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Formal talk-27102006 morning day7s2
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Y: Means or that means.

B: So I had an idea maybe this morning that I might present to you just a part of this mathematics how I imagine it to be.

Y: Go. Do it.

B: For instance, I want you… a very… something we'll need for sure, and this is implication. What implication could be. What is implication?

Y: I don't know.

B: For instance, if we are to build a logic we should have some basic axioms as you have it here in this seven because the eight is summarizing them all. Maybe some added and so on. And once we have this the next step will be to know… to include into the picture first operations. We should recognize the operations, is it act on direct knowledge, it sure is. Or the attributes, the four attributes,

Y: Yes.

B: Then the agents.

Y: Yes.

B: So these agents would have four attributes assigned to them so they're in start for the measure ( ) so to say. And so on and so on. And then next step will be to introduce logical operations. And it will be clear and uncertainty will not be into picture.

Y: (acknowledges)

B: Then will completeness.

Y: Logical operations of what? What would be operating? The agents?

B: Yes, I have gone over that stage by assuming we have done it.

Y: (acknowledges)

B: I wanted to just present to you just what implication is.

Y: OK, go on then.

B: And what is the line of thinking and is it OK.

Y: Go on.

B: For instance, in logical… In Boolean algebra, for instance, and in discrete mathematics it is known that when we are dealing with zero, meaning false for a statement and one meaning correct, then when we have implication. I have a point to make but it is complicated.

Y: Take your time.

B: For instance, we have. I'll start from the beginning. We have A which could be in the state zero or one. We should appoint meaning to it. Later on. Then we have B and then we have A implies B: There are other operations like this one but the reason I am choosing this one.

Y: You're not talking about agents here now? You are talking about a state. A state of A implies B:

B: Yes.

Y: OK.

B: I have pick up… I have chosen this particular logical operation because there is a certain contradiction into it. The others are straight forward. The others are not. If A is correct, what do you say it? A bar is.

Don: Not A.

B: Not A is incorrect

Y: Null A

B: Null A is incorrect. Maybe I should have started from the beginning. But they are straight forward. Now I'm picking this because I am choosing this one which is implication because we will surely need it; and it is somehow different from the others. It is un-logical at first sight. So we have A might be one, B one. Or A might be one B zero, or A might be zero B one, A zero, B zero. So the implication is, the whole, the over all state of A, implies B if A is correct and B is correct; then the over all statement is correct.

Y: OK.

B: If A is correct and B is not correct... If A is not correct and B is not correct, then the overall statement is correct. If A is correct and B is not correct, the overall statement is not correct. And this is all logical up to this point.

Y: OK.

B: But this was my point. If A is incorrect and B is correct, then what? Then it is correct which is a great point! So out of a wrong assumption any conclusion is correct because I am not responsible for the assumption. This is contradiction at first sight. But it also solves a lot of problems.

Y: What at first sight?

B: It is a contradiction at first sight.

Bret: It's a singularity.

B: There are many explanation to it. And they all prove that this is correct.

Y: OK.

B: For instance…

Y: If there is another individual. There is another individual. And you are not responsible for that.

B: Which?

Y: This one.

B: This.

Y: That A implies B.

B: Is correct.

Y: So that there is B. But that's that rule that an individual must exist in order to be able to accept them.

B: Yes.

Y: That has nothing… It exists whether A or not. I am just saying is that what this is?

B: Yes.

Y: OK.

B: There… for instance. in these quizzes where questions are asked. You might have a wrong assumption. For instance, if the question is, "Which one is the capital of Canada," for instance, and you have four answers. One is Toronto, one is Montreal, one is Paris…

Bret: Washington DC.

B: and Washing DC, just one is correct.

Bret: Depends on the individual's perspective.

B: And you are thinking and you say, for instance, "Paris is in Germany," so it couldn't be the capital of Canada. And you got it right although your assumption was incorrect. So this is the explanation. This other is OK; you solved them. You say, "Paris is in Germany," so it couldn't be. It couldn't be.

Y: So if I were to accept an individual as a human body, then my assumption is incorrect. But that there is an individual is correct.

B: There is more to it if you have patience, you know.

Y: OK.

B: To show this point because I like it very much.

Y: Well, it is certainly basic.

B: Yes. There are others. There are lots of them, but I have chosen this one. For instance, (Countors?) you have mentioned (Countors?) several times and he is involved with the discussion with (Cronic? chronons) about whether the universe is continuous or discrete. So he give his… Based on this logic… He is giving… His has proved that zero is a subset. We could use this. Zero is a subset of any set.

Y: It is a what of anything?

B: It is a subset.

Y: Subset. OK.

B: Of any set. For instance, this one A is in a state of direct knowledge of B ●, is a subset of A is in a state of direct knowledge of B ● in state of direct knowledge of C ●. And now, how he does this. For instance, we have an element in our basic set which is A. And let's say this element X belongs to A. If we have a bigger set B, we said if out of the fact that X belongs to A, this implies also that X belongs to B; then A is a subset of B:

Y: OK.

B: This is one assumption.

Y: I will be right back.

B: Yes, yes. OK.

Don: That zero is a subset?

B: Of any set.

Don: Isn't that a null set?

B: A null set? Ah, yes, null set of no set.

Don: Null. A null set. A set with no numbers. In Lila we don't have…

B: I know.

Don: That's because you can't make into all individuals (not?) exist.

B: But you should note it. It should be noted if you are building mathematics.

Don: Yah, well, in this case, you wouldn't have… if existence.

B: I know. But if I am to use this one, this one, and this one, I must have this one as well at least to exclude it. The positive state of no knowledge.

Don: Yes.

Bret: A positive state of no knowledge is different from no individual.

Don: Yes. No, actually you may have something there.

Y: OK.

B: You could think about it.

Y: Subset.

B: So we have this on one hand. If this element belongs to set A and if X belonging to A implies that this element belongs also to B, then A is a subset of B: But, for instance, if this is not correct which is the case for the null set…a null set is a set with no elements.

Y: (acknowledges)

B: So if it is always incorrect, then we have zero here. And this is correct for any set which do have an element in it. Then we have the situation null, null pointing to one; and the over all situation of this one is correct.

Y: So that's your explanation of that.

B: This is my explanation. Now we see it is logical because this zero here means X does not belong to A. If this implies X belongs to S where S is any set and which is correct, therefore one. Then in order this overall statement to be correct when we have X does not belong to A, this should be always incorrect. Actually whether this is correct or incorrect, we are always correct because 1-1 implies correct. And 0-1 implies correct. So if the second is correct, the first doesn't matter. Either it is correct 1-1 brings to one, or it is incorrect 1-0 implies also one. So when the answer is correct, no one will ask about our assumptions because incorrect/correct brings to correct and correct/correct brings to correct also. So because all we have to do in order to prove that an empty set or a null set is a subset of any other set is just to prove that this is always incorrect. And this means that there is no element in A. And this is null set. This is what null set is. All we have to do is…

Y: So I see the approach that you're are taking. And I think this is something like… this would be what needs to deal with the non-physical realm.

B: Yes.

Y: Still in order to fulfill the definition of a valid theory, we have to be able to make physical predictions that are testable. So we have to somewhere after this is done correctly, then make the connections to the physical so that it can be tested. But this is the logic behind it. And it's the right place to start.

B: This is where I could contribute at this point. Later on I believe I will go deeper into particle physics and be able to see the essence of this. Why this is energy? Why 1LP is…

Y: Is energy?

b. It helps me a lot to think in this lines. But it helps me to understand what you have done so far, but not to do the next step. In order to do the next step, I should know more, for instance.

Y: Got it.

Bret: The pathological possibility you mentioned of a false predicate. Is that simply accepted or is there a resolution to that? Is that as far as they go to accept that it is the way it is?

B: It is the way it is. It is how all the technology of computers is… It is based on this logic. It is how it is. It could be proved in different ways. I have just chosen two. This (sqeese?) and this Counter's proof of no subset of any other. There are more and more and more.

Bret: To me all it says is that statement carries no information.

B: It carries information. It does carry information of the same quality as any other of this. It does bring information.

B: I could show you more examples if you want. I could show you. Maybe this is good for the end of the session.

Y: Yes.

B: This is very good where you could use.

Bret: The information that it carries is simply that this outcome simply has no dependence on the input. There is no relationship between the output and the input at all. The output is true no matter what.

B: There is if the input is zero and the output is one and if this overall situation is to be implication. This is a key point. It could be other logical operation. For instance, contradiction or exclusion or exclusive or what are the others? There are other logical operation, but I have started from the middle wanting to point out something. If we start from the beginning, you will see the whole logic of it. We have different logical circuits.

Y: This is your paper here.

B: OK, thanks. For instance, this is for fun. Maybe I'll tell you a puzzle. A crime has been committed. And then the detective came to investigate the case and he states that… four statements. He states if the butler is (tender?) shoot, then so is the cook. Then he states that the cook and the gardener could not tell the truth at the same time. Then he states the gardener and the handyman could not lie at the same time. And finally he states if the handyman tells the truth, then the cook lies. So the logic behind this is how to solve this problem. Who is telling the truth and who is lying? Who has committed the crime? So the first think if the butler is telling the truth, then the cook lies. The cook and the gardener could not tell the truth at the same time. This is a equivalent talk too and this is another logical operation. This is implication. And there is equivalence. And maybe this is where from your statement came, you know, when we are talking equivalence. This is something different. But we are talking (consectness?) implying. Imply is different of being equivalence. So if the input is zero and the output one, if the logical operation is implication, this is correct. But if it is equivalence, it is not correct because in equivalence both should be correct, this way and this way. So there is a difference.

Bret: Yah.

B: Now, this second statement states if the cook and the gardener are telling the truth, it is the same as telling... either cook is lying or the gardener is lying. This is the so call De Morgan's laws. So we are stating the cook and the gardener could not be telling the truth at the same time. This is equivalent as if we were saying either the cook is lying or the gardener is lying. This is the same. So further on, the third is the gardener and the handyman could not lie at the same time. So this is equivalent as if we were saying either the gardener is telling the truth or the handyman is telling the truth. And finally, if the handyman is telling the truth the cook is lying. So if we follow from the beginning and we say, "Suppose that the butler is telling the truth."
So we have one here. It implies that C is also telling the truth because if B then C. If this is correct, then all posits of C or not C is incorrect. And when we have or as you have here, either this is correct or this. This is incorrect. So this should be correct. So the gardener… not G is correct, if we have the overall statement to be correct because if… we have stated that this is not correct, the other one should be correct. So it is correct so far the gardener is lying. If gardener is lying, then G is zero in the first statement. If this is zero, then next should be one if we want the overall statement to correct. If the gardener is lying, H is not lying; and if handyman is not lying, we got finally that the cook is lying because this is implication where we have the first statement one. One zero one-one implies one. If this is correct , then the cook is lying is correct. So we have contradiction. We have here the cook is telling the truth and came to the conclusion that the cook is lying. So the cook is lying in any

case. So the cook is unreliable. So he is lying in any case. And then he brings down the whole chain if he is lying. Then B to C brings no information. H to C not to C bring no information because either it is true or lie we always have contradiction. So this also falls down because once we know cook is always lying. Now we have one here. And if it is one, the other member should be either correct or not correct. So this does not bring any information at all. And finally, we have the statement G plus H is correct. So either the gardener is telling the truth or the handyman is telling the truth and this is the final solution. By thinking. But it could be done easily by mathematics. When you multiply all this, you got a solution.

Y: (acknowledges)

B: Shall I do this also? Shall I multiply this now or not?

Y: We have five minutes. I want to show once we have the basic statements, then it would be done easily. This whole thinking which was presented here could be done by multiplying. For instance, we have D implies C. This means either not B is correct or C. For instance, I say, “If the weather is nice.”
 If the sun is shinning, B. If sun is shinning, then I’ll go to the city, so C. So B is if the sun is shinning implies I’ll go to the city. So this is equivalent with either the sun was not shinning or I was not in the city. If it shines, I’ll go to Merimbula. Either it doesn’t shine or I am in Merimbula. So this B implies C is equivalent to not D or C. So this is the first statement. Now I multiplied this first statement with the second statement which is C not. Or not C or not G ( ) and is always multiplication, G or H and I multiplied this with this final statement is H multiplies not C. This is equivalent to not H or not C. So finally, I multiply with not H or not C. And if I multiply all this, I have not B not C, or not B not G or C not C or C not G. And this should be multiplied by G not H or G not C or H not H or H not C. This couldn’t be correct because we could not have at the same time C and not C. Multiplication means end. So this is always zero. And this is always zero. And finally, if we multiply it all of them, we finally got the same, G or H.

Y: What is this called, this procedure?

B: This is… All these are fragments of discrete mathematics. These are different logical operations, the way they are presented in discrete mathematics. Once we are dealing with discrete mathematics, which we are aiming to, we should introduce all this basic logic. But then we should be (prone?) to all this by (lears) in terms of Gödel Law of incompleteness. And I have seen this incompleteness in the book you gave me by Spencer.

Don: D. Spencer Brown.

Y: Spencer Brown.

B: Spencer Brown, he has a similar logic to this one although differently presented. My point is we should have some (two?) to do things but also limitations. Just the same as the case we are introducing length quanta and time quanta into picture. Just different, you know, these are all limitations. Gödel Law is presenting limitations in logic just the same as theory of chaos. And this age of chaos is presenting limitation in solving non-linear systems and having recursions. And just the same as Theory of Relativity is point to other limitations. And just the same as uncertainty law of Heisenberg is pointing to limitations of the instrument have on the measurement. So these are all different pictures of limitations in science.

Y: Yes. What I am asking is what are we describing? What ultimate reality does this describe? The thinking process of logic? If so, we have to show it in the Lila Paradigm in terms of individuals and their states of knowledge. And also like the rule of… If you are in a state of knowledge of someone that includes the state of knowledge that they are in. So that you are in a state of knowledge of their… not only them, but of their states of knowledge. So we have to be able to show that.

B: Yes, yes.

Y: You could give me a simple example of just A, B, C, in terms of and to see what does this give us as a result that we don't get from say graph theory or matrixes.

B: It is imbedded in graph theory and in matrixes as well; but maybe it could show it makes things easier. This is all you know... They are all parts of a huge field of discrete mathematics, graph theory. Graph theory is included in discrete mathematics. If you have a book of discrete mathematics, for instance, Saatchi, then the first chapter is theory of graphs. The second chapter is logical functions. The third chapter is theory of sets. The forth chapter might be spanning trees, the theory of threes which we have in Lila Paradigm. So they are all interconnected, and they all are pointing out to different aspects of the whole picture. So we should have matrixes, we should have logical functions…

Y: So that is one project. Another project is then use that and make connections to physical phenomena. Identify which statements describe what physical phenomena. Once we have that, I think the job is done.

B: Yes, yes. This is to recognize the basic operations.

Y: I think you are on the right track. OK, lunch time.