#36
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Recording 36

B: So since we are starting like a new chapter, I hope, in building the logic and mathematics of Lila. So first I was thinking about the next step. So we have Lila group on. We have Lila group.

Y: Lila group.
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B: Lila group, yes. And we have stated that all the laws or conditions which are necessary and sufficient in order a system of elements to be group are fulfilled. And those are associative law. We have gluon. We have taken into account, first of all, that our element are arrangements or baby universes. And we have… if X Y and Z are elements of our set of arrangement, that associative law is valid which is different from transitivity. It is not now transitivity. It is associative law in relation to operation n. If we have arrangement X and arrangement Y, this whole arrangement and arrangement Z is X and arrangement Y and Z. This is the first. Second was existence of inverse element. And we propose in our system that inverse element is the complementary graph to the referent arrangement. This means in…it could be seen as left universe which is left or as potentials in order to have a fully enlightened.

Y: No. That's not clear to me. Left?

B: Left it is…

Y: You don't mean the opposite of right.

B: No, no. Left which is left.

Bret: What's left?

B: What's left?

Y: What's left?

B: What's left in order to know what is left.

Y: Ok.

Don: Remainder.

B: What's left. Yes, it is sometimes used for inverse element, the left universe of the system. For instance, in A → B• →C, A in state of knowledge of B, B in state of knowledge of C. The left universe is all the others. A to A, B to B, C to C and so on.

Y: You called it the complementary.

B: Complementary, yes complementary.

Y: Ok.

B: Complementary and then the identity element or neutral element is the matrix of the same order as the referent graph.

Y: Why is called neutral and identity? Why is it called those words?

B: It is called identity or neutral in sense that…for instance, A…A multi…for instance, if multiplication is a group or the set of integers, for instance, is a group in relation to multiplication or matrices. This means A multiplied by A minus 1 the inverse element is the inverse element multiplied by A. And it gives the neutral element. Pardon, this is A. This is the inverse element, and… about Identity element, you asked.

Y: (acknowledges)

B: It is like one in multiplication. A multiplied by one is one multiplied by A is A. So a neutral element or identity element in regard to multiplication is one. In regard to summarizing…

Y: Because it doesn't change anything.

B: Doesn't change. Yes.

Y: Yes. Ok.

B: So these three are fulfilled. And this makes Lila to be a group where the element is a whole arrangement. Now, next step is to find whether it is Abelian group. There is like a subset of groups, which are Abelian groups. In order to be a Abelian group a fourth rule should be fulfilled a fourth condition. And this is commutative law.

Y: It commutes.

B: It commutes. Yes. Y and X is X and Y which is order.

Y: Order doesn't matter.

B: Order doesn't matter which is fulfilled in Lila in regard to n. It doesn't fulfill it in regard to other still to be found operations. So then G…

Y: Why do you…? Why should it be Abelian?

B: Because the fourth rule in order for a group to be Abelian is commutative law to be fulfilled.

Y: Yeah, but why is that law apply here. Why not non-Abelian?

B: Because whether I'll say this arrangement…arrangement A and arrangement B or arrangement B and arrangement A for now is the same in regard to n, to this operation n. Maybe it will not apply if I take into account some other operation.

Y: Yes. But I just wonder why did you pick this?

Bret: What do we gain?

Y: What…

B: I am just…this is the way how, for instance, the further step is done. For instance, if we go from here to Lie groups, now we should know if it is Abelian or not. For the next step will be, maybe, Lie groups. And Lie groups are a specific…they are groups…

Y: And they are Abelian.

B: Yes, or non-Abelian, it should be checked. But we must know if it is Abelian or not.

Y: Ok.

B: And I believe they are.

Y: Now, I see. This is a test.

B: Yes, yes.

Y: Is it Abelian or not?

B: It is thinking, maybe, it is thinking whether it is Abelian or not. It is good to state it.

Y: (acknowledges)

B: It is good to know. Since we have come to it, we don't know what will arise. For instance, we started transitive and something arose out of it. So maybe, I just state.

Y: I got it.

B: Maybe it will be useful, maybe not. But it will be. For instance... so once again... G1, Associative law; G2, Existence of fully enlightened universe which has neutral element;, G3 Existence of complimentary graphs; G4 Commutative law which makes it Abelian. And now, maybe, next step and we should go once again back to your basic statements, seven, eight, to see, check in light of these basic statements.

Y: (acknowledges)

B: And to see, maybe, we will recognize the next operation. For instance, if we recognize or, for instance, in regard to Lila, what is or, then De Morgan's Law? De

Morgan's Law could be applied. For now, I don't state. I don't say it is so. Maybe we will find, maybe not, maybe something else.

Y: Ok.

B: We don't know just to project all this existing in this one because it will be just another set theory. But we…we want something new. For instance, this De Morgan's Law states A and B is either B not which is our complementary graph, or B not. This valid, for instance, this is De Morgan's Law. But for now, we should see what is or in relation to Lila.

Y: (acknowledges)

B: Maybe there is no. Or maybe the next step…the next level of consciousness includes because this is like superposition. We shall see. I don't want to speculate. And also what is valid is A or B is not A and not B. And there are many like this one. I gave you once this example with the crime being committed. And the detective comes to investigate, and so on and so on. And these rules have been applied. This is De Morgan's Law. But for now, we don't have it. What we have, for instance, is G complimentary, complimentary; the complimentary graph of the complimentary is the referent graph itself which is another rule. It is identopotentness. It is identopotentness. Maybe it is different…
10:19
Y: Identity and potential.

B: Yes. Identity and potential. Identity plus potential. Identopotentness. It means the complementary graph of complementary is the graph itself. Just like we have transitivity, we have identopotentness which is self-evident but not always. Sometimes in matrices, it is valid. This is why I said, "Once we state that the elements are matrices, then actually it is group because for matrices, all three basic rules are fulfilled. So for matrices it is valid." But in…you have these particles in Hubert spaces. There, maybe, this is not right.
11:22
Y: Ok.

B: For instance…

Y: I'll have to be right back. Sorry.

Bret: Do we have transitivity yet?

B: Transitivity, yes, in the sense that if A is in state of knowledge of and B… But this is regarding…Yes, this is regarding another operation. This is not regarding this operation. This is regarding set of non-physical individuals. And the groups are regarding sets of arrangements. So we should see.

Bret: Ok.

B: Not yet. This is…

Bret: Do we have it for individuals?

B: Yes/No. This is regarding non-physical individuals in states of direct knowledge. If A, which is another chapter, if A is in state of knowledge of A, and B is in state of knowledge of C, then A is in state of knowledge of C. Yes. This is transitivity. But in regards to states of direct knowledge, it always should be stated in regard of which operation.

Y: Ok.
15:02
B: Now, next should be mappings. We have mappings. One, we have group. We might have mappings. This is relating sets of arrangements of one bigger set to another set of arrangement of another set. For instance, this should be…this might be arrangements of boson or of quarks and relate them somehow. So if we to this mapping when groups are in question, then we should have one to one mapping. The mere definition of the first basic three rules is…guarantees – assures that mapping will be one to one when we have arrangement as elements of a set. So what is mapping? If we have one basic set S and another basic set T, then different mappings could be introduced. For instance, we have bijection. In this bijection…bijection is to have together injection which is one type of mapping and surjection. These are two types of mapping. And they give us if both are fulfilled, then we have injection and surjection. Then we have bijection. Bijection is one to one mapping. Since we have group, we have one to one mapping as on (dot?) (T) not into but (onto?). It is called (on tot?) In surjection for every Y if X's are arrangements of individuals or baby universes of S and Y's are elements of the other set. Then surjection which is included into bijection is…for every element Y, we must have at least one element of P…of S. For every element Y of the objective, of the set T, we have one element X for S and maybe more. So the picture is this one. We might have many; but it is not allowed to have empty wise. And injection is…there are allowed (MD?) Y's into the set…onto which the mapping is done which is T; but then only one relations or mapping is allowed.
16:09
Y: Now this mappings is part of this mathematical system; and it may or may not have that application.

B: May or may not. Yes. I still to have…to think. So bijection is both surjection and injection; but what is for sure, it is that we have one to one mapping. What this will mean we shall see. For instance, particle and anti-particle, we shall see. And then the next is semi-groups. There are additional conditions to be fulfilled in order for this to be semi-group. This is another specific. We shall see if Lie groups are semi-groups. Then we shall study it because Lie groups are clearly introduced implicitly in Lila; and we map them one way or another. So if Lie groups are also semi-groups, we shall study this and identify which is which; but if not, maybe not.

And finally groups Lila is finite. There are large number of arrangements; but still since the number of non-physical individuals is finite, then the number of arrangements, no matter how big/large, is still finite. So it is finite.

Y: (acknowledges)

B: Then isomorphism is one feature which should be recognized. Isomorphic. For instance, the operations I have shown this morning, which is in…Every arrangement is a matrix, so our elements are both arrangements. And another way of viewing them is as matrixes. Each of them is matrix.

Y: (acknowledges)

B: Everything, which is allowed for the matrices, is allowed for our system; and which is allowed in matrices is to change rows and to change columns. By changing rows and columns, we obtain isomorphic graphs. So this should be stated that we have isomorphic. We have isomorphism. And isomorphism is connected to one to one mapping. So this is one to one mapping. For instance, Aha! Now, I know. I need time. This is what is one to one mapping. You know, one to one mapping? For instance, we have Hamiltonian like this one which is like pentagram. This is one element of our Lila group. These are Lila groups. And now this could be mapped with bijection which is both injection and surjection into a polygon of five.

Bret: Pentagon.

B: Pentagon, into a pentagon. It is a clear isomorphism; and it is a mapping. So every…but this is regarding the elements. This is another operation in which this mapping should be done. This is isomorphism of the graphs of the elements. But still we are mapping. We are mapping pentagram into pentagon, both being isomorphic Hamiltonians. We are mapping this into this; and this is one to one mapping. This is different; and this is different although isomorphic. *Iso* is same and *morphic* is the form. They are of same form, isomorphic in Greek. They are the same, but still different. So it is one to one mapping. So this is like first steps.

Y: Are they the same if there is no space?

B: Yes. Why not? I mean this is like different viewing of the same thing. I just wondered if these pentagram and a pentagon are in… is it just a connection of arrows; or is it a form in space?

B: Connection of arrows. You see, if I have, for instance, this is one, two, three, four, five; and now if I rotate this, I move this like this, then like this, then like this, then like this, then like this, then like this, then like this.

Y: Connectivity-wise nothing has changed.

B: Nothing has changed really. This is why they are isomorphic. This is why they are isomorphic.

Y: Yes, but how are they different?

B: You have a picture yourself when you were showing.

Y: Yes. But I have forgotten. I remember the picture.

B: You remember the picture when you have isomorphic Hamiltonians. So this is mapping one to one in light of this new approach which is to recognize Lila as groups. This is just another way to say it. You have isomorphic graphs. It could help when we shall come to the point to search Hamiltonians.

Y: I understand that.

B: All the matrices. We shall have to recognize sometimes. Is it isomorphic with this?

Y: Did you say these are same; but they are different?

B: Yes. They are isomorphic, isomorphic.

Y: I understand the word and the concept. But I what to know is…

B: Same but different.

Y: But they are different how?

B: They are. They are preserved the neighboring, so to say, illusionary neighboring.

Y: That's the same.

B: The neighboring of the… it is the same if we have, for instance, A to B to C. A is in states of knowledge of B, B in state of knowledge of C; or A is in state of knowledge of B and B is in state C; these are isomorphic.

Y: How are they different?

Bret: This rule guarantees they are not.

B: Just in the way that you view them. Just…this is why they are isomorphic, isomorphic.

Y: I see they are isomorphic. They are the same thing.

B: Yes, I understand. You understand. I try to.

Y: They are the same thing. They are not different.

B: They are not different, yes.

Bret: This rule guarantees that only the connectivity matters. And we shouldn't trip over how they look.

Y: Ok. I see now. Thank you.

Bret: So you can arrange them anyway you want.

B: So when I'm searching for the Hamiltonian in the matrices, if it suits me, I could change the columns, Li's, La's or change the rows and nothing. And I am allowed to do this. I am allowed to do this while I am building my algorithms.

Y: Ok. Now, I see how you are using it.

B: Yes.

Don: It doesn't change the meaning.

B: It doesn't change the meaning, yes.

Y: Yes, because…

B: Or the neighboring or that doesn't change.

Y: Yes. My first two presentations…they had all the arrows going around; and then they have to show the circle.

B: Yes. Aha! Yes, this is isomorphic, yes. In your diagram, it goes…yes, great!

Y: Accept that there are little errors in it which she caught. So that matches better for form recognition.

B: Yes.

Y: When it is drawn one way as compared to drawn another.

B: Ah! Yes, this is another point, yes. Pattern recognition.

Y: And this is to let you know what you are allowed to do in your matrices.

B: Yes, yes, exactly.

Y: Ok.

B: Should be stated.

Y: That it?

B: Yes.

Y: Ok.

Bret: That all?

B: About the Lie group.

Y: That's a good start. Well.

B: Sixty hours until now, including these two hours, we have fifteen sessions. Fifteen days times four hours, it's sixty hours or thinking.

Y: Yes. I would like to see if we could make some progress on this inflation curve based on the connectivity curve, the second crossover, called the first recursion. Now this is our calculated value. Now the measured value in terms of time is shown. Could you get the radical theory?

B: Yes.

Y: And I'll get the…All right. Now I want to tell you about some different ones, till we find the one we want. Maybe you should write it down because this will be points to be checked. These are measurements; the quantum gravity ends at 10^{-41} of a second. The strong and electro weak force separate at 10^{-36} of a second. Now, they have arguments about when the start of inflation is according to their theories. The older value is 10^{-34} of a second for the start of inflation. Guth says that and 10^{-35} of a second is another value. And 10^{-44} of a second and the end of inflation according to Guth is 10^{-33} of a second in his original paper, and then in his book on inflation which came latter, 10^{-32} of a second. Now, when the inflation curve joins the big bang curve, it is 10^{-30} of a second. Now you have heard me talk about virtual particles that…all right, so they vary from about 10^{-23} of a second, to 10^{-20} of a second, depends on which particles. You would think that the ones that were heavy would cease to exist first. Now, when the electric and the weak forces separate, it is also called the electro weak phase transition. When that separation between the electric and the weak force happens, it's about 10^{-9} of a second. And the lepton era starts at 10^{-5} of a second. Now the leptons are the electron and its anti-particle the positron; the muon and its anti-particle the anti-muon; and the tau particle and its anti particle; and the neutrino. So that is…the time when the lepton era starts is between 10^{-5} of a second to 2 times 10^{-5} of a second. And when the photon era starts, it's about 1 second. Now you've heard of the atom of deuterium often, known as heavy hydrogen. That is hydrogen is made of one proton and one electron. But deuterium is made of one proton, one neutron, and one electron. And when deuterium is being formed, it takes place between one and ten seconds since the beginning of the universe. And Helium is formed between one and a hundred seconds. The Universe becomes transparent. That is when you see the cosmic microwave background pictures. That's right at the time when the universe becomes transparent. And that's 400,000 years.

Don: After the beginning of the universe?

Y: Yes. Everything here is from that zero time.

Don: (acknowledges)

Y: Which only God knows. The peak of the formation of quasars is about 2.7 to 3 times 10^9 years. The first quasars form at about 1billion years. Those are all

measurements of times. Now that (? you see (me?) this morning has some more data on it (at time?)
34:37
For the three-dimensional now time is somewhere between 12 billion 14 billion years.

Don: That is going backwards right? The other thing is…

Y: Those all from zero.

Don: Oh. So it's now. Now you are talking, not when it started.

Y: Three-dimensional now.

Don: Yeah, Ok.

Y: Second recursion now. This is from Steven Weinberg's book at 10^{-36} of a second the heaviest baryons are formed with the Y baryons, with the Y at 10^{-10} seconds. Su2 and U1 break. You were reading about Su2 and U1.

B: Yes.

Y: Well, that's the Weinberg-Salam phrase transition. And he says their calculations show that it's 10^{-10}. Other people show that it's 10^{-11} and 10^{-9}. Now Weinberg also says that at 10^{-6} of a second…that is a millionth of a second…the quarks get changed into hadrons. The hadrons are like protons and neutrons and their residences. That is to say, the quarks get bagged. And I would think that about this point is when the second… when the two-dimensional space ends. And it starts too become three-dimensional.

B: Hadron confinement, this one.

Y: Yes. But he states it as quarks changing into hadrons at 10^{-6}. Then at one second the neutrinos decouple. Now neutrinos don't have any, as the name suggests, don't have any electric charge. So they can…they don't interact with charged particles. They can just…like neutrinos can go through the earth and not even slow down a fraction. Since I started explaining about neutrinos, several hundred billion have gone through your brain, these neutrinos.

Bret: Must be knowledge.

Y: It must be something. And I don't know what. It must be knowledge in some form. Anyway before one second, these neutrinos were interacting mainly because the universe was so dense at one second. But a little more than one second, it got big enough so that they started whizzing through and missing everything. Now, you have a deuterium helium synthesis somewhere in there. Didn't you have deuterium?

Don: No, I didn't.

Y: You wrote down 'deuterium.'

Don: I have, “A deuterium heavy hydrogen formed.”

Y: And what’s the time on it?

Don: One to ten seconds.

Y: And he says, “Up to hundred seconds to form helium 4,” that is deuterium; and joins together with other deuteriums and fuses into helium 4 by time 100 seconds is over. And he says, “Then galaxies form between…the earliest one would be10^9.” I have to subtract 7. Yes, 10^9 and 10^{10} billions years, that’s between 10^{16} and 10^{17} seconds. I have collected these bits and pieces (?) various university libraries. Now you have got a start of inflation somewhere on that list.

41:10

B: Yes.

Y: Toward the top.

B: 10^{-34} according to Guth.

Y: According to Guth and then 2001 in *Scientific American,* it says 10^{-38} is the start of inflation and 10^{-36} is the end of inflation. So that’s by a more recent calculation. Now here’s one. Quarks and leptons form at about 10^{-11} second. Quarks and leptons form at about 10^{-11} seconds. And between one second to three minutes, neutrons, protons form. And at 500,000 years, atoms formed. Now they are guessing here at when the dark energy was created. But they don’t even know if there is any. But they guess that it was formed at 10^{-35} of second. That’s when the baby universes first started to come together.

Don: 10^{-35}?

Y: Of a second, yes. Way back, called the early universe or the very early universe. I am only giving you the main points.

Ok. I am still missing…Ok. We’ll do this (?) instead. Let’s (?) cube the time for the first crossover. And that should give us now. That right?

44:17

Don: I think so.

Y: The first start? No, it would be the start of the second recursion, the start of the second recursion.

44:42

Don: That’s the third crossover?

Y: Yeah, when the first crossover happened was the start of the first recursion.

Don: Ok. Yeah, because this list says second crossover.

Y: No, its second crossover…is the start of the first recursion.

Don: Ok.

Y: So that we squared the value for the first crossover to get that. Didn't we?

Don: Hum. Actually, it looks like the value of the now zero-dimensional original pattern was squared.

Y: We squared… now many arrows. When you get the time when the first crossover happens, would be? And what we squared. Was it?

Don: What I had written down and in the discussion yesterday was that this squared was the square of that value. This was the new…

Y: Original pattern.

Don: Yeah, the new…

Y: But that's…that doesn't belong. Yes, I think you are right. You just tell me which number to cube instead of square. So, what is the value of that number?

Don: Ah, well, that would…you know, little n is times K.

Y: Ah, but then I've gotta' dig all those numbers up.

Don: I don't have a figure for that.

Bret: 1.38 times 10^{23} or?

Y: Well, I want it more precisely.

Bret: 1.382587521265.

Y: That's Ok, right now. I have found something else that answers the question. What's the value we had for the time of the start? Ok, that's not it. That's space.

B: This arch cosine, and arch tangents?

Y: No. Not now, anyway. All right. We'll start then with…K is 12.7 something. I have too many papers. Found one thing.

B: Where you have K, then n which is N capital minus n over *e* to K.

Y: Well, that's one way to do it; or I can just take it off of this.

Bret: I have the *Radical Theory* value.

Y: Oh.

Bret: That is what I was starting to read off.

Y: For what, for what value?

Bret: The number of individuals.

Y: The number of individuals? You mean the number of individuals in the largest circuit?

Bret: Yes. The number of agents in the universe.

Y: Read loudly.

Bret: Ready? 138…

Y: 1.38

Bret: 258

Y: 258.

Bret: 752.

Y: 752.

Bret: 126.

Y: 126.

Bret: 535.

Y: That's little n?

B: No big N.

Bret: The number of agents in our universe.

B: Big N. 1.38…

Bret: That's little n.

Y: All we have to do is find the thing that we squared; and then cube it. So…and I can't remember seeing it.
51:26
B: You had yesterday a table like this one. Isn't it so? K then n; this one, K then n; then this one.

Don: I have the values from *Radical Theory* here for K n, little n, if that were workable.

Y: Then we can use the formula. K is 12.7 what?

Don: 0623721.

Y: Times now. We want to multiply it times little n.

Don: Little n is 1.382583.

B: This is capital.

Don: Times 10^{23}.

B: That is capital N.

Bret: Big N?

Don: No, I am looking on page 30 paragraph 11. It has little n.

Y: Ok. Now we got Kn. Now, we want to cube it. So…

B: This is capital N.

Don: No.

B: The number is for capital N.

Bret: It does look like it.

Y: Ah. It went right off the top of my computer (?) cubed.
53:01
B: Capital N minus n over *e* to K. This one.

Don: But then…

B: Where we have K, and we have n. We might find it; but if we have somewhere… We might find the whole thing. Isn't it so? We have…

Y: Yes.

B: K and we have n…

Y: It has already been done, if I could just find it.

Bret: What are the variables in the formula?

Y: It was right here.

Bret: K…

Y: Right. It's 2 times Kn cubed divided by *pi* times…

Bret: Sorry, I wasn't. I was ready for the variables. What's the formula?

B: This one. N is small. Is N capital? Minus n over *e* to K where K is 12.70623721.

Bret: 706.

B: 70623721.

Bret: Ok.

B: And K? This is K. And N capital is 10.38258752126535 multiplied by 10^{23}.

Bret: 1.038? I thought it was1.38.

Y: 1.38.

B: 1.38.

Don: Excuse me, Biljana. So, is this an error in the printing here because this is a small l, small n; and a capital N is here. I am just unclear. So…

B: (acknowledges)

Don: If this should be a large N here, it definitely should…

B: Yes, yes.

Don: It is very misleading.

B: Yes, yes. This is the table we have been looking at yesterday. In the first, it was K, first column; the second n small; and this n small is capital N minus n over *e* to K where N capital is this one, 1.38 to 10^{23}. And then the third column are this K n small over *pi* over 2.

Don: Because that's what this is…

B: Yes, I know. This is what you put here.

Don: Yeah.

B: Should be this. First this.
56:07
Don: Yogeshwar, is this… (?) I guess there is a confusion here; and I want too clean up the document. Is this meant to refer to a small n in this? There just seems to be some confusion it.

B: Yes, yes. Capital N is being put down.

Y: N was defined just above, maybe not. Sorry, I can't do it.

Don: Ok, thank you. I think the devil has got my brain.

B: (?) Appendix B in *Radical Theory*.
57:08

Don: (acknowledges)

B: This theory, this formula is given although not in the form we need it now. It is given as *e* is K square of N over N capital minus n small. And what we needed is to put it to the degree of K. And then we have *e* to K is n over N capital minus n square. Actually, this one…what was discussed about gravity.

Don: Here, see this is…capital N is 382587.

B: That's squared.

Don: This says 382583 which is about 3 ten thousandth of a percent less. So that is small n.

Y: Little n is a little bit smaller than N.

Don: Yeah, that's 3 ten thousandths.

B: But, you know, no…this is just due to using different program. Actually, here you have… here it is. This is n small. This is L n small N minus N capital over *e* to K. This whole thing is small n. This is small n. And there was a table yesterday where this was given.

Don: (acknowledge)

B: First K, then small n. And then in this latest paper on gravity, this one is also given; and where I put it, ah, yes, here. This is what we have discussed. Ah! You know this. This is small n.

Don: Yeah, small n. And that's this number, small n here.

B: Ok. Maybe, maybe it differs.

Don: (?) *pi* to three
59:28
B: Aha! Which is 99 over 999, yes, maybe, yes, yes. Then, Ok.

Don: So see? That is the same as this number.

B: Yes, yes.

Don: Ok. So that is…Yogeshwar, I think Biljana cleared it up with this paper. So it is …that figure I gave you is small n.

B: Actually 99 over 999996 percent of N.

Bret: Did you get it?

Y: What I am still having a problem with is what are we trying to do? Are we trying to find the total number of arrows at now or are we trying to do it at the time of the first crossover? And I say it is at the time of the first crossover.

Don: (acknowledge)

Y: And there is one formula here on this table for it.

Don: Well…

Y: Now, it should have been one on one of these graphs, on the graph B. Anybody see graph B?

B: There B.

Y: When the first crossover occurs, one-dimensional space. The formula is not on that where you two have been working on the formula for the end. For the end of the recursion instead of the start of the recursion, we did it correctly. We got the numbers correct here for…

B: This graph here, is it so?

Y: First crossover fork X shell, yes. And there is the formula.

Bret: The end of the recursion is different than the start? What?

Y: Start.

Bret: You said the formula for the start and the end of a recursion. A recursion is event…

Y: I can't hear you.

Bret: A start and end are different for a recursion. A recursion just happens. What's...?

Y: What's meant by a recursion is, in this case, the number of arrows that will be in the consciousness of an individual or the effect of the consciousness of a number of arrows. The number of arrows put in to… means a certain amount of time has passed when the first crossover can be expected to have taken place. And there is a formula for that value. That would be the start of the recursion. The…no, it is not the start of the recursion. That's the first crossover. So the second crossover causes a recursion of that. So we squared it. The number of arrows that we took, we squared that value, multiplied it. That's the number of arrows. And then we multiplied it by the *n* second of one time quantum; and we got the result. I just want to do that again for the second recursion or the third crossover. Now either that makes sense; or it doesn't. The end of it is when the two-dimensional space recursion has gone through all its steps to get to the final number that matches 'now' on the original pattern. Now I just said it all; and I can't say it again. I could say it again; but I rather not. It's on the recording. Just replay it.

If I could just get the right diagram…This will due. Now I need something to point with. This is when the first circuit occurs. This is the time and place for the first crossover of that circuit occurs that gives one-dimensional space. Is that right?

Bret: (acknowledge)

Y: According to what I have said before?

Don: (acknowledge)

B: Yes.

Y: Now that took a certain number of arrows. And it says here, it's very close to 10^{23} arrows. We multiplied that times the value of one arrow in terms of seconds. And one arrow is 10^{-55} of a second. So it comes out to be the time of that when the first one-dimension space occurs at 10^{-32} of a second.

Bret: (acknowledge)

Y: But as we add more and more and more arrows, that's going to give you a time that is going to progress or seeming progresses until we've gone to the place where all of the arrows that are/exist as they are now in the present time, present time of the extant one-dimensional realm. So it goes from here to there. Now, when we came to the second crossover, yes, that's the W sphere. We got two-dimensional space. It starts there on top of the one-dimensional space which is in the consciousness. Now when another one is superimposed on it, it is two dimensional. And it runs from there to there. So the way we got this value was to square what we had for this value. And it comes out to be there. And I said, "It's right on that dot." Then there was a third, a second…

Bret: Fourth.

Y: We want three-dimensional space. How many crossovers do we have to have?

Don: Three.

Y: One gets one-dimensional; two gets two-dimensional; and a third one gets a third-dimension. So we cube the value that we got for the first crossover.

Don: (acknowledge)

Y: And that should give us this value right here. And that is what I am trying to do, that last step.

Don: Yes.

Bret: Is that valid? What about the arrows that were added between when the first crossover occurred and the third one does occur? Wouldn't that be what you cube? The total?

Y: No, it would be how many it took to get to the place where first crossover occurred. And that would give you the start of three-dimensional space. And it overlaps the end of the two-dimensional space. And there is a big transition that takes place there. All these particles, virtual particles, stop. And real particles start to begin and start to get their charge on them. And we get…all those things we were reading about take place during this period right in here between the beginning of three-dimensional space and the end of two-dimensional space. And that's why I want all these numbers to be calculated correctly by the right formula so that we can correlate it to all these events and see what in the Lila Paradigm might correlate to the physical measurements. And I think they should all makes sense. And if they don't make sense, then we see what we are missing. That's what I am trying to do. I can't do it. I explained it to you. And there is an overlap between the start of one dimensional space and it goes on up to there, and two dimensional space starts about this time and overlaps. And then the one-dimensional space stops or holds there. And the two-dimensional space runs on to about there. Three-dimensional space starts about there and runs to there. And each one has a physical effect. And when they are superimposed on each other, they do that. And when they are un-superimpose because it…the illusion of time past that point for that dimensionality ceases to exist. And you just have two-dimensional until three-dimensional starts. Then the two-dimension stops and the three-dimensions carries on until now. Three-dimensional now, and that's the end of that. And there is no more going on because it is the extant situation; whatever it is.

Bret: 10^{23} arrows that are involved in the circuit at the first crossover, why aren't we just cubing that and then multiplying times time quanta?

Y: Well, that's what I tried to do and couldn't do it.

Bret: Because of the calculator or because of…

Y: No.

Bret: 10^{23} cubed is 16…

Y: Well, it's not just 10^{23} cubed. The number of arrows has to do with K and little n. It's the number…

Bret: That's why I said earlier, "What about all the arrows you added?" And you said, "They don't count." And I assumed that they didn't count. But now, Ok, they do. All right. The K value changes.

Y: But how many arrows are there is the question? If you just cubed…square the number of arrows, you have to know the number of arrows. And if the number of arrows is K n, then you have to cube K n. That is all I am saying, not just cube n. You have to cube K times n. That is how many arrows are in the largest circuit situation.

B: We have this formula here.

Bret: I can't get *Mathematica* to cooperate. I just have to work it out for now. Other things were happening. But if…

Y: That's how I did it initially, all by myself late at night and nobodies bothering me. And I could finally sort it out.
1:12:46
Bret: So that the formula for (?)

Y: But with all these papers and all these words…I just…and my head.

B: We should state the overlappings. This is start of one-dimensional, end of one-dimensional. But the start of two-dimensional is earlier and interlaps.

Bret: How do you determine numbers when, by… by that formula? We have to come up with values for K. So where is the values for each of those points? Have we…

B: First, we start with K which is one over square of Alpha where Alpha is the coupling constant. And we have…

Bret: That's what we are trying to do.

B: Yes, yes. And we have the value of the coupling constant. And we start with this. And we find that…we have found by doing this…

Y: I found the sheet.

B: That K is 12 over… Aha! Yes!

Y: There is the value of K. There's the value of little n. I calculated it all. I've double checked it, all on this.

B: Aha! Yes, this is the start one over square of alpha. This is the one. And we have it. And then N is this one because we have N big, big N minus n over *e* to K.

Bret: But N and K don't change at all, right?

Y: Not in…

B: In this picture no, yes?

Y: In this picture, no.
1:14:14
Bret: (?) reason that we can't just cube it.

Y: It's only when you are way down the fragmentation time that the values change in any important way.

Don: So what it the value of K that we are using?

Y: K.

B: 12.706

Y: 12,706…

B: Which one over square of Alpha, the coupling constant?

Y: Yes.
1:14:55
B: This is the start. Then the second column is this one. And then we should cube. But first, we should determine the overlapping, where it stands (?) and where it starts.

Y: This is the value of N. Ok, you go. I am glad you are taking care of it.

B: Aha! Let us scope (?) it, you know.

Don: Yes, this one.

B: Here it is. Yes, Alpha to minus one which is measurement…is 1.70623764 is K. K is 12.7062376. Then N is 1.382583329 times 10^{23} which is 99% and so on. Then *e* to K is 3.297986646 times 10^{5}. Then N over *e* K is 4.192216857 times 10^{17}. Then n small is N capital minus n over *e* to K is 1.382583329 times 10^{23}. Then this and this multiplied Kn is 1756743233 times 10^{21}. Let us multiply. N is 23 and K is…

Don: 12.

B: 10

Don: 12. So that would be 24.

B: 24 or 22?

Don: 24.

Y: 24.

B: 24.

Y: Yes. It would be 13 basically times N.

B: Then this Compton's wave length for electron is 2.426310215 times 10^{-12} meters.

Y: Also I'll give the formula for it.
1:17:34
B: (acknowledge) Yes. (?) minus is Lambda C over K N is 1.381141062 10^{-36} meters. Then Planck's length is 8 plus/minus K minus 1 is 1.616796549 times 10^{-35} meters. Then H bar is L Planck length squared. It is 2.614031081 times 10^{-70} meters, meters squared because it is energy. And then speed of light is 2.997924580 meter second to minus 1. Then speed of light cubed is 2.694400240.
Bret: I should have brought my scanner today.

B: (acknowledge) meters seconds to minus 1. Then H bar is 1.05457266 times 10^{-34} jewel seconds. Then speed of light cubed over H bar is 2.55496878 times 10^{59} meters over jewel seconds squared; then G which we have in this also. G is C cubed over H and now times LP squared to here this is n, and so on. So this is 6.67877. These are the dimension. What is this?

Don: Yogeshwar, may I scan this?

Y: I thought it might be a good idea if a lot of this stuff were scanned, either that or just run it off on a copier down town, Xerox.

Don: I mean for like now. I could scan it tonight and bring it back in the morning.

Y: Well, that's all right, sure.

Don: Ok.

Y: You might want to do this one with it.

Don: Ok, anything else.

Y: You already have this one.

Don: Ah, no. I don't have that one.

Y: That gives a lot of the actual times. What?

Don: It says dessert here; and I read it as desert.

B: You're hungry.

Don: No, it just my mind. I'm just thinking of these particles.

Bret: So the earlier time is the K that corresponds with the formation of the first circuit or the first crossover?
1:22:01
Y: No the K is figured on the current situation as of about 10^{-5} times 10^{-32} of a second, in other words, the extant situation. The extant situation, but isn't changed very much by the…In the fraction of a second before that when the first circuit gets crossed over.

Bret: There is present time which the end of three periods, 1-D space, 2-D space, 3-D space. And then there is the first part. What differs between the beginning and the end? Does K change? Does little n change, what changes?

Y: The total number of arrows change. We have two things to answer; one is the time which is simply the number of arrows that exist.
Bret: In the circuit?

Y: Ah, yes.

Bret: Ok, not arrows but arrows in the circuit.

Y: Arrows in the circuit and across the circuit.

Bret: Ok.

Y: Also, those that are connected to from the circuit, but not those that are connected to the circuit. So all of those together multiplied by how much time one arrow is worth, that is called TI or TQ gives you the time. But to find out whatever K's value was at that time, times little n would come close to the number of arrows. While there would be a few less arrows because K was estimated at 12.7 in the now. But when the first crossover occurred, it would be less. But then we haven't counted the arrows that are connected to the circuit. And Michael and I estimated it. And there were about the same order and affected the total number of arrows very little because the time difference between the first crossover and the end of that one dimensional time which is the total number of arrows that exist is very, very small. It's of a fraction of a 10^{-30}.

Bret: That is an interesting discussion. I need a statement what is different at the beginning as opposed to the end? What thing is different?

Y: The number of arrows.

Bret: You are just telling me that it is very small; but we need the number of arrows.

Y: Yes.

Bret: So we need the number of arrows. That's it.

Y: Not the arrows as a difference, we need to know what it is at the beginning and what it is at the end.

Bret: And that is the only difference in the formula.

Y: Yes.

Bret: You're discussing that K…

Y: The formula… I asked Michael, "Give me a formula for how many arrows before you could expect the first crossover to occur."

Bret: (acknowledge)

Y: Then I asked, "For what are the current number? And get that from Alpha."

Bret: And that's the only difference?

Y: And that's the 2n's. And then to find out when the start of the two-dimensional space is, you just square the first number.

Bret: Right.

Y: The lower number. And you square the higher number to get the end of the two dimensional time. Nothing happened that time. You didn't say, "Right."

Bret: I think I understood. Yes, you square it.

Y: Oh, I see. All right. And the same thing for the third.

Bret: (acknowledge) The number of arrows?

Y: It is not a difficult problem when you come right down to it.

Bret: No, but explaining it is. And keeping the terminology straight is.

Y: Yes, because this superposition or reduction of one-dimension and two-dimension and three-dimension time and space is new. Nobody ever thought about it before.

Bret: But the size of the circuit doesn't change. The space, sorry, the arrows the K changes a little; but the size of the circuit does not.

Y: No, or hardly at all because there would be a few less arrows in the circuit just by probability.

Bret: I see that, yeah.

B: Here it is given actually how it is. n small is 99.9996968 percent of N capital. So it's…

Y: The only purpose for using that is to make the calculations more accurate because there is…when you count it the difference between them is 10^{17} to 10^{23} is 10^{7}. No, it's more than that. 10^{17} is a very high number. 10^{17} individuals.

Bret: Difference.

Y: Less.

Bret: Oh. That's a lot.

Y: And big N and little n.

Bret: Ah! Ok.

Y: Yes.

Bret: Ok.

Y: Ok. Since you have been running on your own, go right ahead doing it. And if you have anything more to discuss, or you don't; you can turn off the recorders.

B: Thank you.