical or ultimate reality; either one.

B: Yes, because it appears when you introduce imaginary space and time. Once you introduce imaginary space and time, then you have imaginary unit. Because it is imaginary, it is so.

Because when you – I is introduced into picture, once you have circling over the circuit which happens just seemingly, yes it is so. But still it helps. Maybe it is the chronic argument. He also, and Pythagoras. Maybe they…

Y: Well, I think that may be true. Just like in the Lila Paradigm, I'm suggesting that each arrow has an imaginary amount of time. (Biljana acknowledges.) Whereas, actually, to represent an illusionary time unit – like the Planck time; that's thought of as real. Whereas, this T.I. is imaginary. It's not really a period of time. It's not really a period of duration. It's just a mathematical fiction. And that's why I think you wanted to call it, 'the time quantum'. But it doesn't represent any actual duration or passing of time. It has to be in this structure in order to do it. And when this is in the structure, that structure has to be reduced in order to produce a consciousness of the passing of that much time. So, I think the reduction has something to do with it. And I think this is what Penrose was trying to talk about when he was talking about gravity collapsing the wave function. And that was that it would go from *this* to *this*. And these are imaginary. But this is illusionarily real. (Punita laughs.)

Y: I know I'm on to something there. But I'm not sure what. But I appreciate you taking a look at it. And every once in a while we might take some more look at it. (Biljana acknowledges.) Because I know when you sent through the e-mail the connection with Euler's equation, that it means something. And you asked, "But what does it mean?" And now I'm saying, "What does it mean?" It's like voodoo. (Biljana acknowledges.) So I'm just asking these questions, discussing them a little bit. It may take us months or years to solve them. (Biljana laughs.) I don't know. But I'm asking so that when we have this chance to sit across the table and talk about it and then maybe you or I or Don or Darshana or one of your students will say, "Well obviously it's such and such."

B: It is somehow…For instance, what is the question here? Or one way to put the question? What is this number...or this something – maybe we shouldn't call it number. Maybe it is something else than number. What is this that…when we – what is the word, when you put the pressure to something? When we put it into the same circumstances as if itself is, like to express self-reference somehow, gives minus one. What is this something which when undergone the same process which it itself represents gives minus one? For instance, the question, "who is shaving the barber?" This is self-referential. (Yogeshwar acknowledges.) It is self-referential. What is this something because this is squaring? Squaring to have something, and – because multiplying is 'and' – and to have this something once again. Or in terms of processes you have one process and then this process has undergone the same process which it itself represents.

Y: Feedback?

B: Feedback. It is…

Punita: Recursion?

B: No.

Y: It's like being conscious of yourself.

B: Yes. Like being conscious of yourself.

Y: But does I have a value, a magnitude? If you square it you get minus one.

B: Yes, which is what? You are…

Y: Which is what; less than nothing. (Laughs)

B: Yes, but you're stepping into the world of imaginary ones who represent time unit whatever it is. And once we represent time unit we have circling around the circuit. And it represents projection, imaginary projection which is sine and co-sine; which includes this I. But what it elementary is, is something that…so by introducing Y we are introducing – because *we* are introducing I. We don't measure it, but at one point we see that we need this I. And we say, "Minus one, for instance does not exist because there is no such thing as negative, or non-existent nonphysical Individual. They all exist." So we are introducing something not existent. And so I is not existent. Once we introduce manifestation or… because consciousness is also an illusion. It is imaginary reduction of…

Y: Maybe we don't know what one is.

B: Yes. That's another…or what minus is…

Y: We got ones over here, plus ones. And we've got minus ones over here and we don't know what either one of them is. (P&Y laugh.) What is one? It's got something to do with you. You're one. You're one. (B&P acknowledge.)

B: Something indivisible; indivisible. (Yogeshwar acknowledges.)

Y: Indivisible.

B: One; indivisible.

Y: One nation, indivisible. OK. The question is asked. Let's see if we come up with something before too long; maybe, maybe not. Then we can talk about it.

Punita: It's a good question.

Y: It's the same question as, "What is one?" (Punita acknowledges.)

B: But one squared is one. (Laughs) One and one is one.

Y: Yes. One time one is one.

B: And this oscillates. This is square of minus one, then minus, then minus I I I then minus square of minus one. It goes around the circle. (Y&P acknowledge.) It goes around the circle of one.

Y: And Penrose doesn't discuss this. I read his book on complex numbers and he just waves his hands over it and does the mathematics very nicely. (Punita laughs.)

B: Ah, but this is (?) **[Recording time 95:52]** And now that we came to Penrose, in his *Shadows of the Mind*, when he's introducing these mirrors… (Drawing sounds) we have mirror here, then mirror, then mirror, then mirror. (Yogeshwar acknowledges.) And then, for instance, this beam split…when we have splitting of the beam under the – in orthogonal manner… (Yogeshwar acknowledges.) Then he has minus I here; minus I where I is square of minus one. For instance, this is…and then…I need to see the book. We have I plus IB. But if it is orthogonal then it is A minus IB. The orthogonality is I which is what I is in complex plane as well. In complex plane the real numbers are here and the imaginary are orthogonal.

So whenever we have orthogonality we have I.

Y: In this example, yes. But you don't always. When you have orthogonal coordinate systems it's X and Y; both positive numbers.

B: Because maybe these particles are waves.

Y: They're what? Waves?

B: Waves.

Y: What's a wave got to do with it? Is continuity making it minus one? Or I?

B: No, the sine and co-sine might make it… this is…

Y: But you can have a sine wave that has no negatives in it. You just have your coordinates be down here. Here's the origin and these are all positive numbers.

B: No. It is not because they are negative. It is because they are projection of moving through a circle.

Y: Well, that's one way to do it.

B: Because e to I is co-sine X plus I, sine X.

Y: The different mathematic teachers that I've had would not stand to have me ask these questions. (Laughter) You're the first one that's put up with me. I asked my math professor in college; I said, "What does one stand for?" (Laughs) He just laughed and went on with what he was doing. I was sincere though. I was sitting in the library working on my mathematics and it suddenly occurred to me, "We don't know what one is." And I still don't know what one is except for a nonphysical Individual…is the only one I can find. One of us, two of us, three of us, OK. But I don't see any minus Individuals.

B: Yes, it is in the illusionary realm. But you could not predict 27 bosons if you don't have circuits and…

Y: Yes, it works very well. And he made marvelous predictions using complex numbers. Feynman used it in his electrodynamics and he predicted 11 decimal places; measurement came out *exact*. But he took two years of his graduate students' time to do the calculations. (Y&P laugh.)

B: And instruments.

Y: But he had a wonderful sense of humor also.

B: In Cern, **[Recording time 100:15]** they are preparing this experiment for 15 years, 2000 people. And once they get the results they will need two years to analyze them and to throw away what is not needed. And then in this collider **[Recording time 100:34]**, which is 26 kilometers or what, if we make intersection here there are 10 billion circuits, electronic circuits, in just one intersection.

Y: And it's all super-cooled.

B: And it's all super-cooled; yes, yes. (Laughter) So it is tremendous, it is unbelievable. Fifteen years, they are preparing the experiment. (Yogeshwar acknowledges.) 2000 people with computers, computers, computers. When I was there, it was the whole room was full with computers and people connecting…video conference with Paul Davis. Then another one. Five noble prize winners have been introduced.

Y: Yes. Carlo Rubio won…this is just to end this period. Feynman one time was looking at a map and he said, "I want to go some place different." He said, "Well what's this Tuva?"

B: What?

Punita: Tuva.

Y: Tuva; Tannu, Tuva. It's sort of like an appendix on the Soviet Union; between Soviet Union and Mongolia. And he says, "That's where I'll go. I'll go there." So he applied to the Soviet Embassy for a visa. They wouldn't give it to him. So he put some pressure on them because he's a Nobel Prize winner. He put some pressure on them. And pretty soon there were these guys standing around his house. (Laughter) They thought he wanted to go there to spy. (Laughter) So they were checking him out to see if he had. And it turned out those were the FBI men that Herbert Hoover thought maybe Feynman is a Commie spy. (Laughter) So, for years he kept after it and even supported certain members for Congress so that they could put pressure on the U.S. government to try to get that visa out of the Soviet Union.

B: He was stubborn, stubborn. (Laughs)

Y: And they planned it and planned it and they finally got a visa. Then he got so sick from stomach cancer that he couldn't go. He said, "The one thing I regret is I never got to go to Tuva." (Laughter) That's my kind of guy. OK. When I start telling bad stories, well, you know it's over for the day.