Indian Institute of Technology Kanpur
National Programme on Technology Enhanced Learning (NPTEL)
Course Title
A Brief Introduction to Psychology

Lecture – 11
Learning

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So we will now try to establish the difference between classical and operant conditioning okay.

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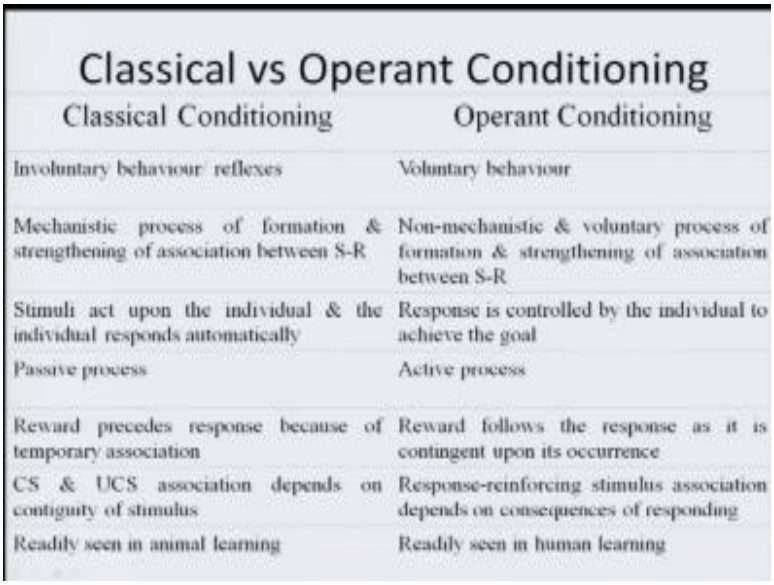

Number one, you realized in the case of classical conditioning Pavlov's dog okay. That the dog was involuntarily know, behaving in a particular and that was purely a biological reflex and that got conditioned on salivation was a biological response it got conditioned. Whereas in the case of pigeons, the pigeon was deliberately picking in order to receive a particular type of a response. So in the case of Pavlov's dog it was the biological reflects that got conditioned whereas in the

case of Skinner's pigeon it was the choice of the pigeon to pick at a particular point in order to get food okay.

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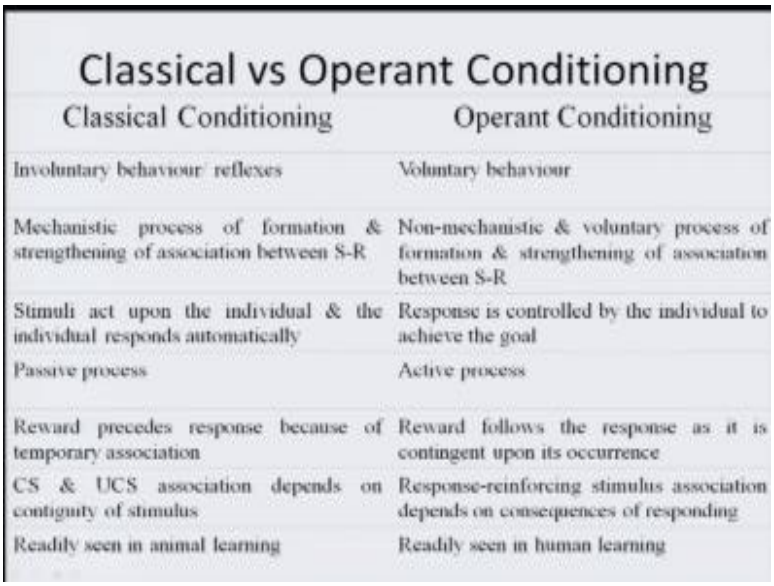

So operant conditioning basically engages your voluntary behavior, whereas classical conditioning it engages your involuntary behavior, the reflexes. Two in classical conditioning it is a mechanistic process of formation and strengthening of the S-R association, the stimulus response association okay.

Whereas in the case of operant conditioning you realize that the S-R association, the formation as well as strengthening is non-mechanistic and it is basically a voluntary process okay. You want something to be done, you want say the, our received stimulus to be removed or you want the reward to be given, and therefore you give a desired type of a response okay. Therefore it is voluntary it is non-mechanistic.

Third difference between classical and instrumental conditioning is that – in case of classical conditioning the stimuli act upon the individual, and then the individual response automatically okay. So there is no goal that has been set by the individual, the organism, the participant okay.

And the participant does not give a response in order to achieve that very goal. Whereas in the case of operant conditioning there is a goal that you set for yourself okay.

You receive a positive feedback or you realize that the -- our received stimulus is being removed. And therefore the response is actually controlled by the individual, so that the goal can be attained okay. Same for instance, you know that if you perform well in your exam okay, your achievement score will be appreciated by your school, and you will then receive say for instance, President's medal or say a scholar batch okay.

Now receiving the medal, now getting the scholar batch this is the goal that you have set for yourself okay. And you know that in order to attain this very goal you have to respond in a particular way that means your scholastic achievement should reach a level which would be now finally fetching you this reward.

So in this case what happens, you voluntarily in a non-mechanistic way you participate in the process, you have understood the meaning of the reward, you have understood what recognition the reward, the price means okay. You give a response which basically helps you achieve that very goal. In the case of classical conditioning that does not happen no, the individual works automatically it is a biological reflex, it is a natural response okay, which gets somehow no, anchored to a particular type of a stimuli okay.

Just think of the other example, you have seen pickles in your kitchen or on your dining table and whenever you look at the pickle of your choice, say for example the lemon pickles you have watering in the mouth, watering of mouth now is the secretion of saliva in your oral cavity, but then this is a biological response this biological responsible somehow got associated with the pickles which are present on your dining table okay.

You did not set a goal for yourself it has happened, so the response is automatic in the case of classical conditioning, whereas the case of operant conditioning you set a goal and then you try to achieve it. Therefore what happens classical conditioning becomes a passive process whereas

operant conditioning becomes an active process okay. In terms of rewards in case of classical conditioning the reward perceived response okay, because of the temporary association.

Okay you remember Pavlov's dog the food was presented and that led to salivation okay. Pavlov's collected that saliva and then it right to now pair the tone of the bell with the presentation of the meat powder, this means the reward was given to the dog beforehand. So in case of classical conditioning the reward perceives the response okay, whereas in the case of operant conditioning reward always follows the response okay.

So therefore it is contingent upon the reoccurrences of the response okay. So the crawling baby lifts the body, and then the elderly moves oh great, great, great yes, yes, yes the child realizes this is a doable act, the child human children they fall several times when they attempt to walk okay. But then they do make this attempt, they actively engaging the process, their every attempt is now rewarded by the parents; the reward is contingent upon the reoccurrence of the situation.

So every time the baby tries to lift the body and stand erect and try to walk parents appreciate, this appreciation works as a reward and this finally makes the human baby walk okay. So reward is always contingent upon the occurrence of the response okay. So that is the big difference, big difference in terms of classical and operant conditioning.

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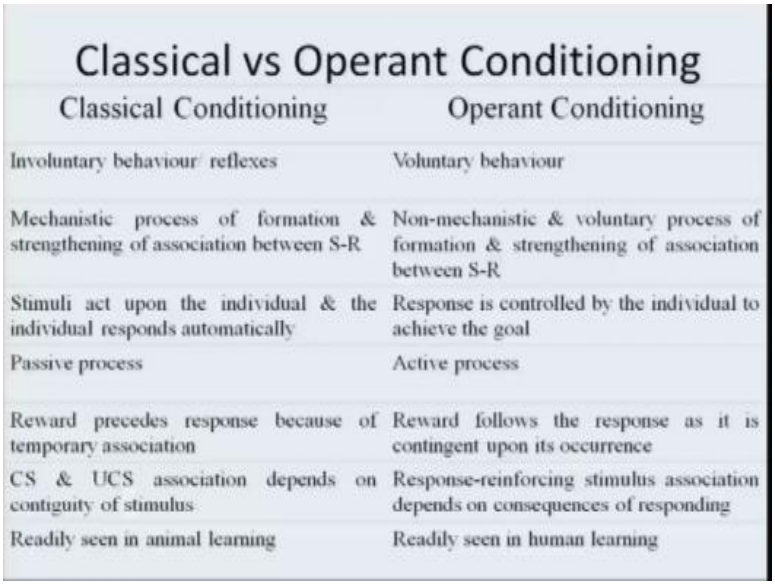

Now come to the CSU, CS paring know, the condition stimulus and the unconditioned stimulus. The association between the conditioned stimulus in the unconditioned stimulus in the case of classical conditioning depends on continuity of the stimulus okay. How contiguous they are okay, you remember contiguity we said that how closure the two situations are. So is the sound of the bell and the presentation of the meat powder, simultaneously if that happens then now you consider the respondent considers that this was basically these two things cannot be delineated.

They cannot be separated you consider them to be one ensuring the presence of the other. In the case of human beings the best example could be when you use words which are not to be used in a civilized society and immediately know your teacher or your parents they punish you for that. What happens the word that you speak and the consequence that you get okay, you consider that these two things are associated and this helps you learn certain things okay.

In the case of operant conditioning the response the response reinforcing stimulus no, that gets associated and this association depends on the consequence of the response okay. So whether it is -- what you call contiguity or it is the consequence okay. So these two things again now

differentiate between classical and operant conditioning. Most, mostly if you look at the examples of classical conditioning you would realize that it is animal learning where you readily find classical conditioning taking place and mostly in the case of human beings you would realize that it is the operant conditioning takes place.

You might have seen people around you, who would look at a particular bird in the sky; you have the blue color bird, okay. And there are methodological stories suggesting that this bird basically no, somewhere associated with gone, and you have always seen your parents no, they do like this whenever they see this bird. Now what happens you are neither no, appreciated for this behavior, you are neither no, given negative feedback for this very behavior.

But you somehow no, develop affinity for that very bird and driven by that methodological concept humans will start repeating that very behavior. But there are very few things no, say watering of mouth when you look at pickles or behavior like this, which you realize no, can be suitable examples in case of human beings for classical conditioning, but by a large classical conditioning examples are very readily, easily available in the animal kingdom. Whereas human beings you will find mostly they use operand conditioning.

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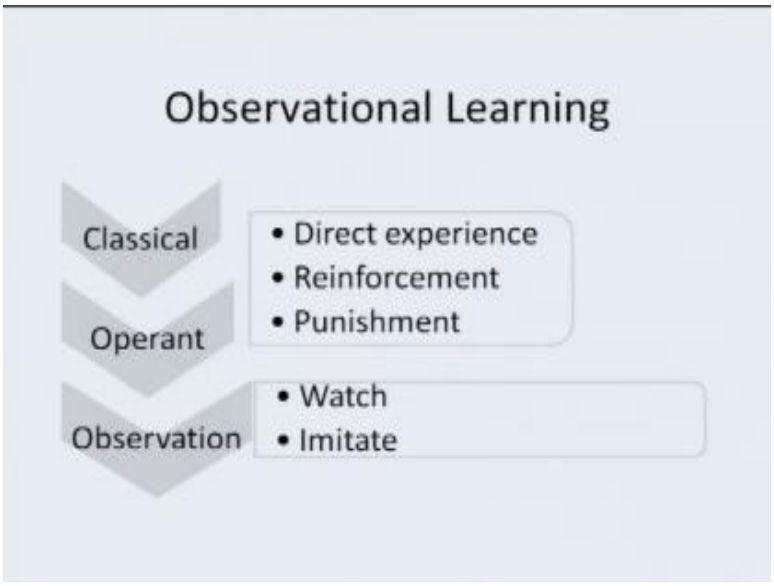

Let us now make a comparison, okay. Of our day-to-day experience and try to fit it with these two theories that we have talked about.

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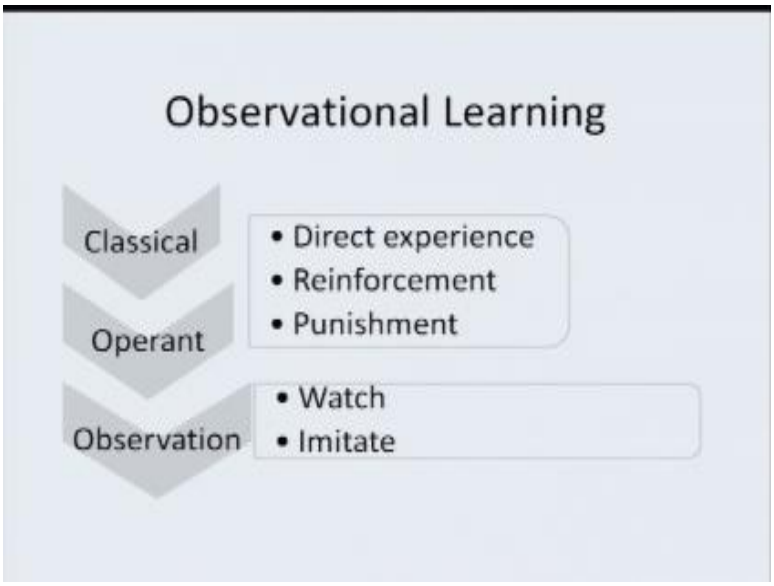

Classical and operant conditioning both of them they talk about certain direct experiences that we have. Both of them have an element of reinforcement or punishment, okay. But is it that our entire learning is dependent on direct experience, is it that our entire learning is based on punishment and reinforcement? The answer is no, okay.

And this leads to the fact that there is a possibility of learning where you basically know watch Somebody, you try to imitate him or her and therefore you learn that very thing, okay. So this type of learning they are called observational learning.

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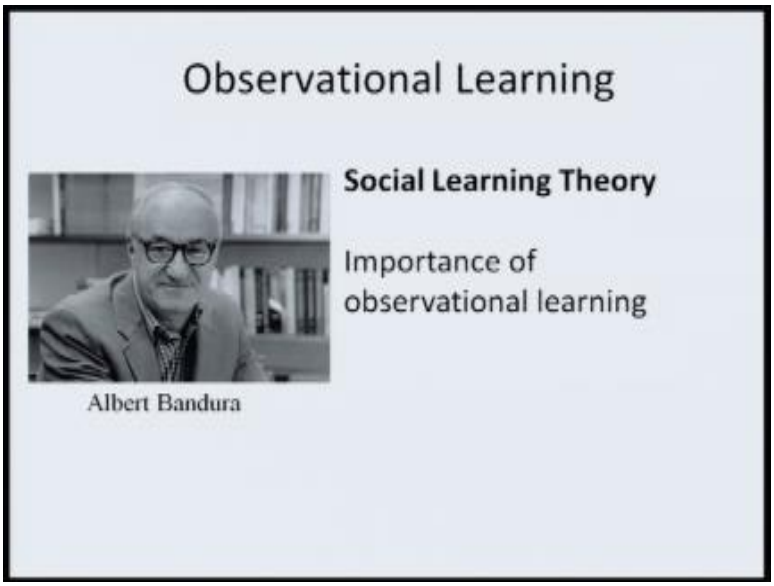

Now Albert Bandura was the man who proposed the social learning theory and the social learning theory has now given utmost importance to observational learning.

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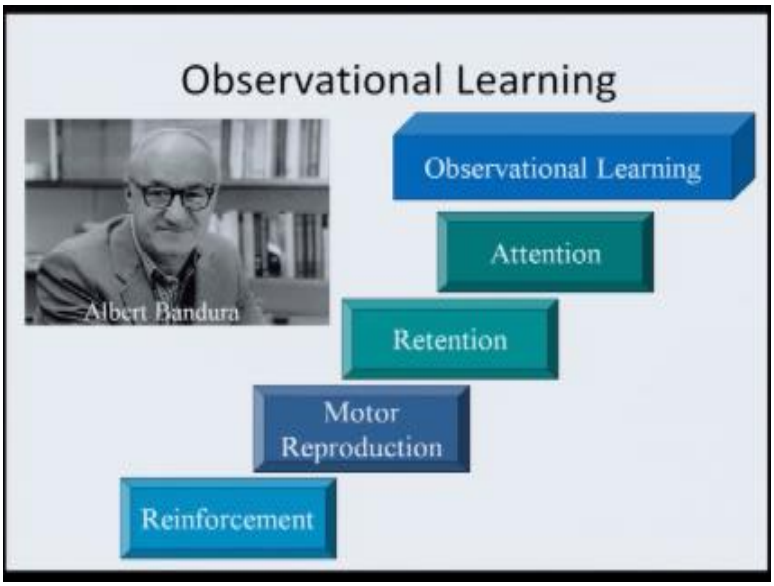

What does observational learning say? Observational learning basically says that you pay attention, okay. Whom do you pay attention? To of course you will know search for an idle for yourself a model for yourself. So you choose a model something which you consider worth no, replicating, you adore your model; you attend to his or her behavior, then the behavior of the model you retain with yourself.

You then try to imitate it that is motor reproduction, okay. So you try to imitate that behavior and when you imitate it, okay. The world around you, apprises you, okay, this appreciation becomes reinforcement for you. So observational learning which basically help you attain to a model, retain certain aspects of his or her behavior, reproduce it in your own behavior, and when you repeat it in your own behavior you are being reinforced, okay. So this is how observational learning works.

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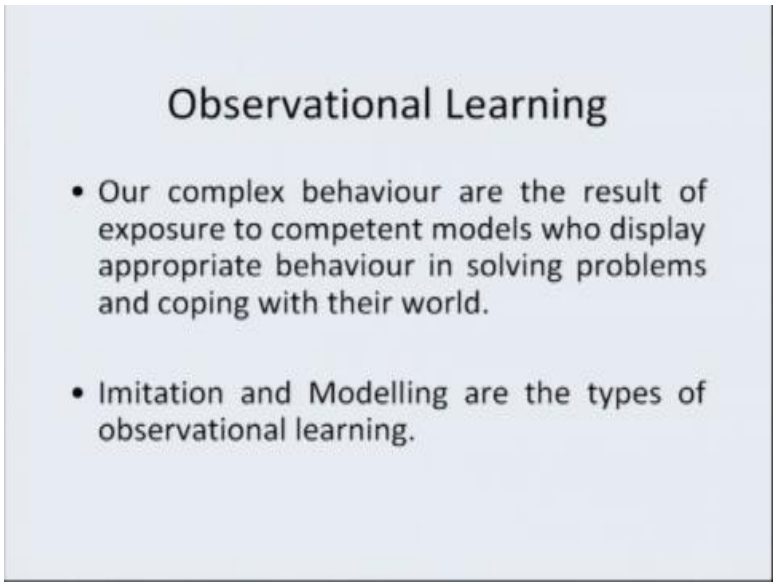

Now our complex behavior basically are the result of exposure to competent models who display appropriate behavior, basically in terms of solving problems and coping with their world okay. The major world leaders know, you remember when we started our first lecture okay, and I showed you certain lines and told you that can you make sense of what you see here okay, although I was talking with reference to sensation, and the process of assigning meaning.

But we took Mahatma Gandhi as an example there, why did we take Mahatma Gandhi as an example, because you realize that there are certain type of scenarios in the social political situation in the world, which now has its inbuilt problems, somebody who shows you the path ahead, the way ahead okay, how to resolve this very problems, how to cope with the problems that you see in your world okay, those are the people who would be considered as models.

But it is not no, no I am not suggesting know that you have to have role models equivalent to the Father of the Nation Mahatma Gandhi to select a model. You can have no models, who are readily available to you okay, mostly inside the house you would realize that one of the parents they become the model okay. Mostly the psychological perspective will tell you and

commonsensical experience will tell you that mostly the girl child would try to, would love to imitate the mother, the boy child would like to imitate the father.

Then gradually with your -- know your increasing age and experience when you move out of the house you have multiple, multiple, multiple know individuals to choose from okay. You love acting, you love a particular actors or actress okay, you start imitating him or her okay, your style of walking, the way you dress, the way you groom yourself okay, is guided by, is highly influenced by those models.

So basically what happens, you select a model okay, and when you select a model from your contemporary involvement then you try to imitate the behavior that you adore okay, and this is how observational learning works.

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Now the basic assumptions in social cognitive theory, basically says that you choose a model and learning is basically internally initiate, internal initial means unlike the two cases that we discussed, the classical and operant conditioning. Where the behavior was very glaringly visible

okay, say like the pigeon would pick okay, the dog would salivate; pickle will lead to watering in the mouth okay.

In the case of know, human beings it might not be that the behavior that you have learned will always result into very, very glaringly visible behavior. It could be, that you are not able to see any result; you choose a mode, you observe the model, but then learning is very, very internal in nature okay, and this internal nature of learning does not make others realize that this individual has already learned this very behavior.

But at an appropriate time the individual reflect start vey behavior and then you realize oh! I did not never realize that this person has learned it, but he really did so. The third assumption in social cognitive theory is.

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That the behavior is goal directed in nature okay, you have selected a model and you are trying to imitate the model, because you want yourself to be like him or her okay. So you have a goal at hand and your behavior is directed towards that very goal. And finally, eventually behavior becomes self regulated okay.

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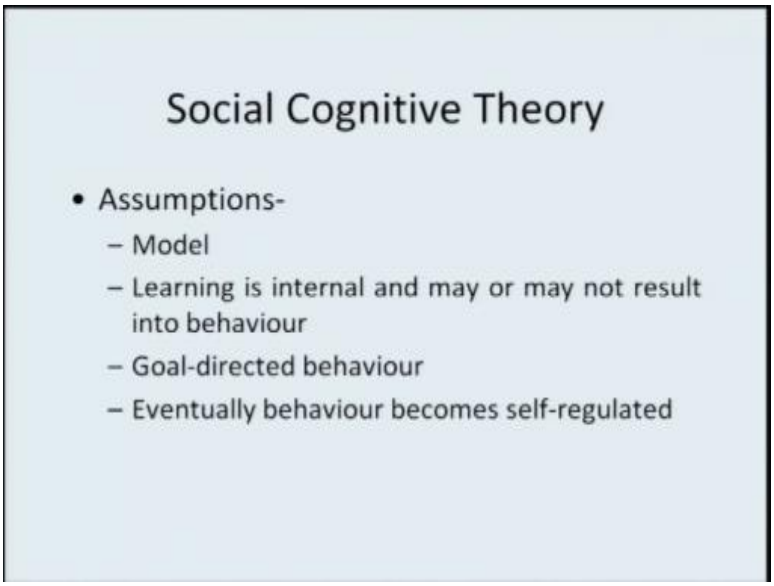

So all you want to achieve as a human being is a self-regulatory state.

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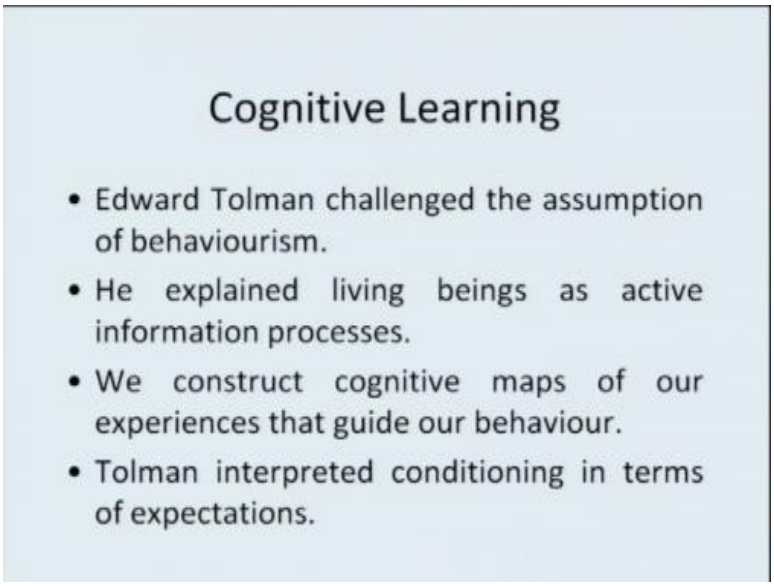

Interestingly enough Edward Tolman he challenge the assumption of behaviorism, he explained that living beings know, are basically information processes they are active information processes, and we construct cognitive map of the experience and it is this cognitive map which guides our behavior okay. And Tolman's interpretation of conditioning was basically in terms of expectations.

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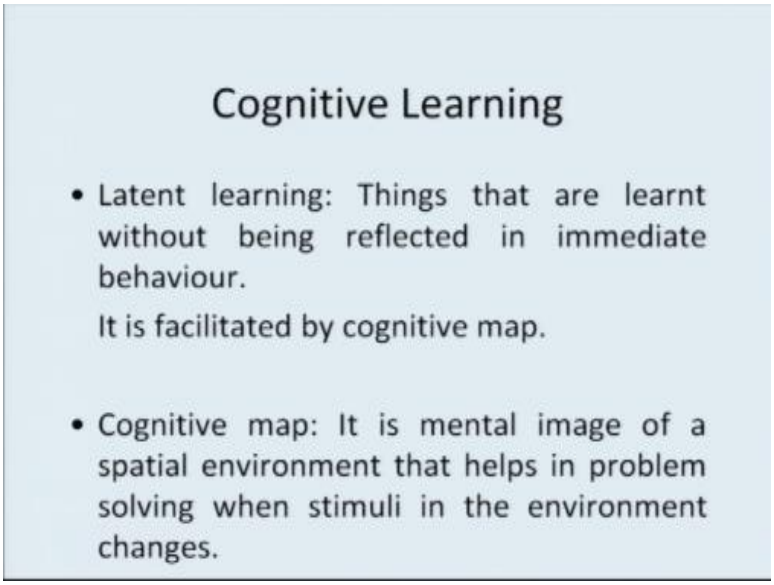

He talked about latent learning and of course know, with respect to formation of the mental map to give the concept of cognitive map also. Now latent learning basically know is the learning of things that are learned without being reflected in immediate behavior right now with respective to assumptions we talked about it, and Tolman's view was that no cognitive maps.

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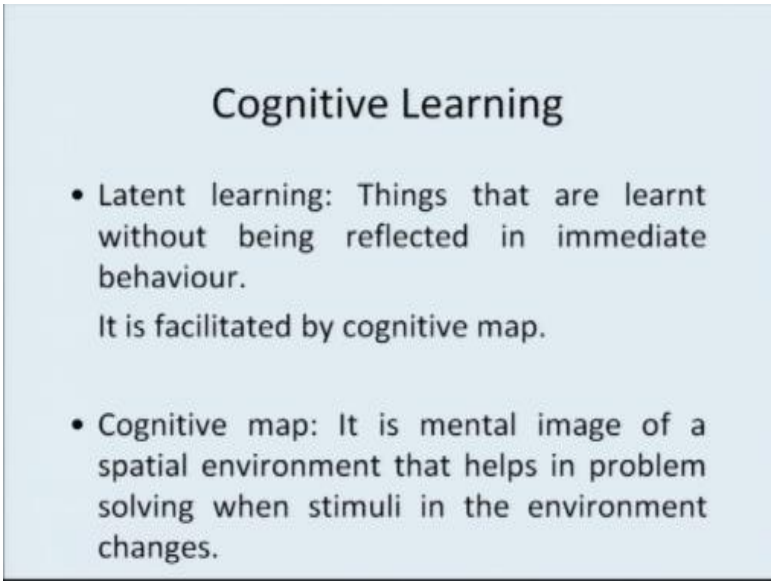

It facilitates latent learning what is cognitive map, it is nothing it is simple, mental images of the spatial environment okay, which helps us now resolve the problem, the challenges that the world poses before us, the environment poses before us okay. Say for instance, the best example would be route memory for example, you have your house, you have your school or college, and you know this is the route that can be taken to reach the destination, you know the alternate route also and you know that if these two routes are blocked then what to do.

You have the cognitive map okay, the problem solving ability that you reflect in a given situation is dependent on your cognitive map okay, insolated learning it is not at everyday you repeat it, you are rewarded are some punishment is given to you, or the situation is very obnoxious and it is withdrawn when you come for what with the desired view again, nothing of that sort happens here okay. So this is the importance of cognitive learning.

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