#45
Formal talk-07112006 Morning day20
Lila recording day 20, morning
09/11/2006
091106001,
1 Hr 46 min
Recording 45

Don: And it is…

Darshana: It would be funny though. It's like there is no one there or something.

Y: Ok, now?

Don: Yes, thank you.

Y Now the idea here is for you to try to tie in Gödel's theorem with the Lila Paradigm, and then with feedback. Let's see what we can develop.

B: Yes, yes.

Y: Because I only have a limited…as I mentioned yesterday, a limited idea about how it would apply. It was only that a robot can't be conscious.

B: Yes, maybe there is some more to. First of all, I have done this. I'll give it to you. This is the illustration of why the identity element is ones and not zeros.

Y: Ah, yes.

B: Shall I…here it is. Shall I explain to you, or not?

Y: Yes. I'll just take a quick look. So, of the matrices, the referent graph, the complementary graph, the neutral element. Ok.

B: The question was whether a matrix of zeros could also somehow be neutral element or identity element? The answer is no and why? We have first the referent graph which is representing an assemble (ensemble) or arrangement, and then the neutral graph which is made of states of no knowledge.

Y: The complementary.

B: Yes, the complementary graph which is states of no knowledge, and then the neutral element or identity element.

Y: And this symbol stands for?

B: This is Darshana's. It could be Yahweh, you know, Yahweh for God. But actually there is…actually in discrete mathematics, they also use symbol J. They use symbol J for ones. And they use E for a matrix which has just once on the main diagonal. It is like unit matrix; and this is J. But we could change it, of course.

Y: (Acknowledges)

B: So the connection between them is, since our group is defined over the operation n which is summarizing actually, we have the referent graph plus complementarity graph, give us the identity matrix or the neutral element. This means that when I subtract the referent…the complementary graph from this one, from the ones, from the identity element, I'll get the referent graph or the other way around which is all the same. So I have written here all the…for the matrix of type 3 times 3, three rows, three columns.

Y: (Acknowledges)

B: And I have written just for sake of completeness, all the members. For instance, G1 one complementary is one minus G1 one. G1 two complementary… complement is one minus G1 two. G1 three, and so on, and so on. So from each element, each element is obtained when…from the appropriate one of the identity matrix, we subtract the appropriate member.

Y: (Acknowledges)

B: So this is obtained, one minus A1 one. G1one. This is obtained when we subtract one minus G1 two. This is one minus G 1 three. This is and so on, and so on. So G2 is one minus G2 one. They are all even here. And now in our referent graph, we have either zeros or ones. So if we have one, one minus zero will be one.

Y: (Acknowledges)

B: One minus one will be zero. And there are no other cases since we have just ones and zeros. So either we have one minus zero, and it gives us one into the referendary…into the complementary graph. Or we have one minus one; and this give us zero in the complementary graph. So these ones are from the identity matrix…

Y: (Acknowledges)

B: Made of ones, these ones and zeros are all the possible cases which are just two of them, zero or one.

Y: (Acknowledges)

B: From the referent graph, and these are obtained. Green ones are obtained results, ones and zeros in the complementary graph. So if the input or the element we are subtracting from the identity matrix is zero, we obtain one. It is just like this; zero turns into one.

Y: (Acknowledges)

B: It turns into one. The other case possible, and there is just two of them, is from the element one. They are all ones, from one…

Y: Yes.

B: We subtract one. And we obtain zero in complementary matrix. Once again, it is like this one turns into zero.

Y: Right.

B: So zero turns into one, one turns into zero. And that's all that could appear. There are no other cases. It is complete table of all the possible cases. So this is referring to the ones. This is referring to the original graph. And this is referring to the complementary graph. Now the question was whether it could be zeros.

Y: (Acknowledges)

B: Some how.

Y: All zero in the…

B: All zeros. But, no, we won't obtain this result. We want to obtain complementary graph or the potentials. What is missing towards the fully enlighten universe. Now pure mathematically, if we have zero, we should have zero minus…zero from the supposed neutral element made of zeros, minus zero belonging to the referent graph/original graph.

Y: You get zero.

B: It gives zero so we don't have the effect. We want zero to turn into one.

Y: (Acknowledges)

|B: We have zero and even worse if we have one. If we have one…so we have zeros in the supposed identity matrix, minus one from the original or referent graph. It is negative; and it shouldn't be negative. So zeros are o
ut of question. We could have neutral element of zeros.
9
Y: Yes.

B: So, it is ones. It is magna (?) states of conscious (?)
8:35
Y: It is clear; and I understand.

B: Yes.

Y: Danke.

B: Ok, thank you.

Don: Can I photograph those?

Y: Huh?

Don: Can I photograph those?

Y: Sure.

B: Now somehow, I believe this presentation should be useful. If along the way, we find out that it is, maybe, not leading to what we want, we could just go through it quickly. But I'll try to find out some useful elements because when I say Gödel, I don't mean just Gödel's law of incompleteness. I mean also the whole path of starting with very elementary formal logical system. Then go to more and more and more sophisticated ones until I reach the point at which the formal logical system introduced will be so much developed and so sophisticated. Then in it, in this final product, will be possible to define self-referential statements which actually who am I. This is a robot asking who am I? And along the way, we could also recognize Zeno's paradoxes, all this paradoxes to which we…which we encounter when dealing with physicality. And so, this is not just that we could conclude what robot could…what robot cannot. We can, or non-physical individuals can, it is not just that, but we could also along the way recognize all these ancient paradoxes, finally ancient picture in which a dragon or a snake is eating his own tail, and so on, and so on.

Y: (?) Ouroboros, "tail-devourer."
11:06
B: Hun? The *kaha* (?) the…

Y: Yes, the *mitgard*, swallowing its own tail.

B: Yes, swallowing its own tail. Or the peasant wanting to raise him up by pushing upwards his own boots.

Y: Boot strap.

Don: Boot strap.

B: Boot strap, yes. Boot strap, ah! yes, boot strapping. We have boot strapping.

Don: (Acknowledges)

B: So this is…I mean there is a different meaning to it. There is a different meaning. It is not just Gödel's law of incompleteness; or not just a simple notion what robot cannot consciousness can. I believe it is more to it. And at least the logic which is introduced with…in this simple formal logical system could be used. And now to begin here, different self-referential pictures are introduced here. Here there is a viewer who is observing the town. Then in this town, there is a gallery. And this is the gallery in which he himself is standing.

Y: (Acknowledges)

B: He is…

Y: That is him there. Huh?

B: Yes, no, that's a woman who is looking from the window. He is watching the town. In the town, there is a gallery. In this gallery is he himself. So it is self-referential. And now there is a point where those two meet. It is reality into reality or illusion into illusion somehow. It's like, for instance, there are other pictures in which we have a dragon who wants to, I'll just look for it, who wants to become…He, being a two-dimensional being, wants to become three-dimensional. But he couldn't succeed. He wants transcend his own limitations by arise into a addition dimension. I am looking for the picture. He wants…there are a whole…There is an entire direction in art. Maygray (?), you know who this artist is?
14:00
Don: Yes.

B: In his art…in his paintings….he has painting like this one. For instance…Aha! This one, this picture. He wants to become three-dimensional. He wants to…Aha! There is like a hole here. There is like a little box. You see the box. There is a box. And this is the cover (?) of the box. It is a box; the box is three-dimensional. But he is condemned to be in his two-dimensional world. He tries to go into the third-dimension by opening this box. But he couldn't because he is still into the two-dimensional area.
14:31
Y: (Acknowledges)

B: So all these pictures are given to make the idea clear that when…for instance, the hands (?) drawing themselves. Here also we have the waterfall. It goes up and down, up and down, and so one…
15:01
Y: I know this one.

B: And this, all this, all this are…Yeeeh…Pity I haven't got it. Two students of mine have (been) working for two years to develop pictures like this animated. Yeee! And it is so beautiful that it is tremendous. They have been working three…two years. And it was presented at television, their work. And they came to our university. It was tremendous; it was beautiful to see how this happens, all the games with the perspective. And now the idea of Gödel's and all this presentation is to get us to the point when we shall be able to, not just to be able to speak about this, but to prove it mathematically, to find mathematical means…to find actually a new mathematic which will be both consistent and complete. We are looking for a system that will be consistent. This means everything which is produced by the system to be true. And, for instance, consistence means if A is true, then not A is false. If A is true, not A is false. And both completeness, completeness means there is no truth outside the system. Consistence, everything produced by the system is true from inside outside. Completeness, everything that is true, to be possible to be presentable into the system. This is from outside in. If we find such system, and Penrose is trying to do this the same, but a level higher with Turing machines it (he) presents it in *Emperors New Mind* book.

Y: Yes, I read it.

B: And this is the same actually. For instance, if we have such system, then if…and we have a language in which it is possible to present to a computer every possible

mathematical puzzle or even belonging to other areas, given to the computer or robot will be solved. By the power of consistence, we shall be sure that it is true because the system is consistent. And we shall know that there is no truth outside the system because the system is complete.

Y: (Acknowledges)

B: And now, we begin here with simple formal logical systems in order, step by step, to come to the point when it will be possible for a system to speak for himself/about himself to a self-reference system, to a system which will be capable of saying I. And there is a whole book thick…which is of 400 pages at least by Hofstadter *The Mind's Eye,* the eye of the mind which is all about self-reference in consciousness.

Y: I used to have that book.

B: Ah! You have it.

Y: I used to get upset reading it.

B: Oh, yes, really there are like.

Y: I couldn't tell whether he was saying, "There is a mind's eye." or that, "There isn't." What does he say?

B: It just present the (?) and that other…
19:10
Y: That's what I got from the book, the presentation.

B: Actually he belongs to the theme of hard, so called artificial intelligence scientist. It is like a hard dream and a soft dream. And in hard dream belong those who say that consciousness arises out of physical, actually, that it is epiphenomena of the brain. At one point, he explains. He also puts a lot of Zen stories, for instance, in his illustrating in his *Gödel, Escher, Bach* book which is a bestseller and really great book. But at another place, he says…at another occasion, he says…he does not believe in such state of consciousness in which this is possible, these states described in Zen. So actually, it is like he is using the treasure. But he doesn't really appreciate, so to say.

Y: (Acknowledges)

B: This is my…maybe I am wrong.

Y: One question with regard to the Lila Paradigm, then on this completeness.

B: And consistence. Consistence and completeness.

Y: And completeness.

B: Yes.

Y: It is the completeness part.

B: Ah, yes.

Y: Does it help that the Lila Paradigm is finite? Does it help to make is complete?

B: A huh. All…it is finite, yes. But there are levels of interpretations. Yes, the…this should be resolved maybe not by the fact that it is finite, but by the fact that they are non-physical.

Y: Aha!

B: I mean the non-physicality resolves the problem, not the finite.

Y: The finiteness.

B: Not the finiteness.

Y: That's good to know. Now, there is one point.

B: Yes, yes, yes. The non-physicality resolves. We shall see later on because…

Y: You carry on.

B: Because even though you have finite elements, for instance, here they are introduced some very simple example in which we have very simple formal logical systems. The means, what is formal logical system? This is a mathematical creation in which we have symbols and relations; and that's all. And we have, for instance…and beginning axiom and introducing axiom, whatever it is. Then we have allowed legal laws for transition from one to another. And finally, we come to something. But we don't still have, so to say, weapon to build self-reference. Our aim is to build a statement. First of all, maybe, a whole system or a sequence of statements which is finally all in the same whether I have ten thousand statements in a logical sequence or just one, it is in principle all the in same which will be able to ask itself to referent to itself, to have mathematical means for self-reference, to build a mathematical system which will be able…First of all, first stage, to refer to another formal logical system, this is first stage. Second stage is to be able to referent to…or to have a statement pointing to another statement in this very same formal logical system. So the second stage is to build a statement which is capable or referring to another statement into this system. And then third statement, third stage, will be to build mathematical means and system which is such. It is so much developed and so much sophisticated. Then it is capable of asking a question about itself. Or it will have mathematical means to refer to itself which is third stage.

Y: (Acknowledges)

B: And finally the final stage will be to build a self-referential statement referring to itself, a self referential, statement referring to a self-referential statement which itself. And it is like a final stage of self-reference, first system referring to another system; then a statement in the system referring to another system in the same system to

another statement in the same system. Third, a statement referring to itself to the same statement in the system in question. And finally, a self-referential statement referring to itself, a self-referential system referring to a self-referential system. It is like a person asking, “Who am I? Asking, “Who is it?” “Who is asking? “Who am I?” And this is finally the fourth stage. And all these are…the value of this, of Gödel’s. All this consideration in Gödel is that all this is given in mathematically because the Greek philosophers also knew about this self-referential puzzles, for instance, the paradox of Epimenides, a very famous paradox. Maybe I mentioned it.

Y: Yes, you did.

B: I did. So in Xeno’s about the arrow, it comes to the half; then to the half and so on.

Y: (Acknowledges)

B: So all this was known but just on the level of stories and of philosophy. And many mathematicians, of course, knew of it; and they use it, for instance, Whitehead and Russell and their *Principia Mathematica* in their book about logic...on logic which was famous. But none of them succeeded in finding mathematical means to present it, to build a system which will be capable to show to a statement in itself. It was not done. And now, first of all, in order to do this, there are several capabilities, so to say, of the reader to develop in order to be able to do it. For instance, the reader or we should differentiate between working into the system and thinking about the system. There are two different modes of operation. One is mechanical when the robot, as Hofstadter says, “He works mechanically, stupidly and happily. He doesn’t think at all, he works stupidly and happily; he is happy.” There are no puzzles in his mind; he just works, one statement, one command, another, another, another. The transition is legitimate; it is well defined. And he could work until the end of the world. But now once we present a self-reference, all of the sudden, there is a danger that he will fall into an infinite loop, and so on and so on. So this is first. So this new system, maybe I won’t repeat it, I represented it to you; but if you want, I could present once again. First of all, in this sequence of building more and more complex formal logical systems, we begin with a very simple mu system, M, I, U, and so on.

Y: I am going to take a short break.

B: (Acknowledges)

Don: Again, I don’t know if I mentioned to you before. I don’t know if you had a chance to look at it. But the self-referential logic G Spencer-Brown who was a student of Russell.

B: (Acknowledges)

Don: He does in that *Laws of Form*, develop such a logical and show that it is a logical equivalent of I.

B: Aha!

Don: That the self…

B: Yeah. Great!

Don: That, Ah, it's in that little thing I gave you about the torah (?)
29:23
B: Yes, I have seen it.

Don: He was a student of Russell and has successfully used that in…because he was an electrical engineer among other things. G Spencer Brown was and used that in switching systems as a logical state, the square root, the imaginary.

B: Great, great, great.

Don: Anyway, I just wanted say, there is one calculus that has incorporated self-reference in that there… (?)
30:00
B: Aha! Ok, yes, great.

Don: And that is one. Whether it is useful or not, I don't know.

B: Ah, yes. Ok, great, because…

Don: But Russell, his solution to it, he wasn't satisfied with. And he was very happy to see what G Spencer-Brown did.

B: Oh, really?

Don: Yeah.

B: Because there are two actually…

Don: Theory of types.

B: Complements to this self-reference. But it is not enough to have just self-reference…

Don: Negation.

B: Yeah. And negation. Because we have paradox, we have both. If you say, "I am telling the truth," it is not the paradox. I am telling the truth because you have self-reference; I but not negation. But if you say, "I lie. I lie; this is a paradox." If I lie, what I say is not true. if what I say is not true, then I lie; it's not true.

Y: So, it is asymmetrical.

B: Yes.

Y: It is not symmetrical.

B: Yes, it is not symmetrical.

Y: Yes, which is another version, of what you just showed me, with the matrices.

B: Yes, great. Yes.

Y: It is the same thing.

B: It is the same thing somehow.

Y: Ok.

B: So, shall I go into this or not.

Y: Yes, please.

B: So, in these first… Aha! Let me tell you something else before it about Turing test. I believe you have…you know it. Turing test might be of interest. All Alan Turing, who was a genius... Have you heard of him, Turing?

Y: Yes, I also know he killed himself.

B: Yes, unfortunately, or maybe he was killed.

Y: Maybe. I have been through that place in England where they developed the cracking the…

B: Machine.

Don: Enigma.

B: Enigma.

Y: Code. And he did it. And where he lived. It's a beautiful museum there now. Turing, they also made movie about his life.

B: Enigma.

Y: Yes, and I have seen that.

B: Hey, great, yes.

Y: Yes,

B: He both wrote the code in England; but also, his life was an enigma.

Y: Yes.

B: The movie is Enigma.

Y: So, and his machine.

B: His test which was designed more than fifty years ago, but still of interest. He proposes that we have one interrogator. Someone who poses questions, who asks questions. And then in another room closed, we have a computer or a robot. So a device of artificial intelligence…and we have a man or representive of human intelligence. And the test is designed so that the one who asks questions, the interrogator, should ask such a question that from the answer obtained he will be capable of deciding whether the answer comes from a machine or a man. So if we are capable of asking such question or building such question or for that matter which is all in the same ten thousand questions, a sequence of logical ten thousand questions, but to know that once I pose such questions and I obtain the answer, I will know whether the answer comes from a human intelligence or artificial intelligence. Because if I know such question and answer of (to) the question, then I know the difference between human intelligence and artificial intelligence.

Y: They have actually done this many times; they actually did the test.

B: Turing. Ah! Yes.

Y: Yes, they have done it many times at Massachusetts Institute of Technology. Every two years they do it again with a better computer.

B: Ah, yes. Yes, actually. Actually, I read they invited Hofstadter to go there. And there was a very sophisticated problem. And Hofstadter himself who is very much in into it, he was asking questions. And the answers were very intelligent. And he asked another question and very intelligent, and another and another. And then, all of the sudden, the computer got very funny. He was asking question like Duck. His name was Douglas, something very personal, I don't know. And now he was amazed. Now he knew something is going on. And then, all of the sudden, three students came out of the computer. It was like an inverse Turing test. In Turing test the machine emulates; the machine is the one who imitating humans.

Y: So, the students imitated a machine.

B: Yes, and now they were students imitating a machine. And they were all laughing and so on. So this is the…

Y: And so what is the connection to the Lila Paradigm?

B: The connection. To find somehow the answer to Turing test to differentiate, to say in terms of Lila what is human intelligence, what is machine intelligence? For instance, human's body is also a machine. What is…if any, if there is difference? Maybe there is not.

Y: Well, sometimes people who drink a lot of alcohol and get very drunk, they will do things. And then the next day, they can't remember having done any of them. This is a human being. But are they like a robot when they are drunk. And they can't. And then later on, they are not like a robot anymore. They are a human being; and they can't remember having done anything. But other people know they did. So when they are in this state of drunkenness or they can't remember and they do things, are they like a robot? Or in other words, are they not self-referential? But the next day,

they wake up and they say, “I can’t remember.” But now, you ask them questions, they sound like a human being. My question is, “What are we talking about?” A human being? Do we mean a body who is drunk? Is that a human being? Or is a human being something different when he is not drunk? These are questions that because there is no answer to the question, “What is a human being?” There is no answer to my question.

B: Yes.

Y: I knew this girl; she got drunk and drove two hundred and fifty miles and parked her car and went in, and went to bed. And she didn’t remember doing any of it. My high school best friend, he got drunk, took the family car, drove around and came back, and parked it up the stairs. He drove it up the stairs and parked it on the front porch. And he didn’t remember any of it. And he was a brilliant man. Which…what is self-referential and what isn’t? Is it the human brain? Is it the human body? Is it the combination of the spirit and the body? Or is it the spirit? Or what is an individual? Those are the questions and those (?) connect these to the Lila Paradigm. But you said, “It’s the non-physicality of the Lila Paradigm that solves the problem.”
39:14
B: Yes. Not the finiteness.

Y: Yes.

B: Because you have self-referential…You have self-reference with very limited number of elements. You could have self-reference with just one individual.

Y: Just one individual and…

B: Not individual, for instance…whatever you have, just one ingredient into the system, one element into the system asking…being self-referential, asking, “What am I?”

Y: What am I?

B: So, it is not the finite. It is not the fact that they are finite.

Y: Yes, I understand that that, but that they are not physical.

B: For instance, for you have two elements A to B and B to A. This is self-referential, but still finite.

Y: So, in the Turing test, are we dealing with something non-physical. Are we dealing with a human being?

B: I’ll tell you something which is a resolution which is very interesting. I haven’t come to the point yet.

Y: Ok.

B: Now is just introduced the problem.

Y: You go on.

B: Now, for instance, we ask ourselves, how is it possible that fifty years have passed from Turing and so many books were written on human brain and human intelligence, on artificial intelligence on self-referencing mathematics, and still we don't have answer? How is it possible? We still don't have sequence of such ten thousand questions which will resolve, why? Why is this? And now, one answer is that the…there is a conceptual error. And I shall relate this to Einstein, Podolsky, Rosen Experiment. We haven't come to this point. And I want to present it to you. Although you know it by heart, but still maybe there is a point.

Y: Yeah, but I wanted it in these terms.

B: Yes, yes, maybe.

Y: That is what we are doing here.

B: Yes, in different terms I'll come to it. It requires a new…another presentation.

Y: Ok.

B: But now back to Turing test. There is a…there is…these…For these arguments, I hear a Berkeley University which is very famous and leading in artificial intelligence and so on. And I hear this explanation by Ravi Gomatam who is both Doctor of Cognitive Physics. So he is physicist and thinking about consciousness and so on. And he is also a Brahman. And he was a member of Bhaktivedanta Institute. He knew Sanskrit, and so on and so on. So he was thinking a lot of Theory of Relativity, particles, particle physics and consciousness. And I have his lectures on a Recording, and also my conversation with him. So he says, "There is a conceptual error into the designing of the test." So Turing test is wrongly designed. It is designed…just like in particle physics with experiment with the holes. When the holes are big enough, then we got light areas on the monitor as if we have particles.

Y: (Acknowledges)

B: Once we make them so, so tiny that no particle could go without have refraction, then we got interference; and we got a…

Y: A wave pattern.

B: A wave, so it is not the nature of the light that we are investigating. What we investigated is…what we investigated is our…what we are dealing with is our own design of the experiment.

Y: That's what Bohr said, too.

B: Yes, yes. It is very close to Bohr. We are dealing… this is what he means by no deep reality.

Y: No what?

B: No deep reality.

Y: (Acknowledges)

B: He is…Copenhagen Interpretation is some times called 'no deep reality'. Does not mean there is no reality deep down there, it is reality he does not deny it, of course. He deals with it. But it is this 'no deep reality.' We are dealing with our own concepts.

Y: Yes.

B: We are dealing with the contextual feature of the material objects and not with their informational features. Informational features of the material objects are what our…the purpose of them…information feature of something is why it is here for. This is the informational feature of something. For instance, the street lights are here for to say, "When it is red, stop; when it is green, go." And this is why the street light is here for. These are its informational properties. If some creatures from another planet come and investigate, and they measure as they do in physics the weight. They study the electronic circuits. They study it all the way through. But they will be always dealing with contextual properties of the street light, not with it informational properties which is when it is red, stop, when it is green, go.

Y: It's purpose.

B: It's purpose, yes. They don't know their purpose. And because we do not know the purpose of life, we are dealing with its contextual properties. And then whatever we set as experiment, we got the answer. Actually we got our own contextual meaning of the experiment. We are dealing with ourself not with what we are investigating. So it is very important to distinguish what is a contextual property of the thing you are observing; and what is its information property. If you are dealing with the contextual property, you are…get wrong answers, contextual answers, and this is in Einstein, Podolsky, Rosen, as well; also in Turing.

Y: Very good.

B: And I'll make you a comparison with Gaudiya Vaishnava Vedanta.

Y: Ok.

B: Also, so what is the mistake in this? What is the conceptual error in Turing's experiment? Whenever I ask the question, what I get is the output of the system. I get the output. In the system I have a representative of human intelligence. And I have representivity of a machine. But I got only the output, the answer. I don't have the input of the system. And the answer is in the input of the system. The difference between human intelligence and artificial intelligence is in the input of the system.

Y: (Acknowledges)

B: In what sense? Ah, now we shall go to certain level. You go deeper with Lila, but to a certain level. There are a-causal systems. We differentiate between a-causal systems and causal systems. A-causal systems in time have appeared after the

cause for them to appear. When we have the time arrow, the a-causal system appears later in time than the cause for him, later than his origin. For instance, the computer appears later than the software engineer and the hardware engineer who built it.

Y: (Acknowledges)

B: So we have first the reason for the system, and then the system.

Y: (Acknowledges)

B: So in time, the system appears after the cause for him to appear.

Y: (Acknowledges)

B: This makes him be a-causal system. So these systems who appear after…which appear after the cause for them are a-causal; but for the causal systems, it is not the case, the causal systems are the…the causal systems are the cause for their action. And this is the connection with Lila.

Y: (Acknowledges)

B: The…this is the connection. Now, I see. It is not just non-physicality; but the attributes of the non-physical individuals.

Y: (Acknowledges)

B: The attributes of the non-physical individuals.

Y: Yes.

B: For instance, the ability to act is which makes them be causal systems. They are, so to speak, they are…

Y: Yes.

B: Causal. They are cause for their own action. There is no action. There is no reason outside the non-physical individuals which make them act which make them act. And this is the connection.

Y: Yes.

B: This is connection. The attribute…the attribute of ability to act makes them be causal systems, not just non-physicality. This is one level of understanding. But more specifically the attribute of ability to act makes them causal. For instance, when I throw this away, there is no reason outside me. But when robot do it, it is the program.

Y: (Laughs)

B: And so there is one…

Y: And he doesn't even know it.

B: And he doesn't even know it. The reason for him is in time, it is way before his action.

Y: (Acknowledges)

B: Way before his action, the reason for his action was introduced into him. He is a-causal. And there is no difference. And the difference whether a system is casual or a-causal is in the input and not in the output. And so the Turing test will never give us the answer, never, because in Turing test we have just the output, just the output and not the input. But the answer whether it is causal or a-casual is in the input. Human intelligence is a-causal. Machine intelligence is causal. So this is a conceptual error into the setup of the experiment, the same Einstein, Podolsky, Rosen. I'll come to it in another time. It requires a whole presentation like this. So we are dealing with this. And the non-physical individuals, yes, they are the basis of human consciousness.

Y: But if they are physical, they can't be a-causal.

B: Yes. Even the body is not causal; it is a-causal. The body is a-causal.

Y: Yes.

B: But the non-physical individuals, they are causal.

Y: Causal.

B: It's causal because they have attribute, ability to act. The ability to act is the attribute which makes them causal.

Y: This is also called free will.

B: Yes, great. Yes, it is also free will. Great you see. I sense there is something here in which we should bring to the light. And one of these things is this one.

Y: Yes.

B: Its attribute of ability to act. And now I'll make you…I'll tell you about the connection with Gaudiya Vaishnava Vedanta.

Y: Yes.

B: And stop… step… Henry Stapp has a book. Maybe I'll send it to you on ontology of Vedic…Maybe you know it, *Ontology of Vedic Scriptures*? And he does a…

Y: No, I don't it. It's published by…?

B: Maybe it is written in…after…

Y: Bhaktivedanta?

B: Maybe, yes, by Bhaktivedanta.

Y: They published it. But he wrote it?

B: He wrote it, yes, because…the lecture on consciousness I listen to from Ravi Gomatam was at Berkeley. And this Bhaktivedanta Institute is at Berkeley. And Henry Stapp is at Berkeley Laboratories. So when you first mentioned Stapp, I all of the sudden remember the whole story. That he was at Berkeley and Ravi Gomatam was referring to him very frequently. And Henry Stapp himself…maybe after his meeting with Ravi Gomatam or maybe even after his meeting with you, he has written his book of ontology of comparison with Gaudiya Vaishnava Vedanta.

Y: Yeah, I haven't seen it. I would be interested in it.

B: Ah, yes, I'll send it.

Y: It's in English?

B: In English, yes. I'll send it to you. So in Gaudiya Vaishnava Vedanta which is Sahitya Tanya. I know Sahitya Tanya was done…has done the revival of this teaching five hundred years ago. SahityaTanya but actually the origin is three thousand years back.

Y: To Vedanta itself.

B: Vedanta itself, Gaudiya Vaishnava Vedanta and the specific teaching from Gaudiya Vaishnava Vedanta is *Bedda, abedda achitia tattva*. I have mentioned already. *Beddha* is Sanskrit, *abeddha beddha ashitia tattva*. *Beddha* is differentiation.
54:37
Y: (Acknowledges)

B: For instance, in Macedonia in Slavic language *beddha* means to be poor. Someone who is poor is *Beddha. Beddha* means poverty…

Darshana: It means divisions, doesn't it?

B: Division, yes, division, differentiation, dualism. So, one who is not capable to see the oneness which is behind the dualism is poor. He is in poverty; he lives in poverty, he is *baddhan* we say. He is *bedden*, in Slavic languages; he is in poverty so…

Darshana: Deprived.

B: Deprived, yes, yes, exactly. So *Beddha* is differentiation of *a-beddha* is non-differentiation. *A-chittya* is to be conscious of. And *Tattva* is the essence of things. The quality, you know better.

Y: Yes.

B: The quality, so this it the teaching about the raising consciousness about the sameness about the differentiation and non-differentiation.

Y: (Acknowledges)

B: So this is making…so this is the teaching about raising consciousness of the sameness of the differentiation and non-differentiation. This is this, the form is emptiness; emptiness is form. All which is form is emptiness; and all which is emptiness is form. So in *beddha a-beddha achitta tattva (*?) they say, consciousness differs from matter in three qualities. There are three qualities which conscious entities have; and matter doesn't have. And these three qualities are causality, conscious beings are casual. For instance, non-physical individuals capability to act, this is causality. We could equalize this with attribute acts. This is causality.
56:34
Y: (Acknowledges)

B: And then intentionality, intentionality. And the third one is self. Now self…I am searching for their word. I don't want to say self-consciousness because it will be self- referential. It is causality extensionality and self. I don't…it…self-awareness in something. Maybe I'll see in my book to be sure…

Y: (Acknowledges)

B: There are three: causality, extensionality, and self-consciousness. But we couldn't define by consciousness.

Y: Consciousness.

B: I suppose when…an example about…For this Turing test, for the test of Turing; I connect this with artificial intelligence. And I give here central processor unit, computer memory, data, the source code of the program and so on. It is…it has very much (?). I define, option, knowledge, intelligence and I study all these. Maybe in some other occasion, I'll show it to you although it is interesting, maybe now. But regarding the Turning test, for instance, we have the output which is C and the input. We say input, for instance, A is human; B is robot. And we could say if the knowledge of the human is C, and knowledge of the robot is also C, we could equalize and say the known of the human and the robot is the same. But another interpretation to this will be since we have the output, and this being the conceptual error of Turing's test, we have C and C. But C and C could be obtained by…at the input, we have human which gives us knowledge C. And we have human plus robot which give us also C. But this means B is zero.
58:55
Y: Hum.

B: This means robot has no intelligence of its own. Yes, it is all human. So when we have just the output which is C, when we have just the output and not have any information on the input, we could be misleaded (misled). We might think this is the robot who is thinking. But not, this is the man who made the program. This is one

point that I am searching for this Gaudiya Vaishnava. Aha! *somah sphest* (?) Yes. Causality, intentionality, and self-awareness.
1:51:
Y: You define awareness different than consciousness?

B: Elements of…No, elements of consciousness are causality, intentionality, and self- consciousness. I am quoting Vedas. I am quoting this.

Y: It is circular.

B: It is circular, yes, I know. Maybe self-awareness?

Y: Maybe, if you define awareness differently than consciousness.

B: Yes. Otherwise, it is not. Ok.

Y: Like a robot can run into an obstacle and be aware that something is there; but it's not conscious.

B: Yes, when I was thinking on this in regard to Lila, I remember now that maybe I have written to you at one point. But very shortly, just one sentence that this self-awareness could refer to the 'who', to the 'who' attribute. Self awareness could refer to the 'who' attribute because this…It is self awareness. It is self-aware of 'who', who this non-physical individual is.

Y: You could use it that way.

B: Yes. So self-awareness could be some how maybe the tran…maybe we should know the original Sanskrit word in order to know.

Y: So that it's directed toward self not just generalized consciousness.

B: So we could associate the attribute 'who' to self-awareness. For now, as a working hypothesis, I'll call it self-awareness to differ from conscious. It still remains dualistic teaching. Yes, this is so. But still they have points. They differentiate consciousness from matter although even they say it is transcendental. Monism they call it. Somehow they have…Aha! Yes, I remember now. I need time. They say in Gaudiya Vaishnava Vedanta, they say what exist is…what exists…there are three things that exist. Matter exists they say. So it is somehow physical, maybe. Matter exists; then multiplicity of *jivas* exist.

Y: Yes.

B: Matter exists; multiplicity of *jiva* exists. And I believe like something like God.

Y: This is *Sankhya*.

B: Ah! Yes, it is *Sankhya*, yes. *Sankhya* not *Advaita* because in *Advaita* there is on two. It is *Sankhya*. Aha! Maybe this is part of *Sankhya*, Gaudiya Vaishnava Vedanta.

Y: (Acknowledges)

B: It is part of *Sankhya*. Matter exists; *jiva* exists; and I believe God exists.

Y: (Acknowledges)

B: And they say even though we…you could lighten millions and billions of candles; you still do not obtain the sun. So they say *jivas* exist, a multiplicity of *jiva*. But also God exists. The three of these exist. And they dissolve the problems in…of the reduction of the wave by this. They say there is just one observer. Even in Genesis they define God as the observer who observes himself.
1:05:06
Y: That's what Berkeley said.

B: Aha! Aha!, Berkeley.

Y: Bishop Berkeley. He said that also.

B: Yes, God is the observer who observes himself.

Y: I think it is an incomplete statement. That's because they haven't defined God precisely. So I think the originators of the Vedanta, of the Vedas, they knew. But their students gradually degenerated step by step because it is hard to pass on an experience just to pass it along. They have to have it themselves.

B: Yes.

Y: And that's part of what the purpose of the Lila Paradigm is now that we have had three, four thousand years to develop science. Then using science and using…

B: Knowledge

Y: And putting them together and getting the combination. Then we correct the errors that have gradually degenerated. Science doesn't have the whole story. And the Vedas as interpreted don't have the whole story. They are still arguing in India. (Makes sound of arguing)

B: Time kinvitya (?).
1:07:01
Y: Ad, ad, ad. You see them in Varanasi studying on the steps and debating each other. That's Ok.

B: This is what we do.

Y: It is just that we're…it is a step in the right direction.

B: So could we associate, maybe, to this intentionality one attribute because causality is ability to act. Self-awareness is 'who.' But this intentionality sounds like ability to act, but maybe, maybe intentionality, what could be intentionality. We have existence.

Y: It is unnecessary.

B: It is unnecessary, yes. Existence and unity.

Y: When the act and reality are one in the same, you don't need intention. When you have a degenerated state down a step, you have the illusion of time. So you have to have intension followed by completion.

B: Yes. In timelessness not, yes.

Y: But you pointed out some excellent things this morning about where that…It is the non-physical causality or originating quality or ability to act…

B: Yes.

Y: From a non-physical originator is what does it.

B: Yes, yes, that the point.

Y: And so…

B: I have something other, you know, before I forget later on.

Y: Do it now.

B: You finish.

Y: All right. I was just going suggest that when you write up something…

B: Yes.

Y: Which you have done here. But if you are tying it to the Lila Paradigm, you could tie in these various points from history and Turing, and…

B: Now, I'll tell you something else. But let me remember from Vedas. It is very interesting. It is very crucial in explaining Einstein, Podolsky, Rosen. And there is the Hugh Evert paradox in quantum physics about reduction of the wave. I'll present it.

Y: OK.

B: And now the explanation is, for instance, when I am…for instance, back to properties, first they're objective properties to material objects, objective properties. Second there are subjective or secondary properties, subjective properties. Then there are contextual properties, contextual. And finally there are informational properties. We are…only when we are working with informational properties, there is hope for us that we shall see the essence because informational properties is why one object is here for. Why material objects are here for? So whenever we are working with contextual properties and this is case in quantum physics, in Einstein, Podolsky, Rosen in Turing test, and so on and so on, we have no hope to solve the

problem. We have no hope for us because we are working what…with the...we say, “Yes, there are.” Measurement is the problem. But this problem is created by us by the way we created the experiment. We set up the experiment.

Y: Yes.

B: The context in which we set up the experiment predicts the results. So we are dealing with our own setup of the experiment with contextual. So first point to deal with, the informational properties with material object is to deal with the purpose. Why are they here for? This is one point. Now is Gaudhi…In the Vedanta, we have the definition that matter exist in order to know itself. There is a definition. It says, “What is the purpose of existing of the mater? Why does matter exist? Why does matter manifest itself into the world? The matter manifests itself into the world just with one purpose to know itself.”

Y: (Acknowledges)

B: To get to the point, to know itself which includes self-reference. This is the only purpose.

Y: Yes.

B: Now, if the purpose of the matter is to know itself, then we shall…then its informational property is to know itself because informational property of something is why it is here for.

Y: (Acknowledges)

B: So matter is here for in order to know itself. So informational property is to know itself. So if we want to deal with the informational properties of matter or material objects which we want in particle physics and so on, we must deal with their purpose. And their purpose is to know themselves. So unless we start working with the informational properties of material objects, we are condemned to contextually, to all the paradoxes, to Gödel’s limitations, to Einstein, Podolsky, Rosen limitations, to Hugh Evert paradox limitations because we are not dealing with informational properties. So in order to have hope that we will be working with the informational properties with matter, we must work with the purpose of matter. And the purpose of matter is to know itself. But to know itself is consciousness. So this is a point when consciousness must be introduced into science as a basic attribute.

Y: (Acknowledges)

B: This is an argument which shows that if we want to work with informational properties why…what is the purpose of the things we are observing, we must introduce consciousness because we must deal with their purpose is to know themselves according to Vedas.

Y: Yes. As far as they go, it’s correct.

B: So this is a point.

Y: And we have to say what is consciousness and that we are dealing with information. It's epistemology. It is not enough just to define information. You have to define what is it that in is in the state of information.

Y: That's why I titled one paper *A Radical Informational*; I was hoping that using the word information would work. I think it got the paper accepted; but that's all. It's…if you use the word knowledge, it's closer to the truth that they can see, that knowledge has to be had by someone. An individual has to have…is that which has the knowledge although you can imagine that in your hard drive, you have a lot of knowledge or in a library. But they realize that if no one opens up the book and looks and knows the language, the meaning step…without that, there is no knowledge. The knowledge has to be in a state of what we call an individual. So just using information is a start. You can talk about information being in a library. And you don't have anyone look at it. But for knowledge, someone has to be in the state of that knowledge.

B: I have something like this introduced here when talking difference between human intelligence…

Y: When is this going to be in English?

B: First maybe.

Y: Why doesn't your publisher get it translated into English? They would make a lot of money. There are so many English speaking people in the world.

B: Yes, but how to…First of all, I am paying for the translation. And it is not so cheap.

Y: So you have to get it translated.

B: Even now, and I haven't checked this another account. Maybe the student who is translating, maybe he has already translated something. I'll send him an SMS message to ask him because it might…He is very enthusiastic. And I told him that it is very important if he translates something now when I am in Australia. I should check. I'll send him a message. There was something I wanted to show you.

Y: You find it; I'll be right back.

Darshana: Would you like some water?

Don: Ah, yes, please, thank you. I have been drinking, making it a point, since I read that book to drink a lot of water.

Darshana: It is a convincing book, and I have found that (?)
1:19:15
Don: Excellent sense.

Y: You find it?

B: Yes. When discussing artificial intelligence. *The Continuum Knowledge Intelligence*. One cognitive system possesses two important elements: knowledge and intelligence. Under knowledge, we define capacity to gather and keep information; and under intelligence capacity to manipulate with this information. With computer the knowledge is memorized in a kind of data in the memory w hile intelligence could be associated with central processor unit, and so on. And so we denote here knowledge with K and intelligence with I. So knowledge here in this context are data and intelligence is a capacity to manipulate with this data which is central processor unit. We have knowledge and intelligence. So we have here little knowledge, low knowledge, low level of knowledge, low level of intelligence. Here low knowledge, low intelligence. Now intelligence increases in this direction. So here, we have low knowledge, a low level of knowledge, but high intelligence.

Y: (Acknowledges)

B: And in these direction in vertical axis, we have increasing of the knowledge. So here we have high level of knowledge, but low intelligence. And now here we have increasing both of the knowledge and of intelligence. And this is high knowledge and high intelligence. In sense of this interpretation, we could say that the system is self-intelligence if it has capacity to change its own state of one level of knowledge and intelligence to other level of knowledge and intelligence purely just as a result of its own inner operation. So, only if it is capable such which is causality actually. We could say that the causal cognitivity…So I say here if the state of the system who processes knowledge and intelligence, knowledge K and intelligence I in a certain time moment T, if we denote this as S of K I T, so a certain moment T, intelligence I, level of knowledge K, then the causal cognitivity will be its capacity to move itself by its own means. This is why we stop here by mu system. The differentiation is made here in this mu system in context of Gödel's law. Then causal cognitivity will be his capacity to move itself from the state K prime I prime T prime into the state K I T all by itself. This should be done as result of it own operation. But now, it is shown here that it is impossible because of the…It is shown that all…Step by step first this state is being analysed. And then this state is being analysed that states and this state and it is shown for all of them that it is impossible. These are show…It is not possible to manipulate with knowledge if the initial state of knowledge is zero. These are different options. For instance, you have knowledge for the first option. Option one, you have one possible previous state. Option one is one possible previous state. Option two when K is zero supposes we do not have memorized database. So knowledge zero means even if the code of the program is not memorised... Aha! This is…this situation is not memorised because intelligence in terms of machine intelligence is the code of the program. The code of the program is which does the manipulation. But since the knowledge base is zero, we do not have code of the program at all because the code of the program should be memorized into the knowledge base. So this situation is impossible. If we have just knowledge but no intelligence, then we have memorised databases. For instance, all of the members of a bank who have their accounts there, data for them but no program which will manipulate them so this is also impossible. If we have zero knowledge, zero intelligence, it's clearly impossible. But finally if we have just some previous knowledge and some previous intelligence, then this by backwards observation, it is seen that it is also impossible.

So in this manner, it is shown that for a system who processes non-zero knowledge and or non-zero intelligence to be announced as self intelligent, it is necessary that it have processed non-zero knowledge and or non-zero intelligence for all T before this moment of T.

Y: Ah.

B: And I have in parenthesis (?) which is Lila actually.
1:17:05
Y: (Acknowledges)

B: (?) You couldn't have something out of nothing. I haven't shown you the exact backwards reasoning about this, maybe later. But it is also shown that it is impossible. So it's a proof that machine intelligence is a-causal. It could not initiate an action out of nothing.

Y: Right. It comes from something. Well, very good. Quite a presentation.

B: We are just at the beginning. There is more. We stopped at the very first, but later.

Y: (Acknowledges) And I got some connections to the Lila Paradigm.

B: Yes.

Y: And I am happy about.

B: Shall I proceed on?

Y: Yes, we have about fifteen more minutes if you want to go on.

B: So we stopped here. We are now aimed towards the Gödel's theorem.

Y: Toward what?

B: Toward the Gödel's law…

Y: Yes.

B: But on the way, there are a lot of steps. First we are defining simple formal logical systems in order to emphasize some features, some properties that we shall need later on. So first of all, there is mu system.

Y: I remember that.

B: You remember that there are rules.

Y: Power Point.

B: There are rules. And this rules should be applied in order to obtain mu which is Joshua's ring.

Y: Yes.

1:29:52)

B: What is the dog's nature? But it is shown that it is not possible to do by reasoning. But it is reasoning, for instance, associating properties from contemporary mathematics from number theory precisely. Introducing reasoning from number theory (onto?) this system and the rules of this system, is working into intelligent mode. We're doing this by introducing human intelligence by outside origination. But originally this system could not do it by itself. If it was robot working as Hofstadter says, stupidly, happily, he won't be able to do this because he will run into infinite loops. So there are two reasons for introducing this formal logical system. Even three, first is to show how a formal logical system works. We have basic symbols. We have an initial axiom from which we start. And we have illegitimate transition rules. And by starting from the initial axiom and going from transition to transition, from statement to statement, we finally obtain something. But we differentiate between working in the system which is mechanical mode which is how the robot works, or contemplating or about the system. About the system which is a meta, so called meta view which is a view from outside the system. So the purpose was to show first what is a simple formal logical system. Then to show, to build a capacity for the reader to differentiate between working into the system and thinking about the system. It is one thing to work in the system and another to think about the system. So we are…our objective is to build a formal logical system or a robot which will be able by its own means, by working mechanically, stupidly and happily, by its own means to build apparatus or to build a mathematic which will bring him to build a statement about himself with its own means not by origination from outside. So by working mechanically to build a system which will be potent enough with a capacity to give us weapon to make a statement about a statement. Further on, this means to build mathematic about mathematics. Not just to copy/paste what is known from mathematics into the artificial intelligence, but to go a step further on and bring (?) mathematics about mathematics or proof about proof. And later on, we go to the next formal logical system. I won't be bothering you with this. It has some symbols. It has some rules. And by thinking about the system, finally you recognise that this is summarizing, that this is addition. This is the operation addition although given in elementary rules.

1:32:47

Y: Who did that?

B: Hofstadter.

Y: Ah.

B: Hofstadter. If you want we could see if it is…there are…

Y: Well, I know what is being referred to. There was also another mathematician who attempted to completely describe arithmetic…

B: Green, no?

Y: It was a Dutchman, I think.

B: Dutchman? Dutch?

Y: I don't, I forget his name.

B: (Acknowledges)

Y: But Penrose mentions him.

B: De Morgan no?

Y: And he said...He showed that it is not complete. Penrose showed that. And he gave up finally and said…

B: And (Shinings? Einshinedoffs) problem it's Hilbert.
1:34:25
Y: I think so.

B: Hilbert, I have the Roger Penrose's proof of the impossibility to solve the tenth Hilbert's problem. It is from the *Emperor New Mind*.

Y: That's where I read it.

B: I have the proof from Penrose. But I have my own example. I developed…

Darshana: He discussed it at that lecture too that we went to.

Y: Yes he did mention. We heard him.

B: I have defined whole graduation thesis just on that subject: the Penrose proof of the impossibility to solve the tenth Hilbert's problem. It was Hilbert.

Y: She is saying Hilbert, I believe.

B: Hilbert, there are twenty-four problems by Hilbert and this is Eisenstein's (?) problem. I have here (?) and I have… Yeah. He could help us. He is very bright, a very good friend of mine. He is now in Paris. They captured him. He is so intelligent; he is something very special. He's doctoral thesis in the field of artificial intelligence and Turing machines. And I gave him to check my example; and he checked it he said, "Yes, it's Ok." He is in Paris now. He is very bright. This is from Penrose. He goes further on. Penrose goes further; he defines impossibility to build a Turing machine. In other words, simply said algorithm or a step of…a sequence of steps which will allow us to say in advance for a set of well-defined problems whether they could be solved without…whether the Turing machine will stop. It is the halting problem.

Y: (Acknowledges)

B: The halting problem. In other words, the halting problem means…whether this sequence of statements will end, whether there is and end to it or not which is also done by Gödel. This is actually Gödel's Law. Gödel Law includes two main insights, one is to introduce self-reference to build the mechanism in mechanical mode for a system with its own possibilities to speak about itself, statements to speak about statements. It is done by Gödel's numbers, Gödelian numbers. This is one point. The other point is to assure that this sequence of statements will end.

Y: (Acknowledges)

B: To assure that you will not run into infinite loop as in mu state…In the Mu puzzle, the robot runs into infinite loop. And it will work forever. In order to assure these two, these Gödel's instruments are built. Back to the halting problem...in halting problem we have not just statements; but we have as inputs, so to say, statements about statements. So what Penrose does and in order to solve the Hilbert problem, he imagines that we have a machine which is not infinitely but fully capable which has as inputs different data which are inputs on…as columns. And then different Turing machines...and a Turing machine is nothing else but a sequence, but a sequence of statements. It is algorithm.

Y: (Acknowledges)

B: So the question is whether it is possible for a given well-defined problem to predict in advance by the means of a machine whether this problem will be solved or not.

Y: (Acknowledges)

B: So this is to build algorithm about algorithms. This is…there is the self-reference. It is a step further from Gödel's Law. Gödel is statement about statements. This is Turing machine about Turing machine, not just the Turing; but Turing machine about Turing machine.

Y: Yes.
1:39:58
B: So we have all the possible Turing machine there. And then the Compton (?) proof of impossibility. The Compton proof which is for real number whether the set of real numbers is infinite is applied and how it goes. We, for instance, we imagine that we have…and at least with all possible inputs and all possible Turing's machines. For instance, this machine just does addition. This machine just does subtraction. This multiplication, this is something sophisticated, this is integration; this is so on, and so on, and so on; so all which is known. And let us suppose that this is finite. If it is finite, we have number here. For instance, three two one seven; we have six here which are actually huge, ten thousand digits. We have seven eight zero, zero, one, one, two. And we have numbers. Here is number; here is number. But now we ask since these are all the possible programs done by Turing's machines which could be imagined, we suppose that this list is complete. And then we have all the possible Turing's machines for all what exists. Then let us suppose that it is so. But…so I…from the first statement, I take the first number, which is three. This is the cell A one, one. From the second, I take the second. From the third, I take the third. So I am always picking A one, one. It is like our self-referential

unit, non-physical individuals. I have then A; then I have zero; then zero, then one, then one, then two. So I always have the diagonal element. And now I add one to each of them. For the first, instead of three, I write four. For the second, instead of six, I write seven. Instead of seven, I write eight; instead of eight, I write nine; instead of zero, one; instead of zero, one; instead of zero, one; instead of one, two; instead of two, three. So I have a new Turing machine here.

Y: (Acknowledges)

B: And now I ask whether this Turing machine is to find...I suppose the list is finite; or it is not. And now I reason; it couldn't be the first one because I have changed the first number into four. So the first is out of question.

Y: (Acknowledges)

B: I ask whether it is, maybe, the second one. It couldn't be the second one because I changed the second member of the second line in seven. So it couldn't be the second. Whether it is the third, it couldn't be the third because I changed the third number of the third line into seven. So it couldn't be the third. And now it couldn't be the fourth; it couldn't be the fifth; it couldn't be any of it. So it is not in the list.

Y: (Acknowledges)

B: So I am sure that there is at least one line which should be added, one Turing machine which should be added. But now when I add the new one, now I say maybe the previous one was not complete. But now since I have added this one, now it is complete. I could reason like this. But then I could do the same procedure once again. And then, I'll obtain another one and the same procedure diagonal method. This is Compton method, Compton interesting. Compton deserves to speak about him more. And so on, and so on, and so on. So my list is infinite; it is in-finite.
1:44:45
Y: So it won't hold?

B: Hum?

Y: It won't stop.

B: Yes. This is the implicit.

Y: All you have to do is press the button, and pull the plug out of the wall.

B: Yes.

Y: Something that can originate a cause.

B: And for a man and humans to stop searching.

Y: Pull the plug.

B: In a sense.

Y: Yes. Very good.

B: So this is the proof of the impossibility to solve the Hilbert tenth problem, the halting problem.

Y: They all point to the same thing in the Lila Paradigm, non-physical originator that acts.

B: Yes, yes, exactly. It couldn't be physical because there are so many (?)

Y: So the thing that they are not doing is they are not noticing themselves. And at Enlightenment Intensive we say, "Notice yourself." Then you go through all the things you go through. Then you get there or you don't.

B: Yes.

Y: Ok. Thank you. As more comes up, we can do some more another day. This afternoon, first I want to go to these new illustrations.

B: Yes.

Y: And then, I want to go through some more notes. You will be interested here or there. Some things we haven't covered. It won't take long. Ok, turn it off.