

**Selected Topics in Psychology**  
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**Module - 3**  
**Lecture - 12**  
**A Beautiful Mind-Perspective on Brain, Mind and its Challenges**

Good morning, let me tell you this lecture is a prelude to the one on second. I named this actually picked up the title from a film. A beautiful mine you would have seen that. But, the purpose is different, if you look back into the history of modern man. You can dated back to say 2 lakh years and that 2 from anthropology and fossil studies. But, what we know of history, but we do not know anything about that man. About the mired, we just know the skeletons and whatever we found in the digging of Siberia and Africa.

But, what we definitely know is 40,000 years. You know the history of 40,000 years. In Sudan caves of France and Andaman Nicobar and in a place called Vampothika and Bhopal. What you find is the first time the expression of human mind? A cave paintings very primitive color taking from leaves. And then, they have painted simple things like hunting, animals and all that. But, that was the first recorded evidence of human expression rest nothing is surviving.

So, from that time 40,000 years till date till 22nd march 2013, 8 O'clock in IIT, Kanpur. There is only one single robust fact, which has merged. From all script us, from all preaching's, from all art, from all science that the world only means anything if at all is through your mind everything. All the drama of the world, all the inventions, all the art, whatever you are believe in, is there any existence beyond mind, your mind shuts off you are life.

But, you cannot make meaning of it, if the mind shuts off you do not make a meaning of it. If the mind shuts off you cannot create anything, you may still survive. But, you will not you will be living. But, there will be alive or not. The whole boundary between being alive and living they having some meaning. I am not saying that meaning is true or false or right or wrong, But, to make some sense of the world and to create. Obviously, whatever you were using this register, here according all these it is a creation of mind.

But, the problem is we survive through mind, but we do not know anything about it or we know very little about it. Is not it? Whatever we know of the mind has actually come out in the last 30, 40 years. Whatever we know of the functioning of mind has come out in the last 30, 40 years. If we look it from the angle of science, if we look at the angle from philosophy, they have been describing right from Krishna to the western philosophy.

So, they what have been they been talking? They been talking about mind only. How the mind functions? How do we think? How do we love or die all that stuffs. But, they were all theory, there is no way to prove it. And then 200 years back some people started dissecting and taking out the brain, so they told us the structure. Then, came in then physics butted into biology, the way of biology was that is if there is a problem in brain, if there is a deaf set, then they would realize that this part of brain is doing this function.

And you have a problem in other part of brain some function is lost, then you would realize that this part was doing this function in your body. So, biology starts from top down, it takes the whole thing as a whole create a deaf set and then you correlate with the part of the brain, which is doing that function. Physics starts from the different angle and you all have studied physics.

So, what is the basis of physics you all can keep talking in between, basis of physics is principles. A whole physics operates on principles. So, physics is trying from different the angle from a bottom up approach. They are trying to define principles of brain functioning. Biology trying to define what is the whole picture, but both have not achieved the, until now. Why? Why it so difficult to understand mind any ideas?

Student: Because, how can I use my own mind to ((Refer Time: 05:22)).

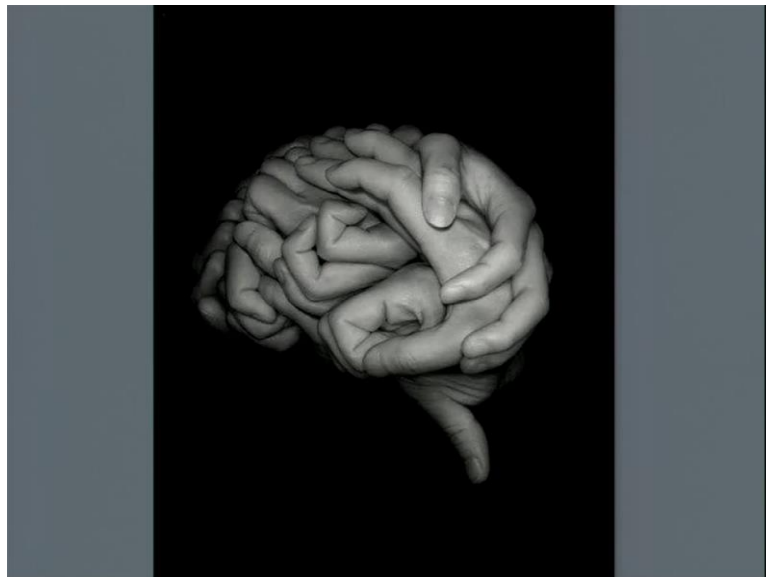
Right, to do understand mind is the mind itself. So, it is like sitting in a painting and trying to see the whole painting. Is it possible? It is a very difficult. Because, one part you cannot see here. Even if you turn this side, to this side will go. So, but whatever, so my purpose is next 30, 40 minutes and you can please keep asking or disagreeing or whatever is to tell you whatever we know.

But, then the problem is that at one hand is the functioning, one hand is the structure and then there is this whole world. In which we have to live as human beings with our brains

every day. So, all three streams are not making sense to each other and the top it is psychiatry. To the top the whole thing is we psychiatrists. We have defined something called illness, we have defined something called sanity, mental illness this that and we treated.

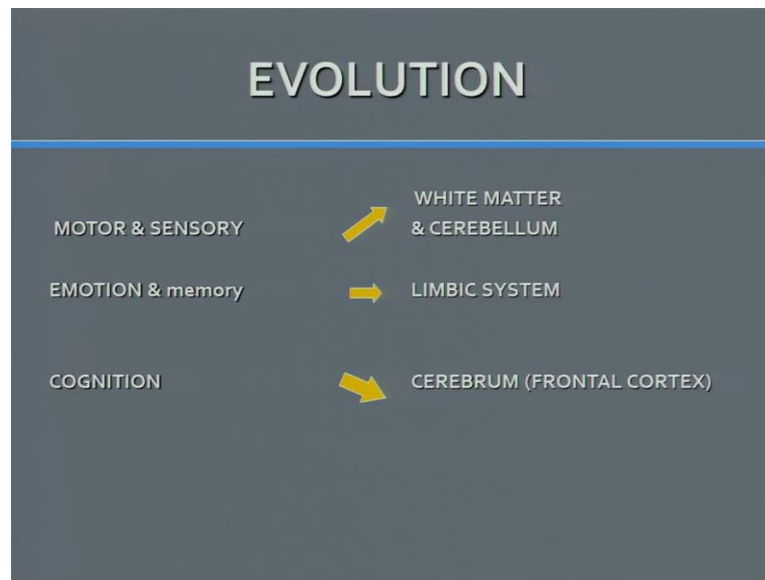
Without knowing how we are treating, but we have very effective drugs which go and treat. So, there is a whole lot of confusion going on. So, let us talk about healthy mind this time and let us see what happens to the unhealthy mind. If at all there is an unhealthy mind, we really do not know. But, the problem so there is a brain, there is a mind and then there is a whole lot of life. So, let us see, if we can make some sense out of it.

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This is I picked up from face book, where is actually this? So, many hands they all united still separate. And why I am saying we will see as we will go along.

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If you look at evolution, the first thing to evolve was in the living beings, in the animal kingdom was the part of the brain, which is called white matter and cerebellum. Even the simplest of structure what was the simplest of structure? Ameba which is a complex living being bacteria's and viruses were always been there. They there was lot of movement, so movement was always there, which is called a motor thing. The ameba if you poke on little ameba then it will retract.

So, there was always a sensation. So, the first thing to evolve was the movement and sensation, which is this part of the brain. Second was in the evolution, emotion and memory, birds have memory, birds have emotions. All the animals who cannot speak have emotion and memory. Otherwise, the birds from saviria would not fly down to like same lake every year. Otherwise, the animals we would not follow the same route.

Otherwise, the and there were lot of smells they have a smell capacity, they have hearing capacity, they have this sound system, pattern recognition, some birds can actually count. So, this derogatory statement, which was there that you have a birds brain is actually a complement. Birds brain cannot think, but it can grasp lot of other sensation can dogs gets can sniff. Horses smile and cry and they know their track and all that. Now, the question is this part of the brain came second, which is called limbic system.

So, it was like this is a deeper part, which determines the movement. This is a part above that, which governs emotion. And then comes the human angle cognition, which is all

these, all bombs in your head. These are all thinking brain from here to here. But, the question is that what happen? We do not have capacity like birds to create sound. All this queuing and this sounds which brain create these all patterns. They are communicating, but our capacity is gone. We cannot smell like a dog, we cannot see very far in the dark.

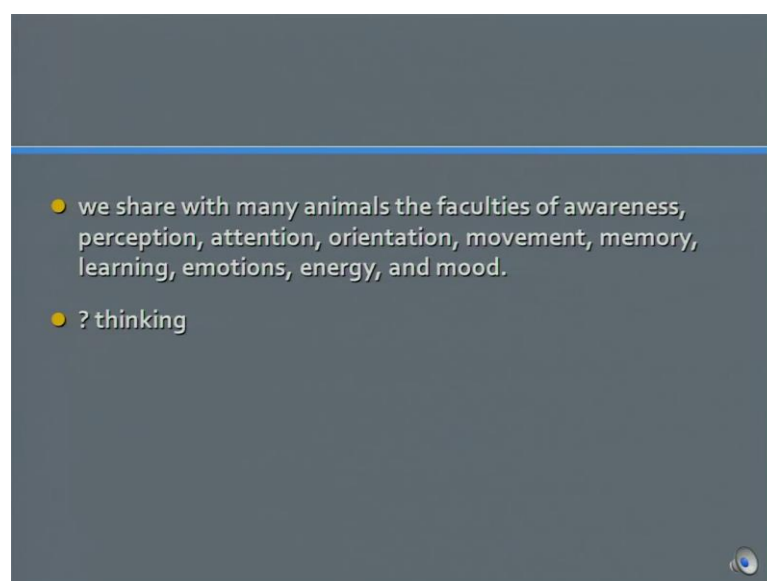
What happen in the evolution? I think what nature did is that, this napped everything. It took out all this extreme abilities, curtail it down and created a thinking brain out of it. So, you have all the capacities, what all animals have you can even crawl like a reptile. You can even walk like a dog, but you can also walk like this. You can hear sound still on a certain decibel not beyond that. You can smell from a certain distance, but not beyond that. You can remember patterns, but not beyond that.

So, that was a cost, which we had to give for this part the brain for what we called cognition. Cognition means thinking, appreciating, perceiving and all that is making the meaning out of life. So, this cognitive ability animals have, but I do not think they have a language. If they have a language they have a visual language. And the nearest washer, who?

Student: ((Refer Time: 10:48))

Orangutans and gibbons we have all of behavior of gibbons actually.

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So, we share with many animals the faculties of awareness, perception, attention, orientation, they all expert and some of them are more expert than us. Emotion we do not know, energy and mood. I think they are animals are more moods stable than human beings. I guess so. I do not talk about monkeys in the cities. They have become like us, a largely animals have they do not have greed also. A land would not good go and kill that if system is full.

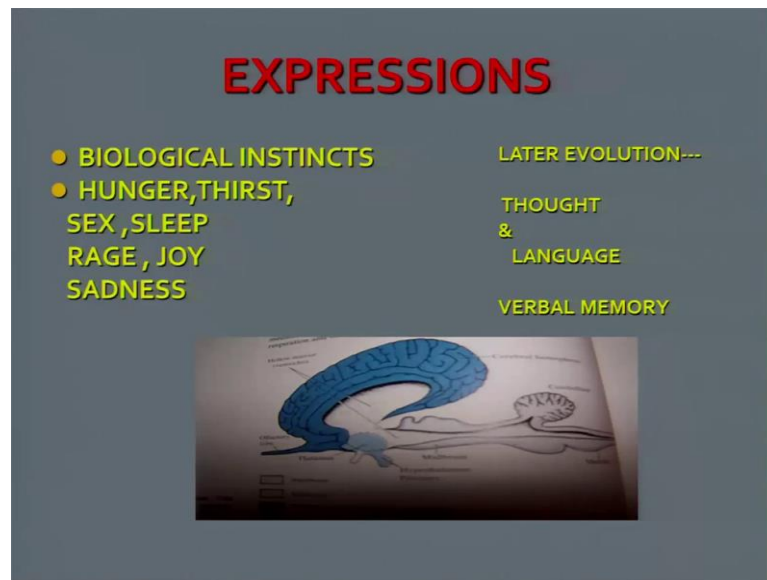
So, only when the hunger calls then you go, we can have we save and invest and do all that. Because, so again this is the cost with each cost we have been separating ourselves from the whole flow of the nature. Because, when you say live like a dog. I actually I do not find any problem in being like a dog. Dog is in synchrony with the nature. What is the problem? You are an animal, animals are more synchrony with nature.

They only rabble when go and poke them you cut the jungle and do not give them fold and all that. But, otherwise they do lot of things in synchronicity with nature. Like, if you know about the solar eclipse even before the solar eclipses starts even before that. Even before our human eye can see that there is some darkness in pentane. And I have seen lot of solar eclipses.

I have driven down to brown sea and all that to see, all this herd of cows and they used to turn back and started moving back towards their own, even before it started becoming dark. And the birds change their course of flight they suddenly take u turn and start going back. And that is the first shine that solar eclipse is happening. Much before it starts becoming dark and I have photographs you can always share that. So; that means, they have other capabilities.

So, the sensation and the whole synchronicity is much better than human beings. But, what they do not have is this thing called thinking.

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We think we have areas in the brain, which can make you think. So, how does the mind express? Let us bother about ourselves and forget the animals for some time. I am not compare ourselves with them. Although, I think if we have the motor brain in us, which was high up in the evolution, we have emotions, emotions all across the world are the same. Do you know this? You know when anybody, who when they smile you say they are crying.

No, crying is crying across the world, smiling is smiling across the world, laughing is laughing across the world, irrespective of language, irrespective of where do you live, whether you are urban person or rural or you are living at in a travel area. Why is it happening, any idea?

Student: ((Refer Time: 14:07))

We all have the same mother. Modern man descended from one lady in Kalahari district, in Africa. She had 4 daughters, who migrated out spread into Asia, China this and that. Chinese all this while we were saying that we are different, but they are not different. So, our genetic makeup, genetic makeup determines who we are. The racial genetics is the same 70 percent genes we share with Africans, Chinese so on so forth.

So, if we keep trashing back we all have the same mother. The single lady, whose genes actually went into this 4 and then spread out. Actually, we can measure that.

Student: Poles of color.

That it is always assumption. Maternity is a fact, paternity is an assumption still. So, now what genetics have done they have measured this mitochondria, this is small organelle in the cell. And seen the genetic changes in that, it has given the number of migrations. May that one the very, very stable genetics, it has given the migration, so 6, 7, 9 generations, 10 generations, so that is the understanding today. So, that means, human beings are genetically connected.

So, there is some fact and then people say all is one, all that spiritual statement which they maybe ((Refer Time: 15:48)). It is a reality then, if all is one then all of us are connected, at least we are 70 percent connected. So, expressions of emotions is regulated there, so it has to be the same. You cannot find laughing and two different expressions for laughing in across the generation.

Because, all that is already programmed in the brain, nature has done it wonderfully. It has actually done such patterning in the brain that you really do not find it. But, as human beings we need to express, so what are the expressions of the mind. Biological is things all of sad hunger thirst.

Student: Sex, sleep.

Rage, joy, sadness, playfulness we all have this. If you are a human being you will have all this. In later evolution came thought and language. Now, this is our bone, this is our brain. We started thinking and then we developed language. Now, why are these so many languages, why? Nobody knows. But, there are languages within India you know how many languages are there. And within languages there are, so many dialogues. They all were used to communicate all languages are basically to communicate.

Even that queuing of like bird is communication. When you cry it is a communication, when you smile. So, what was not happening through words was happening through emotions initially. But, then we got words over it. But, when you use words there something else, which came as the language evolved. Do birds have memory, dogs you think they have? Yes or no?

Student: Yes, yes.



How do you know?

Student: Because dog can.

Can recognize you,

Student: ((Refer Time: 17:42))

So, they have that is what, that is visual memory. Dog will recognize you through your facial and bodily and smell and all that elements. With human beings and language what evolved was something called a verbal memory. We started having memory for words. Now, if you look just for second is go back, what is a word you say rose, what is the rose, what is it?

Student: A flower.

Right, what is the flower? How does it represent in your head? How does it?

Student: Take a smell.

Close your eyes and think about rose, close your eyes, think about the rose for a second.

Student: Only peoples on the petals.

So, for him it is petals, for you.

Student: It is the color and...

It is the color.

Student: He saw a rose.

He saw a rose.

Student: ((Refer Time: 18:50))

Student: It is the Roma.

Roma, nobody as a girlfriend called Roja. Some people can think girlfriend called rose. Why are there, so many different things for one thing, forget about different things. Just look at the word called rose r o s e. Is it different from a facial pattern, the dog

recognizes your face by your facial pattern, we recognize by this pattern called r o s e, we say chalk c h a l k this is all pattern. All words wherever are represented in brain through a pattern.

And there has been some meaning which has been assigned to this pattern in the outside world. Imagine the rose should have been called donkey, suppose somebody started had started calling it a donkey. You would have called it donkey who knows. It did not decent from anywhere. So, the brain makes sense of the world by two wonderful things. One this is called I think brain works by using metaphors for metaphors.

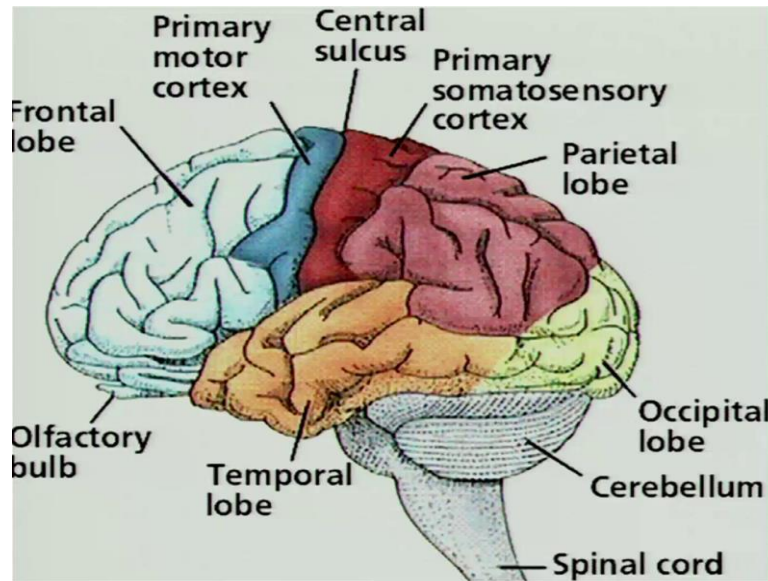
You have a rose, you have assigned lot of qualities, colors, smells, patterns, thons, this that love this is all is not it. And then your mind learns that it learns a pattern called r o s e, it learns a petal pattern called this multiple petals and color and smell everything is in your head. The movement you hear the word or you see it. This is also wonder or you can either see or hear it. Either way the whole memory will come up. So, wonder computer is not it.

You put this thing or even if you forget this rose and forget the smell and forget the color. You take out the thorn from that stem. For most people it break them. They will immediately go to rose, because sometime in their life thought would have got. But, suppose somebody has not had a break of the thorn thought they would not know. So, lot of things go inside the brain, brain makes the pattern out of it. And does this wonderful thing called association, like suppose you say word called love.

Just imagine there are 1000 things which have been associated with love. Whether they are true or not is not the issue, the issue is your brain knows chocolate is love, rose is love, send valentine is love anything. So, out of these general meanings that the people have a specific meaning for love, or somebody is the [FL] very is important, that is love. For somebody wife asking for [FL] in the evening is love.

Husband bringing a sari is the, so all this is a meaning with. So, their general meaning their personal meaning brain is wonderful, it still has all that inside. Half of fit man never used in your life, but still there you just trigger it and you let the whole association. So, but it all symbols, but is there anything more to it. Will just come that side think? I will come to that slide.

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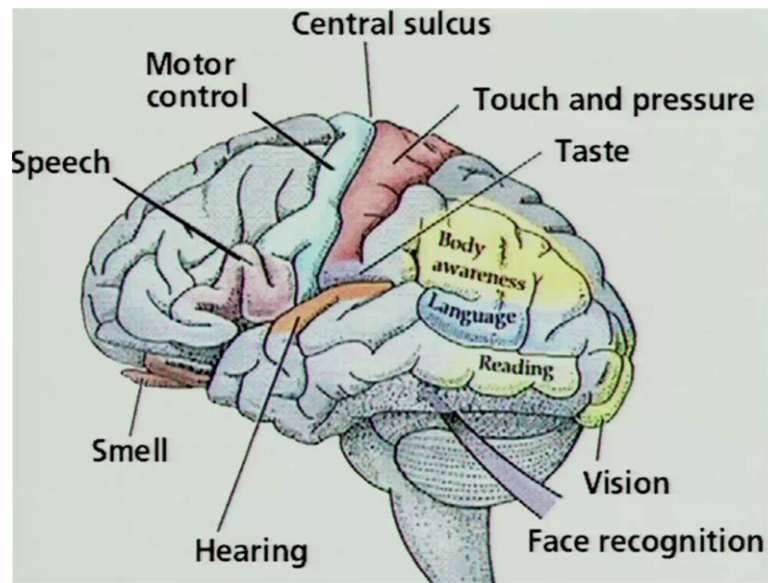


So, once you have this verbal memory, this is a structure of brain, front to back. So, here this have frontal cortex here. Then you have something here this area for sensation. What where it is written central sulcus, sulcus is somatosensory cortex this is all sensation, this is all memory. This is all for memory left side is for verbal memory right side is for visual memory. So, we have everything from birds to reptiles to everything. Whether we use it or not it is different question.

This is cerebellum where you have all the your movement and all those patterns are normally, if you learns bicycling once you never forget it. Once you pull, learn to pull a trigger of revolver you will never forget it. Why? Because, that movement pattern is already stored here, you just have to bring it out. So, the potential of mind is tremendous, potential of brain what is mind we will come to that.

So, and then this area is a thinking. Then there is again a division of left and right. You all would have heard your left brain or right brain or you are.

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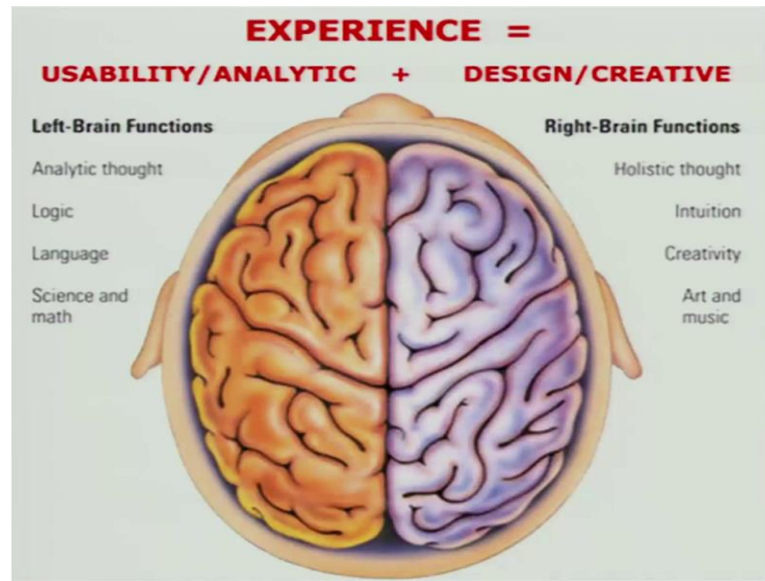


So, these are this area is speech, this area. These are touch pressure test body awareness, language, reading, hearing all this has been known by one simple technique. They have studied people, who have got brain damaged in this areas. This shows the older technique, when there was no physics said not helped us. So, at that time when somebody had this suppose paralyses on the left side.

They would see in do a postmortem or whatever they find some blood clot sitting here on the right side. And they would know, this is the area damage and this is the deaf sets. That is how they mapped it. But, the lot of finer things they could not mapped. Because, obviously, finer things you would not know that somebody can forget names, somebody can forget counting.

So, somebody cannot recognize faces, these things they could not do it. And where is the mathematical ability come from. Some people are strong in mathematics and some people are strong in language. So, why this differences?

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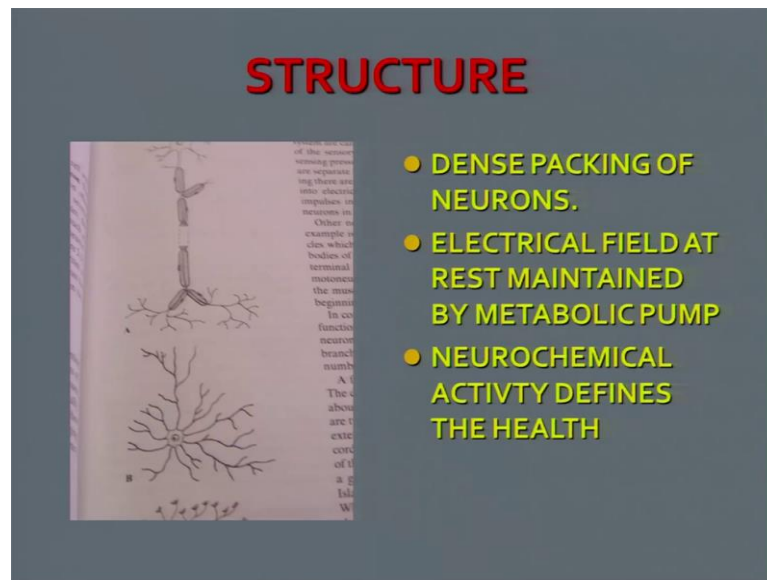
This is the left and right brain. Again there is a hole she is getting complicated from a simple walking reptile to human beings getting very complicated. So, many areas, so many why does the brain have multiple things, for one simple thing. If it wants to experience one thing, why have so many centers that still a mystery which we do not know. Between the left and right left brain is generally considered to be a thinking brain.

And the right brain is considered to be the brain part of the brain, which looks at the overall picture. Analytical thought, logic, language all comes from the left side. On the right side is holistic thought, intuition, creativity. Not that the this stops and this starts working or the right stops and left starts it is not that. Both of working, both of connected both communicates with each other. But, some people have a stronger right brain orientation.

This is all theoretical there no way to prove it. I mean psychologists can prove it with test and all that. But, still you would say ((Refer Time: 26:17)) very, very robust thing it is very difficult. But largely this is to understand. People who have a problem in the temporal lobe over here, sometimes they cannot understand language. People who have on the right side they lose this thing called tone.

This is thing called you know what music is all about they were the pattern. This side they lose this thing called prosody, they lose this pattern of understanding.

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So, but this picture change very fast, this is the basic structure of brain. The dense packing on neurons some 1 million, this one thing is called neuron actually. Why I am telling you, you should know what your make it off. This is the neuron and this has two neurons connect through this. Like this whole long wire and this is a gap and then two wires connect. But, between the two wires is this is what, it will my two fingers what can you see, gap so this is a gap.

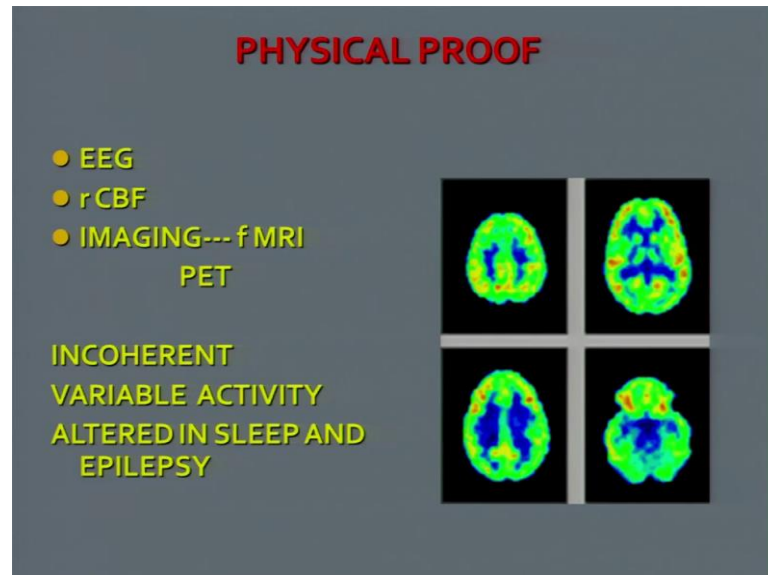
So, there 1 million neurons and they have some more connections with mess 1 billion connections. So, 1 million neurons make to 1 billion connections. So, it is a huge network in the brain, huge network it is all connected. But, none of them taught touch each other. So, life is this, if you want in one word. Today morning actually you was feeling very sad. I was feeling sad that am I only a 40 hertz electrical activity.

Because if that seizes I am off there is some 40 hertz electrical activity going on the brain, which keeps the whole life. And if you record a easy from here. Brain activity you will see various waves of various frequency. So, what happens is electrical activity is going on neuron, between the gaps discovered by chemistry. So, this is the electricity, this is one drop of chemical from here to here, passes the signal. So, within a neuron it is a electrical activity, which is going on there is a metabolic pump.

So, once the signal goes between a neuron there are some neuron chemicals. So, electrical activity turns to chemical again to electrical and so on so forth. And through

that a whole body is running a whole life is running in fact. So, neuron chemical activity defines the health, you can read it more if you want to we can discuss it later.

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If you want any of these things in detail, physical proof started coming when the physics started helping us, this is all techniques actually. EEG and blood flow MRI this, this showed us something. Once we started having this, these are wonderful images from brain. You see all this blue areas, these areas we recorded on MRI and imaging when we give task to people. Like if we give a mathematical task, a different area of brain will show this color.

If we give a language task the other area, if we make you angry something else will light up. And people who have deaf sets like how do we compare somebody who cannot read, a word out of thing called dyslexia. Their kids, who cannot read it, read the written word. If you light up give them a written task, asked them to read it. The normal person will has certain areas of brain which will light up. Light up means not that bulb will go on. To show a different type of intensity in the scan and dyslexic kid would not have that.

So, this came handled wash then we found out. We found out something very, very strange. A brain normally, if you record the electrical activity the brain does not work in synchrony. All our life we were taught bring how many in yourself synchronize your thought your emotion this that whatever. But, your whole biological subtract on which

you live called brain, does not work in how many. It works in how many, but it is never synchronous. If you record you will find hazard activities going on here and there.

Somewhere it will be faster, some where it will be slower, sometime it will be alpha wave, which is it calms you down sometime it will be beta wave, which are different frequencies. Brain synchronizes only in two, three conditions. One, when you are in coma, which is not a normal condition. Brain synchronizes itself in some stages of sleep. Sleep also has lot if stages. We can talk on sleep later on it is a full thing in itself. Brain synchronizes in sleep or when people have a epilepsy.

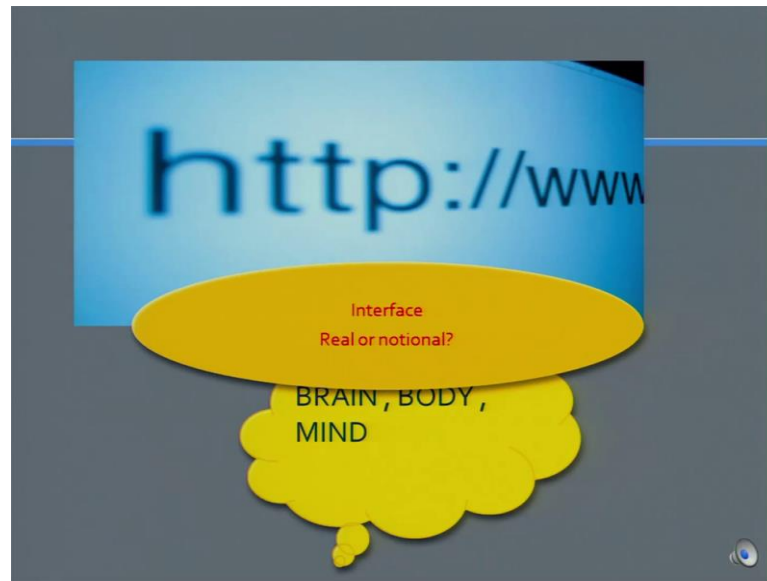
That is the time you can find the whole brain into one single type of activity. Otherwise, it is running into two different directions. In fact even now, you mind is also running in different directions, so electrical activity that is the tough part. So, it is really tough to bring how many, synchrony and what all. People ask you to mediate to pray to drugs, if you take drugs too. Why a drugs so I mean they give a cake you know why? You are lot of drugs actually what they do, they suppress some activity.

So, that few of you have taken sufficient dose, you mind will be in one track. So, at least you feel some, some sort of how many, synchrony even if it temporary or chemical induced, and that is the addiction. Because, you know mind is so much activity going on. All of us say point, some point of time we want to sit still. If you cannot train your mind to be still can of us can, can of us helps you, two pegs help you scotch helps you feel happy at that in the affront.

And that is the reward then you keep taking it more and more. So, after Bengals lectures you can refer to and he would have talked about all this.



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So, this is your life. This is the worldwide web I have used this. Thing because I think we are already in a wave, since we were borne. And you have a brain body mind. And the interface is this now this is real interface or notional is a big question. I am just taking from brain to mind to our life. How many things we believe in, you believe in truth, honesty, love, where is it?

Student: But we do not construct on own mind.

Absolutely, it is like a Steve jobs cloud. It is like the cloud which apple computer says ((Refer Time: 34:02)) everything data's in cloud. So, the cloud can disappear also sometime. They have it is strong feel it can destroy it. Whatever we believe in or whatever we think. Is it real or it depends on us.

Student: Depend on us absolutely.

A lot of it depends on us, if you are in a good mood for example. Somebody bumps on your car, you say [FL] let go. And sometimes if you are on a nasty mood, even if the person vises passed you and not touches you, you will stases and get angry and all that. So, what is it? Is it the external thing which is causing this or is it your inside. Plus lot of construct in which you belief you cannot show them, Can you?

Your art does not mean anything you have to, see what you turn your notional thought into product is different issue altogether. You can do something to sole off, but where is

the love itself. You can get angry and you can hit somebody. But, hitting is different, anger is different. So, lot of it is like a cloud in our head and our believe life in that. There actually boiled onto real stuff it will be very little. But, as because we live as I had said that is why I am saying the whole world is a projection of mind.

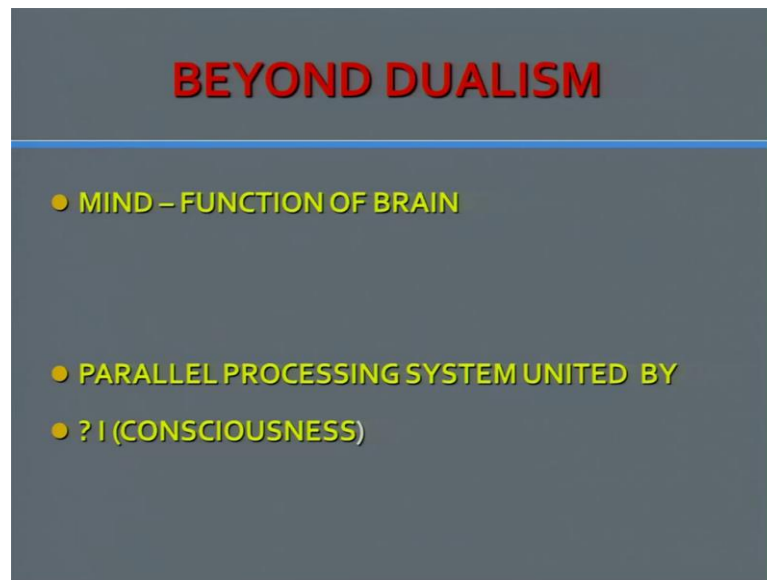
Because, you have a cloud of your own, you want to do something concrete out of it and then everything is produce. Like pass and fail, it is a construct. Where are you passing, where are you failing, what anyway there will be next step. If you fail life will go on, but that is the notion which has been created. Over time we have started believing and following certain constructs which were given to us by and that is our memory.

If you wake up suddenly next tomorrow morning, it will not happen on do not be happy, that I trust will tell you come study go no exams, no termination nothing come go, change the system it cannot happen. Some prime minister wakes up in the morning and says ((Refer Time: 36:29)) one king did that, you know thuglak. He woke up he says currency changed, he changed the currency. He said I will shift to thuglakabad forget Delhi.

So, some prime minister might get up and said rupees, is no more currency of this country and this is the currency. Like Hitler said German are superior. Everybody believed him. It was a notion again, but the whole country followed his notion. And then they did whatever they did. So, we tend to follow conventions, we tend to believe what was told to us. But, the people we created they had also notions only nothing else, nobody knows.

The only concrete thing is there is a physical energy, the law of gravitations and four forces of which physics has defined. And electrochemical activity, knew brain for us that is a truth. Between that is the whole world of construct which some of them have been translated into material objects for our comfort. So, we are actually living at that level.

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What we do of it is the big question. So, some people said that mind is different where is the mind, this is all brain where does the mind come from then. Is there different between mind and brain?

Student: Make mind is a not physically in thing.

Yes.

Student: And brain sometime which is entirely busy ((Refer Time: 38:00)).

So, we were talking about brain till now. Electrochemical brain, cosmic physical laws then where is the mind?

Student: It is not physical one.

It is the people before this guy called dikat he people used to say there is a soul. It comes from above it gets into you that is your mind it goes. Later people came they said that there is no soul. Some people there is a fluid with circulate. You talked to any yoga guy then they will tell you what kundali and all that. But, nobody has seen that. This guy came he said that mind is different, body is different.

So, there was a dualism nobody knew body is functioning where mind is functioning where. Can anybody define mind? What it said is correct, but just define it put in few words what are you doing?

Student: Sir me. Sir, I am first sem chemical engineering in.

B tech, so what is your what is B tech? B tech was existing, somewhere you came to IIT, but you will has B tech degree at the end of it. You are not B tech, Are you B tech? No, B tech is a product of your mind. But, then again the question where is mind. Actually, mind is a function of brain mind is what you said a mind is everything what the brain does. It is a function, it is the interface when I said it is a real or notional, if it is a construct which is not material, which is abstract is it true.

You know I am just confusing you. So, that you can you dream in the night and you are sitting here also. What is truth? that is right or this is right in the dreams you go to the different worlds. Sitting with the Amitab Bachan and chatting with whomsoever you what and doing whatever, you can write a script in your dreams. But you do that every night and your mind which is creating all that, your brain is creating that. That is the reality or this is the reality. Think do not worry.

You have all your life to think about this. But, let me tell what does the brain do, brain creates this. If you look what is mind, mind is just of your understand what sequential processing and parallel processing is the computer is a parallel processing. Brain is a parallel processing unit. That means, when I was give you a example of rose it was parallel processing with one word 10 different things came up. your smell, sound, vision, emotion everything.

Just separate areas and separate functional units, which suddenly get activated with one trigger. So, brain it does parallel processing for everything. This is very little and that is why it is very difficult to find the rational logical thinking. Because, rational what is the rational logical thinking? Rational logical thinking is step by step like mathematics some part of mathematics not all.

Student: That is why economy say that a person is rational. If he can achieve what he wanted, give any information when if you can get his means and he get what he wanted he objective done. So, in that say a murder contract killer is rational according to it.

Problem solving it is like you have a think you have to go and get it step by step that is sequential brain does that for us to survive in this world. But, that is not all when you are doing a sequential suppose even then the lot of parallel processing going on. Even if you

focusing on some object, you are ignoring lot of other things, to ignore is also a choice that point of time. That means, some part of the brain would be involved to ignoring that. So, I again this is a parallel process going on.

In fact, for human beings to do of really in there strict sense a total sequential logical things what we called logic and rational is all defined by our society, which you are living in, so they are external things. It appears logical, if it appears logical to go be your dress go to school and study [FL]. But, that is a only thing, brain would be doing 1000 things even the that time. So, this is not a surprise, surprise we know computers now. Computers do parallel processing, we have built computers.

But, there is no computer like brain, because it all happens in split second. I do not touch you, but what happen? When I did this within no time you did this. So, the signal went from your eye to your brain it triggered of this movement and whole body movement. And it would have sense that there is a danger. Everything happens if, what time it take. Nothing, no computer can match this till date.

Maybe someday they have more fastest processor, but still for that computer to do all these parallel processing together, because for this millisecond your whole being was under threat. The first thing the mind it was protects itself. So, lot of people when they say they have been logical and rationale is all post event. When you have done something, then you realize what I did was.

Sometime it falls flat, sometime it becomes dangerous, some people get angry most people when they get angry and if you ask them as the anger settles down. How many people say that I was drunk? First thing they will do is justify, they will say I should not have become, so angry, but no that do you know that guy was wrong. So; that means, we may not be rational we maybe rationalizing. So, we rationalize a lot, because of a thought language this and that.

But, to in correct sense to be I do not know what to rational is, they are all situational, they are all people in society into certain rule they are breaking the rule or not breaking the rule or doing whatever. And then we define, but still among this all parallel processing. What units that? What is your identity? When you go and meet your somebody knew, how do you introduce what do you say?

Student: Thought our names.

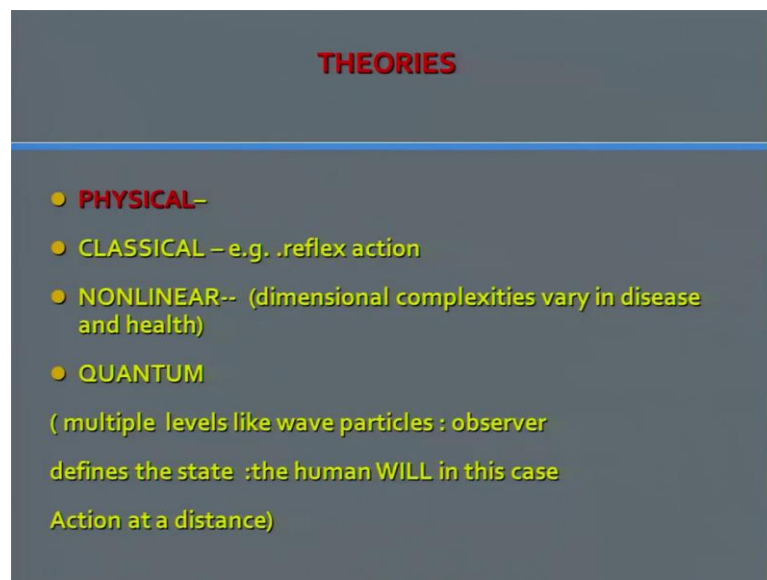
What is the sentence you use?

Student: I am so.

I am, now if the brain is running in, so many directions. If there, so many units functioning, what is this I and where is the I, which I? That is the vexing question people are still working on it called consciousness. So, all these things are united by this single sense of identity. This sums and so identity on us, where is it coming from, which part of the brain or is it that 40 hertz wave which I am telling you, there is a 40 hertz gamma wave, which arises from deeper structure of brain, which unites.

If that 40 hertz electrical wave is broken by damage to some organ you get into coma. So, what was making me sad in the morning was this that am I only a 40 hertz wave. If the brain area is damaged, this connective wave is gone there is no. I till I wake up again and again reconstruct the whole thing.

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**THEORIES**

- **PHYSICAL**–
- **CLASSICAL** – e.g. reflex action
- **NONLINEAR**-- (dimensional complexities vary in disease and health)
- **QUANTUM**  
( multiple levels like wave particles : observer defines the state :the human WILL in this case Action at a distance)

So, there are a lot of theories as I said that there is physical theory, there is a classical theory that reflects action like what we just demonstrated. That you do not use your thought and all and certain something happens you would react and you save yourself. This is a law preservation you have to preserve. And then came the lot of non-linear theory, those of you studied kos and all that would know there are in between this kos

theory came that, they these are the complexity in the dimensions in health differ in illness it is a different thing.

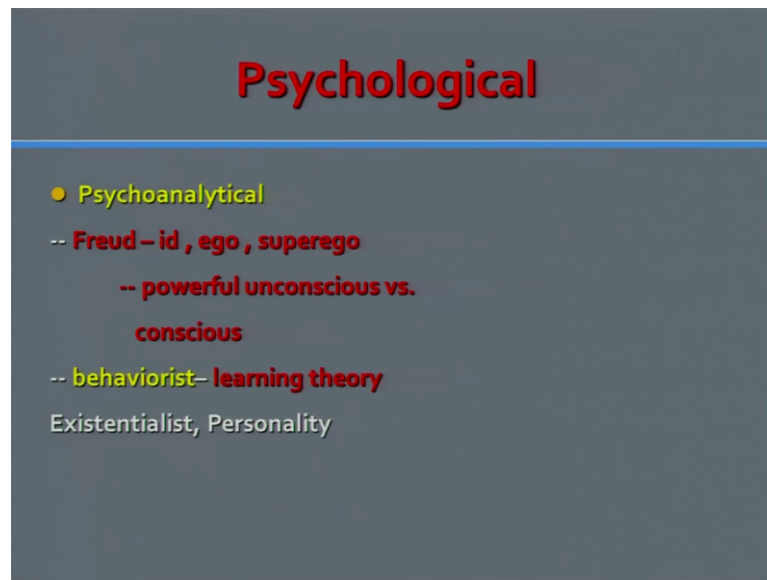
Physics jumped into brain with this thing, they have this explanation called holographic conscious. Each part of the memory or thought represents the whole thing. So, some people who have experienced like something called a near death experience. And they say they have seen the whole world and all that. That can only be explained by this wonderful holographic quantum theory. That each part of your brain, if activated sufficiently contains is the whole that is holography.

And they said that obviously, the basis of quantum is you know quantum theory all of you. There is an observer, the state of that whatever atom or particle depends on the observer ((Refer Time: 47:48)) never agreed to this. So, is it possible for our brain? A question is this if it is possible that means, the observer defines the state, whether it will be a wave or matter, the observer has to define, that is the basis. If it is true that means, there is something called human will. So, where is my will?

This I within me does it have a will, does it have a will by which it can modify outcome or the control over emotion or synchronizing the various activities or harmonizing the various brain activities. The whole psychology, the behavioral science says biology this is the biggest question we are facing right now. And next 20 years I will go to tell us this whether, which if you look into Jain Buddhism and Buddhism and sophism and all this, religious and spiritual practices they always said this.

That by sufficient training, with your mind there is an area of brain called prefrontal cortex. It is here, dorsolateral, prefrontal cortex. This is the controller of the brain. I will just come to that slide. because that is very important probably that will be the take home from here.

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There is a, these are the psychological you know we have heard of doctor Freud, doctor Freud said, that man is a irrational animal, deterministic animal it will always act according to it s instinct, when it will ask hunger you have to give food. It will has thirst you have to give it. And there is a powerful unconscious. Here is the conscious mind is very little, what we all do with our will and conscious is very little of our life.

Large part is unconscious you really do not know where your memories are stored your mother words have hit you ((Refer Time: 49:53)) [FL] when you are 4 years. Maybe you remember at 40, when your wife shouts at you, who knows a dog maybe you fell from some high ceiling. And you do not go to a height say next 10 years of life in first time you learnt about the cliff is suddenly you gets same panic I went to a school to give a lecture. And this was a so this was a convent. The sister took me through a corridor.

And all was at the certain distance believe me, as I walked at that corridor. I had some strange anxiety here, but the flying and tummy feeling. And you know what it was. Immediately my mind took me to when I got admitted in mariampur school in lower kg, when I was 6 years old and this happened 2 years back. So, in a distance of 41 years that anxiety and the memory of that anxiety from their first day in school same corridor, there is a sinking feeling oh. I was going to give a talk she was not holding me when taking me to a class.



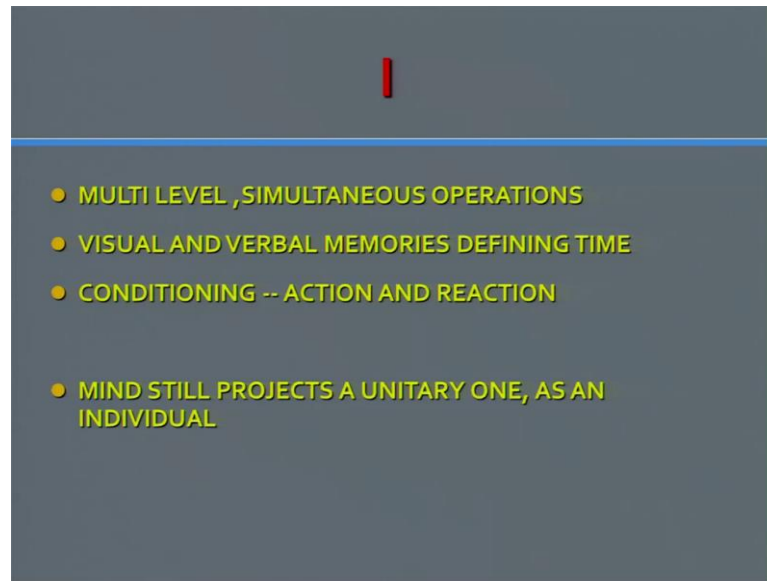
I said gosh what is this? This is brain. So, that is the unity, that is you unity of me from 6 years of still 41 or 42 whatever it was. Say question is that these of this all is in the brain. Whether, I can modify it or not is the question. So, this is a huge unconscious this is the unconscious mind. We cannot demonstrate unconscious. Probably Freud by unconscious man memory or whatever we do not know. Then, they then came behavior they said you can train you have heard of Pavlov.

They have a theory that I can train your mind. I can give you sufficient stimulus. They said there is no unconscious conscious forget. We all react to the external situation, because we react to external situation. So, we can be trained. Am I right? The whole education system is based on this. A whole education system from class lower kg to B tech to PhD is based on behavioral theory. Whoever you are if you have qualified exam and you have come in we will train.

You we will give you stimulus which will tomorrow's tutorial you have to study that is the stimulus your reaction is go study. We train you. So, whether you wanted or you do not wanted or you have unconscious mind or conscious mind it does not matter. So, a whole training schedule of army of all the conditioning in resumentation of life is based on behavior theory. If forget your will, you are a dog like Pavlov trained, here the bell and bread.

So, you used to ring the bell, show the bred, dog used to sell away. After sometime you remove the bread. You just used to ring the bell and dog would sell away. So, both are true, systems are based on that. And there are other theories like, so this is the biggest question, this is the question which you will keep asking all your life. So, better start thinking now.

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But, what we understand of this is we do not live anything beyond this. In fact, just you read carefully. And multiple level simultaneous operations are going on. Is not it? You had your breakfast little bit then tea something nothing good. So, the acid would be going on in your tummy is no food to digest it will be hurting your voles, that is going on whether you are listening to me or not, but ((Refer Time: 53:55)) does not matter. Your respiratory operators is working, it is up all control from brain.

Your mind is thinking if you have a class at the back of the mind you would be having if I have to go to a class. If you have more assignment lecture this that it is all at all levels it is operating. And somebody you maybe have having your birthday coming up you maybe have plans for your party even that happiness plan is going on. Somebody is not when at the family that worries also going on. You will also be worried what will happen to me after 5 years from here. Package, Nobel prize Oscar whatever you want in life.

All that is going on there is nothing out in your head. Nothing is out believe me if it is in your head it is there. Your personal hurts your emotion, so the multiple levels this operation is going on. Am I right or not wrong? Is no single thing simultaneously they all together. In that together you have to choose one thing to pay attention to like you chosen to pay attention to me all. Rest of your students have not chosen to pay, they would be paying attention something else.

There will be some good people, who will not be paying attention to anything, happy people. So, anyway, so what I am trying to say is that what is the factor, the factor is time. In a given time you choose one thing, then you choose something else. What is this time but, is there a time? Is there something called time? For you time means, nothing. You know what all your memories defined time. You have done something in the morning you will do something else.

Because, you are doing in a sequence, the mind make sense of that, mind does not have a clock. In fact, this is our invention. Is not it? 24 hours is our invention. The whole thing is moving in a cycle, there will be a day mind is geared to time through a rhythm, mind has a rhythm. But, mind has a rhythm to light to sunlight. And it triggers of lot of skritions from inside growth hormone this that temperature regulation, blood pressure regulation regulated through this light, through night through day.

So, in fact there is no 24 hours, 24 hours is a matter of convenience for us. Otherwise, there is a day, there is a night, you keep moving like that, but you have memories. What I am saying is that there are lot of action, reaction things come from outside you would react to it, you projects something, that external thing react to you. But, mind still till we are alive still projects are unitary sense.

The unitary is me, whether you have a high intelligence or low intelligence or whether you are an artist or a scientist or whatever you are. Each living being, living human being has a sense of eye, you all have it. That eye gets disrupted in illnesses, but anyway we will talk about that later.

Student: How we will know that animals tones have the sense of.

Animals, so they have it. Each living being did, because otherwise animal would not save himself. What is a deer saving himself from a lion is in attacking, saving himself. So, first thing first reaction of our life is to safe. So, animal has, but what I am saying with as far as we know now. Because, they do not have language, so we do not know what sense of eye they have. Our sense of eye slightly more than body, our sense of eye is our identity.

Our actions and belief systems and again the as it is again a projection of mind, people have that is the fight. Why is the conflict in the world? What is the conflict? So, many

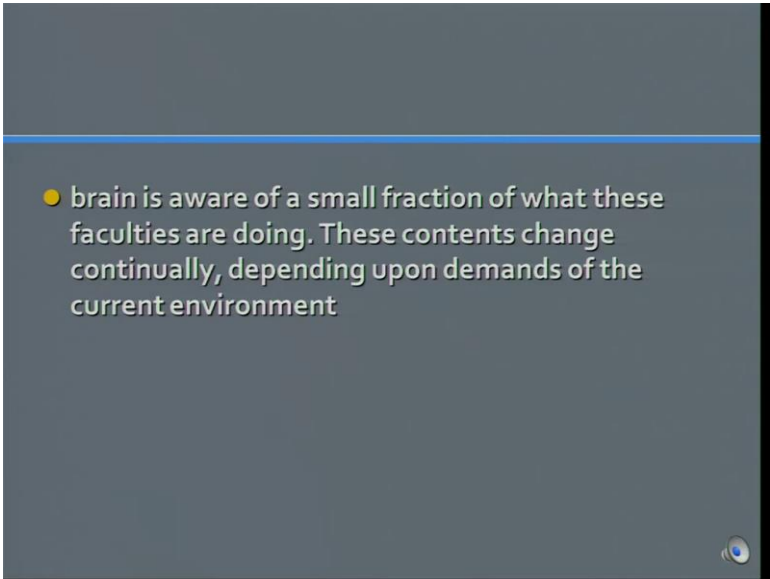
conflicts, because in defining this eye the mind has stocked onto certain thing which has been transferred to yet from the past. And we tend to choose, we tend to choose our cast, religion, this, that and we define. Otherwise, see what is the basic difference in the process? There is no basic difference. Artist works, the same way like a scientist works.

A soldier also shoots, a mercenary killer also shoots. Action is the same again is a context, context of human beings makes them what. So, there you can be no pure biology with human beings. People who have a proponent of this theory to the everything is biology. And we can treat everything with drugs and genetics and all. So, the whole concept has changed. Few years back people was saying it is only genetics. A whole concept is change now.

They say it is not pure genetics now, they say this is ((Refer Time: 59:21)) genetics. All genes are getting modified by the same old nature and nurturer fight. But, no human being can be defined without a context. Even if it is a single human being in a desert, again there will be a context there is a single human being left in the desert. So, lots of our identities are defined by our context and our reaction to it.

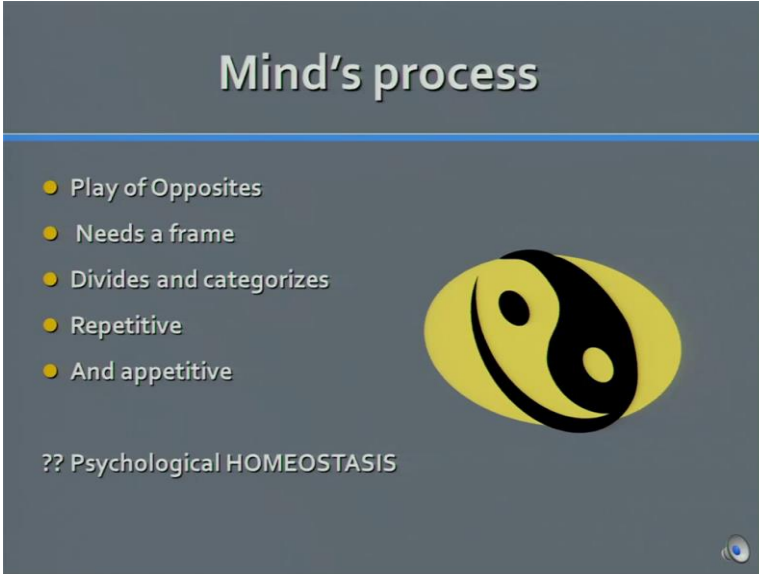
Probably, animals I do not know, because animals have a different type of habitat. And their life still remains at a very, very biological need fulfillment food and preproduction and maybe someday.

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- 
- brain is aware of a small fraction of what these faculties are doing. These contents change continually, depending upon demands of the current environment

So, brain is aware of very small fraction of what these faculties are doing. Are we aware most of the functions know? We are aware of just small bit, our actions go to class, eat and we keep responding.

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The slide is titled "Mind's process" in a white sans-serif font at the top center. Below the title is a blue horizontal line. To the left of the center is a bulleted list of five items, each preceded by a yellow dot. To the right of the list is a stylized yin-yang symbol where the white and black halves are filled with yellow and black respectively. Below the list and symbol, the text "?? Psychological HOMEOSTASIS" is written in a smaller white font. A small blue circular icon is visible in the bottom right corner of the slide.

- Play of Opposites
- Needs a frame
- Divides and categorizes
- Repetitive
- And appetitive

?? Psychological HOMEOSTASIS

But, how does all this translate to our life, how does it translate? Forget the brain, forget the notion part of the how does mind work, mind works like this. Suppose, let me explain this. Do you know of anything in this world, which exists in solitary, unitary existence without having a contradictory or complementary counterpart to anything? The day has a night male has a female or female male whatever. Even by the social construct good always as a bad. Love always as a hate anything.

So, there always a choice is always a play of opposites going on. In every most of our leave the biology for a second, I am just how does it translate to our life. Because, if I define all that I and unitary 40 years how does it matter to you, you have to live in this world. So, live in this world, you have to have your own construct. But, the construct is also the similar. If you look at it carefully it is a same process going on, but conflict is happening because of the external actions deep down is all the same.

So, when there is play of opposites, what does the mean for the mind? You have given two choices. So, what we have to do? You have to.

Student: Choose one.

Choose one, if suppose there is no choice, there is no frame of life, no rules. What will happen? It is easy live or difficult to live, temporarily it will be good fun. It will be good fun, because we are already living in a frame. This is for us going to a rudeness world will be breaking the frame and becoming free. But, imagine a original situation where there is no frame. It is free it is like a huge washed ocean where you are there you do not know where to go. We will get into such an anxiety, that it will clay havoc.

So, human all human minds needs some rules, some definitions, some framework between that you will choose according to what, between the opposites, you will choose according to your biological rhythm like, let me give us very simple example of choosing. When I said that, we are living slightly differentiated and separated from the nature. We brain works as I said metaphors using symbols. Lot of it is symbols only all language is a symbol, language is just the pattern in your brain symbol.

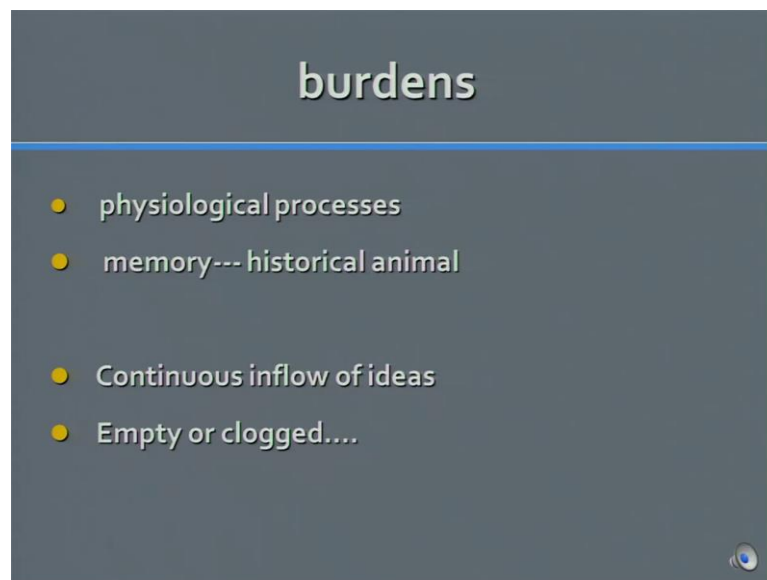
And you give meaning to that symbol. So, symbol over symbol, metaphor over metaphor. That is one strong process the other process is the rhythm of the brain. Like moving in a cycle with day and night and all of us have different cycles. Some of usher nights howls and some of usher day lox, some of us function best in the morning, some of us function best in the night, some of us get tired towards the afternoon, some of us to get tired so the evening. This is a cycle, which each one of us have and it is different.

A whole trick is understanding a cycle and adopting your day to get your maximum output. But there is not possible, because external rules are different you have to adapt to that. So, you always choose depending on your biology, your rhythm, your value system, which has been given to and told. What is value system in your head that is a memory, somebody in your class fifth told that you should be honest that is a memory. If somebody would have told you that you have to snatch from the world.

Somebody's father would be telling you have to go and snatch from the world. You can say that is a wrong value system. And you would be saying your value system was wrong. But, that is the memory again. So, between the memories this game is going on. But, brain has a wonderful capacity of dividing and categorizing it will compartment like. This it will divide time, space, everything, me, you everything when divides all this and puts in nice categories.

So, that when you need it that box will open up and that information will come out, otherwise it is all lying domain. But, a brain has another capacities that two words. One is called repetitive and one is called appetitive. The mind has a very, very these things nobody can change.

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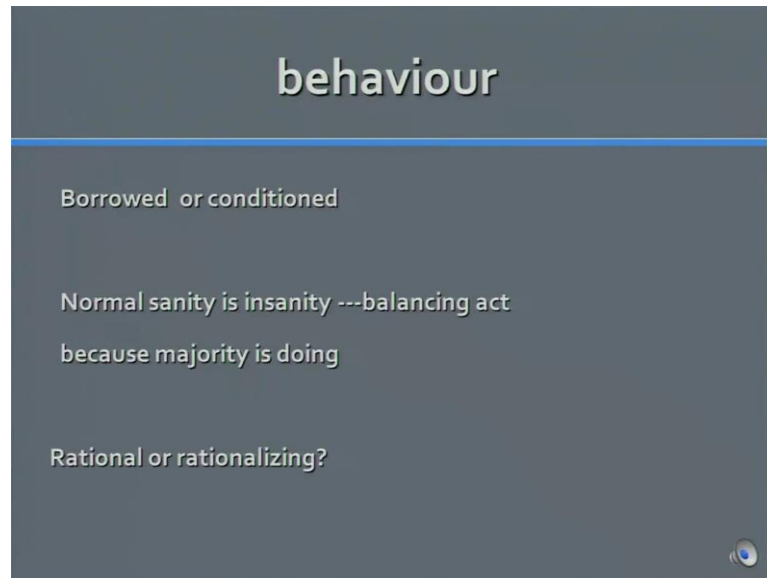
Where are whatever you are doing, what mind does is that it has this huge habit of if you get into something, if you do action. And if it is pleasant, you keep doing again and again till it hurts you. If it is not pleasant, you will not do it. But, if it is brain likes something, it will go into your repetitive thing. You cannot stop it. And it is also appetitive. This is what I called a monkey mind. A monkey is sitting within us to do the all animals human beings the most, they need to explore.

They will see anything new, they will explore. Some people explore it toward risk taking behavior, some people just look at it and have a interest in it. But, there is no human being who can ignore a new stimulus. Suppose, I suddenly park a red stool here or a box here, we all will react differently towards. Some of you will just look and say oh gosh do not touch it. Some of you will at the end of the lecture you want to go and open it or touch it.

Some form of us with leave a child you will immediately break all the rules and go and open it. So, that exploratory behavior of mind is universal, the repetitive behavior is universal. If you get kicked out of something you will keep doing it believe me. And we

all get into habit addictions, because of this kick. Because, it makes us happy at inflow of chemicals and so what is it happening?

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There is philological process, there is a memory we are a historical animal is a continuous inflow ideas. Let us, look at the behavior the question which again bothers us. Are we having a original thoughts or are we having borrowed thoughts, are we conditioned or can we create our own behavior, are they answers to it? There are answers if you try to find out, where each one us go back and find and read and. See, lot of our behavior is conditioned.

All this is conditioning the way we move, the way we dress, the way we eat, the lot of it is conditioning it depends on where are you born. If you are in Kalahari would not bother to by a genes. Even that leaf would be enough for you. People have their dress, dressing up which goes from generation to generation. And once somebody breaks then there is a whole conflict between generations. This is all conditioning.

So, lot of our thoughts are actually borrowed, we take those borrowed thought, make at something out of it, try to create a new thought. But, there can as a huge continuity going on. So, people were actually think that they have really broken something new are very rare. You look into the history of thought of human mind. A very few people, who have really broken the thought, just to give you an example, a word of mister Isaac Newton, when did it happen, which century.



Student: 70.

Around 17th.

Student: 16.

Recorded history of human beings is 5000 years. It took 3700 years for a man to think, that if an apple falls, what does it fall? Apple should have been falling from edges, where to Isaac Newton. And I took an Einstein, it took like so on so forth. It took a man called Lumiere brother to project a cinema. It took a man, some other man to put words in the cinema. So, what I am it took the guy who made internet. So this, breakthrough thoughts were very rare.

Lot of us, keep thinking to a borrowed condition. But, that does not mean that you cannot break it. But, to break it you have to know it. To know it you have to know your process. You have to look into your repetitive and appetitive behavior. And have a try to at least think would which way. So, question again is what is sanity? I am just, what a sanity? Is this something called normal, is this something called abnormal. When processors are the same for everybody, these psychiatrists work on some very strange assumption.

People who are not fitting to the society, they are disrupted to themselves to others they brought to psychiatrists. We think they are not well they are not well we give them some medicines that correct the chemistry inside the brain. We have figured out that there has a chemical disturbance associated with a certain type of behavior that is the understanding of mental illness. This is a certain set of abnormal behavior and abnormal because it is not fitting into a system, in which you are living.

And then we have found out, there is a possibility of certain chemical disturbance in the brain. We have found out the medicine to it we give a medicine that corrects the chemical imbalance, the person goes back and fits to the society. This is the understanding at presented here.

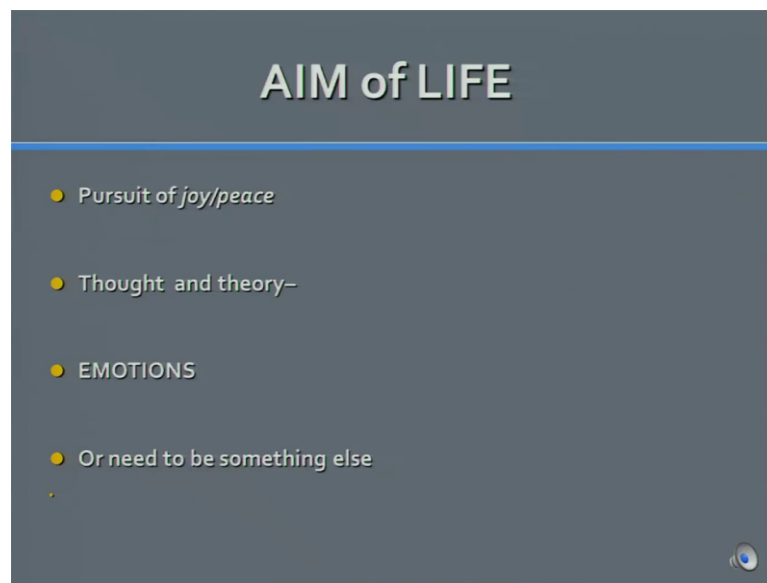
Student: ((Refer Time: 71:05)) there is very interesting word sentence says, crazy people are not crazy that is the logic.

Absolutely right and that is what I putted as normal sanity is insanity. If there is a normal sanity it is a insanity. Because, we keep doing a balancing act, because a majority is

doing it, that means, your mental health is derive lot from the social constructs. Lot of things society has told you that this is normal you should do this. So, our whole effort and all our I and simultaneous operation this that goes into balancing and doing what majority is doing.

So, that obviously, is not a perfect definition. It is a definition for convenience. But, you do not want to get thrown out again as I had said it was rational or rationalizing.

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But, again look back, what does all this translate? Why all this Hungnam about knowing? Why do you want to know the brain and mind for 5000 years 10,000 years? Why what is the need?

Student: ((Refer Time: 72:23)) curiosity.

About what?

Student: To get knowledge.

One is brain is repetitive, brain itself created this problem. And you want to know brain, brain is doing telling you to go and explore. There is a fruit here, the mind is telling to go and jump. And you want to understand this mind which wants to jump. What is the loop again why? What is the quest? Now translate this biology to psychology. What is the

quest of the mind? Why is it just all the time overactive and various types of things going on in head.

It is all continuously going on. It never brain is one organ once it is on, it only switches off heart and brain and the inspiration. These three things go on, till you are dead. So, it is once is switch on and it is switch off in between it never sleeps. And we do not know the minds we cannot ask it. But, still translate into us forget what the mind wants. What is the need, why do we do things, anything?

Student: ((Refer Time: 73:36))

Normally, four conditions, one is called a, which is called a calm energy. This is called a tense energy, this is calm tiredness, there is a tense tiredness. In normally living this four condition. So, we are not talking about patient and mental illness, we are talking about normal mental illness. You normally remain in one of these four mood state, there is a calm energy, where you can you have feel relaxed, you focus and you do more creative work.

There is tense energy, where you have to you are tense like exam. Exam is a very, very tense energy. A very few students, who can give a very calm energy exam, they are tense. So, all that energy, but that energy populates to do something. There is a calm tiredness, you are tired, but still you are calm I want to just snap off for some time. And the tense tiredness is that you sad, gloomy normally we remain in these four more state.

But still, I mean these are small tit bits. There has to be larger thing otherwise, see otherwise as I had said. If we are just 40 hertz wave, then it is useless. Then we have no control over it. The 48 wave is on it will go off relax. We do not do that that means, we our mind keeps telling us to go and seek something else. And we want to understand what is that, what do we do things in first place? Why are you wearing a green color?

Why did I choose to whatever strange combo I am wearing? Why does somebody wear a mundu, somebody wears a suit, Salman Khan does not wear anything. It is a what. Why you know what, what happens when you do this? Any activity when you do. And you get successful in some activity what do you feel inside.

Student: Happiness.

Happiness, we do everything for happiness. We do not get happiness is a different issue. Because, there other reasons for it. But, all over at otherwise why would you want to become a B tech? What are you going to do? Earth will rotate, it will revolve sun will come go this that it will keep happening we will not be thereafter 100 years. Do a B tech do not do MBA does not make a difference, will it?

All human endeavors they do not mean honestly if you ask me, there are all a naught civilizations have come and gone if digged down here you will find huge civilization lying here. But, still in our lifetime we have to do this, because there is pursuit of. We do mostly for happiness in larger frame we do things for peace. If we look into and this has been why I personally do not ignore a scriptures too much not scriptures.

All the ancient writing at least in this country and other countries as well they have been, they have analyzed mind, so well. There is a book on natasarth written by Bharata Muni. It is not a, it is a treatise on theater. But, it is not only theater, it is about psychology and he has defined a rasa theory, rasa and ((Refer Time: 77:11)) So, all life strives for that one final rush, which is called peace and joy or aananda whatever word you want to give it.

When that gets frustrated you get into anger and depression and sadness and all that. That is should all unhappiness is created when your one objective of moving towards peace and aananda is throttle. Am I right? Just translate this into a daily life you will know this. You have decided something in the morning. That I will study for four hours and your mother calls upon and says [FL] stop your [FL] go and do this. So, what happens? There is not a scheme of think, you suddenly get rattled then.

On a very, very micro level this happens, a larger level of also this happens. People who become frustrated unhappy, who go to all this for treatment and mental health issue and all that. They are not so much ill. You may call it illness for our convenience seeking for treatment. They will not so much ill. It is the whole process of their life is not flowing properly.

They had maybe, because of political situation resources like in this country. And then all the political struggle, reasons maybe 1000, but the basic thing people, who go for help for listening to spiritual gurus for to temples to this what are they seeking. Are people seeking god because of love? How many people love god? That is a fear. So, most

people do this, because that whole process is thoughted. So, it happens to us also. So, that is one purpose of life.

Again you can thought theory, emotions and the neat why what do you do it? Once source of anxiety, what is our source of anxiety? The need is to go to that peace shanti whatever, achieve your potential. What is the anxiety? There is a anxiety in human beings. You all feel anxiety at times or daily.

Student: Daily, all the times.

All the time, why? You feel anxiety? You? Well, different feeling.

Student: Yes, yes very much.

Student: ((Refer Time: 79:44))

Mathematician, why, what is the anxiety?

Student: We possibly on achieving something do something.

Any given point of time we always want to be something else, something more, something this, something that. So, we never tend to be complete in this moment. We never tend to be complete, so in fact, this is the paradox. At this point we want to be this. And when I reach there again I have same anxiety, then I want to be something else or go up we keep going up. So, that movement of so how if you suppose it to take a track and say, I will go from here take Kanpur to Delhi for example.

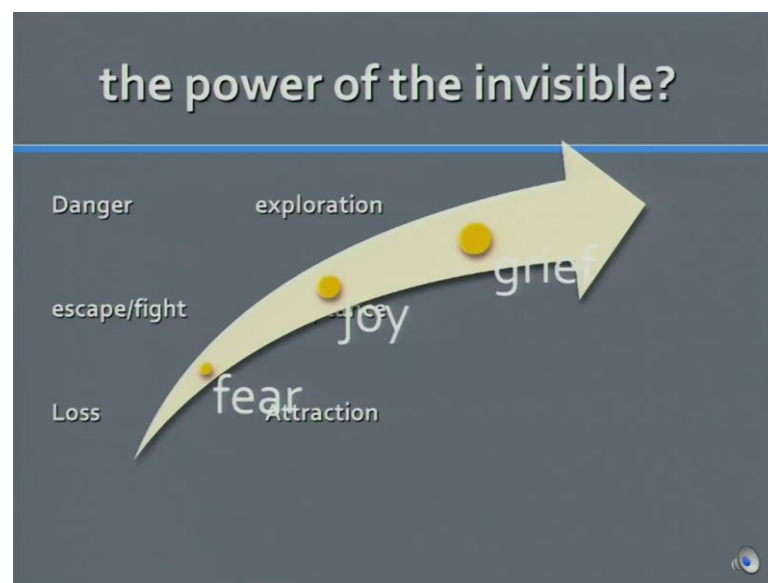
I am going from Kanpur to Delhi. You want to go Kanpur to Delhi, choose one track by flight, by train, by travelling by foot whatever decides one. Now suddenly, I start moving towards Delhi and take a ditto to some 90 degree and go to some other direction. And then again I want to go and then I again take a ditto. So, the number of dittos which mind keeps taking. So, finally, where do you want to you wanted to go to a certain place. And the number of dittos have become, so much just by getting distracted and jumping.

So, what is our aim, aim is peace finally, santaras what would we do is we would keep trying do is something else. In fact, what is happening is that energy gets fritted, that is the story of most human beings that is the source of anxiety. But then, lot of it depends

on the society in which we are living in Albert Einstein was sitting in a very peaceful place. He had no work, at least in this patent office he had all the time to think.

And imagine then it helped him actually, it helped him imagine Albert Einstein sitting in Kanpur, where he had to go and drop of his daughter to the school in the town every day. I am sure all relativity would have gone somewhere. But, so lot of circumstances political situation this that helps. But, then again the big question is whether we can train our mind to be like that even while we under this.

(Refer Slide Time: 82:21)



These are sic words. Can you match them? Just make pairs on whatever logic you want. Danger, exploration, escape fight, acceptance, attraction and loss. Another not in columns, I have just randomly spread them.

Student: Danger to attraction escape and fight to.

They are not in a column. So, please,

Student: So, danger to attraction. Escape and fight to exploration and loss to acceptance.

Any other combo?

Student: Danger for any danger for escape of fight loss for acceptance and since we having attraction we will be like seeking for aspiration and mathematical thing.

Any other combo? Danger provides us a stimulus, we tend to a escape or fought and we get attracted we explore loss we accept. Whatever, combo is what is determining this? This one stimulus and one action reaction to it, what is determining it? This is the...

Student: View on viewpoint

But, when it presents viewpoint presents wonderful. But, I will tell you something, this is a very, very proven thing that whatever thought process you have. If you are presented with such a stimulus without planning your thought your viewpoint everything is over rhythm by emotions. What is the emotion in between danger and escape? It is fear, between attraction and exploration it is joy between loss and acceptance is grief.

So, when we are presented like for a soldier is going to face danger at the broader, at the planned danger. He would have already told himself, but still when the first bullet a shut, first thing is that fear of death. Then you keep responding and shooting and all that. So, all thought called all value system. Everything is over rhythm when the emotion and when the emotion comes after that you can few seconds you can rationalize. As I had said about anger, this is the vexing question which biology faces now.

And I will tell you why? I will stop at this and then if you have questions. Biology faces this, because in the next lecture we will be talking about mental health and illness and all that. What is happening all over the world and why it is important for you to know your mind, how it functions? Is that in the last 20, 30 years because of the changing possibility because of the changing social political economic conditions, there is a up search of what we called mental health issues by a definition WHO 36 percent of Indians have depression.

And we think that this is much more we think this is much more there only 3000 psychiatrist in this country or 4000 to 1.2 billion. Only 3 to 4 percent or 5 percent people, who have mental illnesses, are able to reach a psychiatrist. WHO said that every second of third Indian by 20, 20 will be taking antidepressant or ant anxiety. There is a sudden up search of issues with children and adult acne and youth, which you already read in the paper that shooting in America, the killings all that stuff which is happening.

That is all reflection of the impact of society, which it is having on mind. And what is also happening? Is that people are becoming more and more emotionally unstable. They

are high intelligence people achievers and, but emotionally everybody started lining up on the edge. Anxiety levels went up and that already increasing the consumption of drugs and medication and prescription drugs and all that. So, the question is whether, everybody will be taking a medicine is a feasible or is it good.

So, if it is not good, that everybody should be on medication. And all problems of life should be sorted out with medication. Then what will happen that problems of living will also become medicalized. That you have an exam you are anxious 100 years back also there used to be the exams. People used to get anxious even then. So, what we will do is prescribe medicine? It does not sort out the problem. What it does it changes the interface, you remember that slide on real notion, it just changes the interface.

So, medication will just change the interface, what we do with your life, how will you decide? They used to be trainings 5000 years back in gurukuls. They were all trainings they were training the mind to control the emotion and stability. Now, if it could happen say 1000 years back and if one man could do it. Then I think everybody can do it. If Gautam Buddha could do it, if Mahatma Gandhi could do it or Jesus Christ could do it or anybody or so Albert Einstein could do it or Newton could do it.

If they could bring that amount of focus in their life, then it is possible, is it possible for everybody to achieve it. Not like them, but for their own good. That will say people from medication. So, the big question of that understanding both biology, psychology and life. There is a question which we are facing, which psychologist is facing, we psychiatrists are facing is the mind trainable. If it is trainable, then we should devise a way by which we can train people to have a better control over their head.

That is the question and that is why all research is getting into positive psychology and how to train people and all. But, we have examples look back into history where people trained their mind. We have people who changed from what they were to what they became. So, think you all young people you should get into this mode of thinking. And always good to know a brain and all that. I will stop at this and you can ask me if there is anything. We know very little. So, I will answer you very little.

So, ask me whatever you want to or any disagreement I mean this is not final or an end on it. But, this is I just try to put a whole picture of how it translates. This is a basic process there is a mind, which generates a notional cloud. We take that as your value system as



me this that whatever go to the world, world keeps throwing challenges at you and keep responding according to your value system.

But, when there is a search of emotion everything goes flat. So, it learnt to train your mind, use your resources at bit that has to go on every minute. So, what was your question and I attempt the answer it out.

Student: I was trying to a particular part of brain psycho sensitive. So, is it true that other part of the brain being hyper sensitive?

It is what you called sensitive and hypersensitive. You mean if there is the deaf set there is something else which will be overdeveloped. It happens, because see all our minds have potential for everything. It is possible that your language part maybe more developed than your drawing skills. It is possible that somebody can look visually and describe not, so beautifully. Somebody can write beautifully like mathematician can do better abstract thinking and all that some people cannot do it.

Now, all of us have everything, when some people have deaf set of because of some reasons like dyslexia for example. A lot of dyslexic kids they cannot make a pattern of the written word. But, they can make a pattern of a painting that is very strange. That is why some smart people, who are more wise than us, I also tend to believe it. Because, dyslexia is a creation of the education system, they will have very lower class what they how they are training they are training phonetically.

A dials say this once stop, so you stop will come like a phonetic exercises suddenly class one they start writing. So, for a small mind to switch from suddenly phonetic to visual, it gets huge disorientation. Actually, in fact people who have illness all over the world, put all psychiatrist in sit together is not more than 1 or 2 person. So, there may be a child, whose brain is damaged, that is the different issue, But most people do not have brain damage they are higher i q people, intelligent people.

So that means, we are dealing with the normal person who is not, so proficient in reading words. But, this kid draws very well, how? A same process, people whom you are talking about who have overtly developed other skills is, are the people, whose deaf sets have been converted to their strength. For 1 such person they will be tent, for whom their

deaf sets have would have been pointed out to them, so much. That they would have gone into a well of inferiority complex.

So, it is all depends on like Schin Tendulkar is dropout from a school, does it matter? No, why? There will be 1000 other drop out from the school, not all have become Sachin, Rehman is a class 9. It does not matter, why? Because, this deaf set of less education he compensated with the education of music or sport. So, lot of drop out should be selling [FL] all that [FL] you know, you do not know.

Because, it depends on where were they, when Sachin was not studying there was a elder brother, who told him that it does not matter. If you are not studying, do not voile your time come on ((Refer Time: 93:51)) Shivaji park play or Rahman somebody have told go and sit play music. For others people would have told them you do not study or like this and shameless and useless and there went into the well they never lose.

It all depends on what channel you get into plus this is also one should remember that this is lot of diversity among human beings. In spite of this 70 percent common share genes, there was the that 1 percent gene genetic makes us different all of us different. We are same like human being process is the same. But, the final outcome we should deliver to the world. Beyond our interface is different, it all depends on where are you channelizing it.

Let us, accept the diversity let us accept that people were different know two people are like. So, what you are saying this called people used to say god has sent his [FL] this is be can that become strong. It is just because, at that point the person instead of going into a well of disappear, energy was channelized to obviously, it lot depends on the person wants to overcome the deaf set. Depends on the will, that is what I am saying is the mind trainable is the human will is that what quantum physics says that the observer.

Observer will decide, whether the electron is existing in the form of a wave or a matter. A movement put a observer turns into wave withdraw it is a particle, is it the human will which will make us decide whether we raise above things or we go. If it is possible, if it is true; that means, the next 20, 30 years is very interesting then. We are stepping into very, very interesting time then. We are that means, we are at the verge of discovering, defining, deciding, inventing, doing something and any of us can do it, who knows.

That the simple way of treating and taking the focus from mental illness of treating with medication. Whatever we treating to, we treat them and go back and do the same thing. Again they come back, they do the same thing again they come back, because we are not treating actually. What we are trying to do, that is why you understand the guru works better than a doctor, do you realize that? People go more to a guru and god then us. Why? Can you can I can you give me an example?

Where the world best psycho therapy, you have heard word called psycho therapy, where you do not give medicine it talk. Lot of psychologists and psychiatrists they talk. But, let me tell you the impact is much less, it does not change life, life is change by something else, where was the world best psycho therapy. You heard a man called Krishna and a man called Arjun, you had heard of it.

And Arjun said I will not fight that was the first psychotherapy in action, there is no AC chamber doctor was not sitting comfortably on the chair. Dog was also there, sitting as a charity and this man was standing behind, he gave a psycho therapy then and there 90 minutes he transformed his life. And then arjun went on to fight, there was a first psycho therapy the deep best psycho therapy still remains the best.

It actually remains the best, but what happens is that you just changes, so this transformation psychology and I really have this when I talk I have this excitement in my spine, where you few things excite me. But, this excites me, because if the mind is trainable then we should be able to discover, I am not saying to transform the world it will help few people.

And at least people will have your generation people, who 20, 30 years from now will be able to say that we have achieved our potential. At least some of you will reach that santaras. So, it is a matter of channelization, do not never tell a kid that you have a problem. Never do not ever tell a kid that you have a problem the moment you would tell the kid a problem the kid starts paying attention to the problem rest of the whole.

So, it is not about skill deaf sets, it is about skill development. You tell about you are good at this go and do this good carry along with you then do it. Otherwise, everybody will become a engineering, boring world all B techs might think.

Student: What did you tell a kid went sorry for interrupting what do you tell kid when say for example, a story Cinderella she knows the story she is reading the book, but she is not reading it from the book she is telling the story and making her own.

Wonderful that is.

Student: What do you tell about it not reading?

That is I do not tell. I have a I know kid who was telling a story of alibaba and 40 thieves. And we like 40 year fools, alibaba went said [FL] all that this kid says let me tell. So, he says you know what my story was different. And he first time he was hearing this. He said he went inside and then he said [FL] and then he did something and he came out and nobody could open it. So, I asked him what did you do he says he changed the password. He is 4 year old kid who is telling me he changed the password.

I called a one filmmaker I said boss did you ever think that [FL] was a phonetic password. It has a phonetic password, what is biometry? Doing biometry is taking your fingerprints, eye this, speech this, we all have patterns in our finger in our mind our easy, our voice everything. So, this is the password that is what I am saying, who knows this kid may write another Cinderella story or make film 10 years down the line. That may create a new Cinderella, the old Cinderella has gone, who knows.

Now, what I am saying is this kid will learn has they grow they will learn what is important from the past to carry. The problem with us is that we carry the past too much. We never throw out the thing which have become useless to us, this is mind does not throw. Because, you know why is a very, very secure to know the past, it is certain at if you seen it. I know this much pain it will cost, this much happiness let me be with their, future is all uncertain with this kid go into the future.

They can play with Cinderella story like me and you cannot. They can change the story of hanuman like this, they can change the story of Ganesha like this. Because, they have got guts they can ignore nothing it is stack. We will fear even most rational of us, do not openly criticize god why?

Student: Fear.

We are fearful we do not know [FL] you never know he is there.

Student: ((Refer Time: 101:06))

With one person know you hanuman and he suddenly, who know nobody else. So, explore your mind open up.