

**Introduction to Psychology**  
**Prof. Braj Bhushan**  
**Department of Humanities and Social Sciences**  
**Indian Institute of Technology, Kanpur**

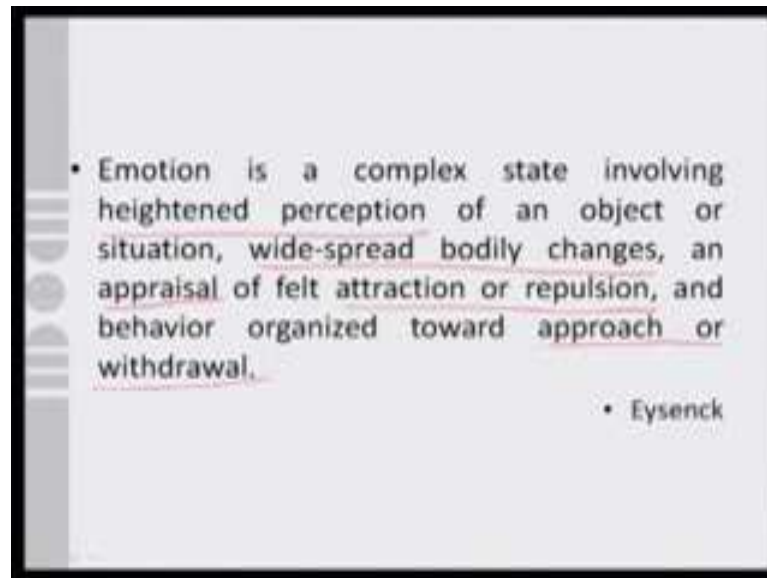
**Lecture - 23**  
**Emotion - Theories of Emotion-1**

Now that we have talked about perception; we have also seen how we learn things, how we memorize, how we forget things. Recollect your experiences, situations where somebody shared a good news with you and you were full of joy. Your happiness was glaringly visible on your face. You heard the news of death of beloved one and you were extremely sad. You thought something will not happen and it happened, and you were caught by surprise.

These are some of the things that we are going to talk about in this very course as part of emotion. Where first you try to understand what emotion means, how psychologist they have tried to understand human emotion, the entire effective process per se. And because we will have a limitation of only 20 minutes lecture distributed across 6 lectures.

So, we would try to also see not only the major theories that tries to explain emotion, but also how emotion and understanding of emotion has grown and become wider and wider helping us understand how we feel, what we feel, and why do we feel what exactly we feel. So that is all about the topics that you would be talking about. Just to define emotion I am taking this very definition given by Eysenck.

(Refer Slide Time: 02:08)

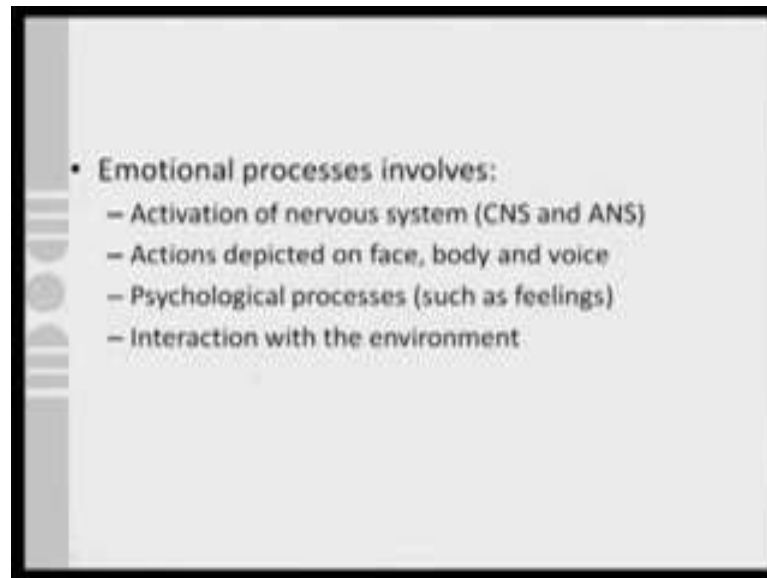


Who says that 'emotion is a complex state involving heightened perception of an object or situation, wide spread bodily changes, an appraisal of felt attraction or repulsion, and behavior organized towards approach or withdrawal. If you look at this very definition you will come to know whole variety of things that are associated with emotion. First, that it has to do with heightened perception. You perceive an object, you perceive a situation and then you have heightened degree of perception which leads to a complex state. What is that complex state? And if I now break up this into say the complexity that Eysenck talks about it would be something like this.

The first thing you have is the heightened perception, bodily changes, appraisal which is either attraction or repulsion, and then behavior which either follows an approach or withdrawal mechanism. You can understand that perception has to be heightened the body will undergo certain changes you will go for an appraisal mechanism, you will think about it. Why, whatever is happening is happening, what does that mean. How relevant, how significant that is. And based on that you will either move towards the source of attraction or repulsion or you would move away from it.

So if you move towards the object then it is attraction, if you move away from the object it is repulsion. And then the entire behavioral manifestation, the behavioral output will either be an approach or an avoidance response. So, whole lots of issues are involved in emotion.

(Refer Slide Time: 04:14)



Now, emotional processes largely involve four things. First activation of nervous system, so when we say activation of nervous system it could be activation of the central nervous system as well as the autonomic nervous system. For instance, you watch a movie and when you see the hero chasing the villain, you realize that the sequence that you see on the screen actually makes change in your heart beat; your beat becomes faster because the heart beat has increased so the pulse rate is by default going to increase. The respiration rate might change. The sensitivity, the flow of current on the surface of the skin will undergo a change, what is called as GSR; Galvanic Skin Response. So the nervous system actually becomes activated, that is one of the important process involved in emotions.

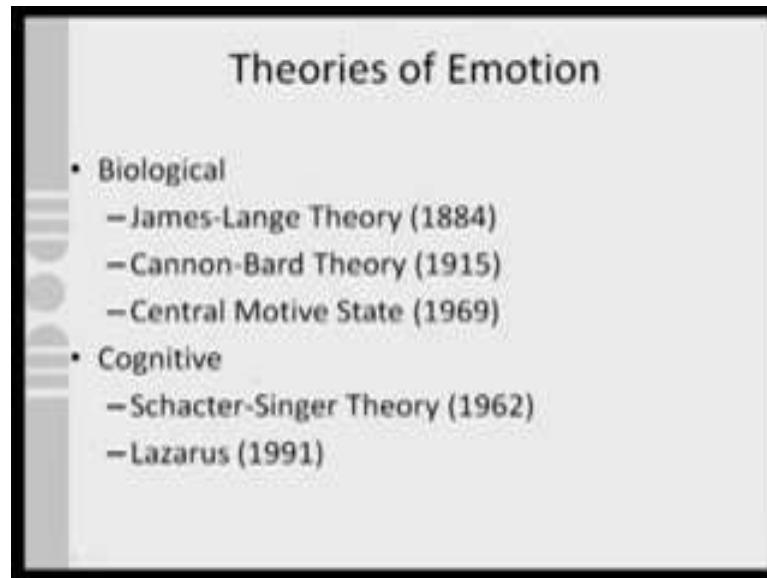
Second the action gets depicted on face body and voice. The facial expression changes and the right looking at your face one can understand whether you are experiencing particular type of in emotion or not. To say happiness, sadness, disgust, surprise, all this things can very easily to be understood just by looking at the face of the individual. Two, the bodily mechanism; the gestures, the postures that will also get influenced, so if you are happy your entire gestures and postures will very clearly reflect how activated you are. Similarly, you will be no depicted by your gestures and postures has little withdrawn say for instance if you are extremely sad, and this changes in the emotion is also visible on the face. So, voice modulation takes place depending on the emotion you are experiencing.

Three, emotions has psychological process embedded into it. The whole concept of subjective experience the feeling. So, what actually happens to your body, what happens in the normal nervous system whether it is central or autonomic or what happens in the face, what happens to your voice. These are the changes that can be examined, that happens to you but then at the end of these events you finally derive a feeling out of it. What is that feeling? That subjective feeling that you derived in a given situation that is an important. And one of the perhaps most important concept associated with emotional process.

And then the fourth one is the interaction with the environment. Depending on what you feel, you will decide your course of interaction with the environment. If you consider the environment to be hostile, the environment which is full of fearful elements you are by default going to withdrawal yourself. So, you are over all engagement with the process will not be visible. Whereas, if you realize that the environment is full of signals that makes you very very happy or it is a full of surprise element, your involvement with your environment increases therefore, the pattern of interaction that one will show to the environment will also be decided by the emotion that one will experience. So, these are the four important processes that are involved with emotion.

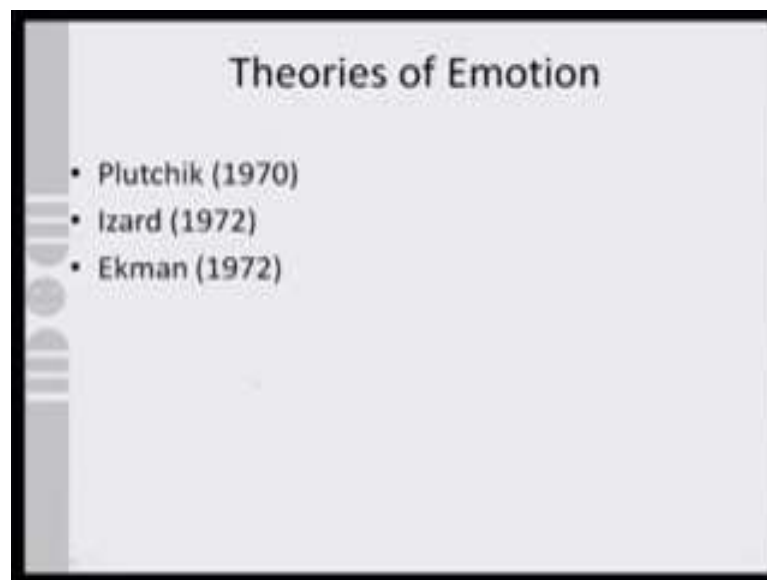
We will now very succinctly try to understand the theories which have tried to explain the process of emotion. For convenience what I have done is that I am dividing this theories is into two major segments.

(Refer Slide Time: 08:30)



The biological theories and the cognitive theories; and beside these two theories these two set of theories are there.

(Refer Slide Time: 08:40)

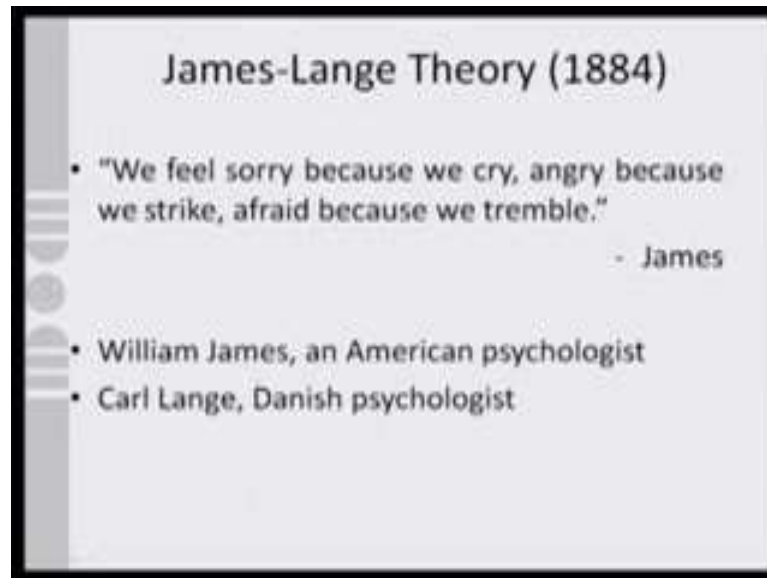


we will also like to look are the theories given by Plutchik. Izard and Ekman, because they have tried their best to classify emotion and to (refer time 8:54) the basic form the purest form of emotion which is not confounded by any other subjective experience. So, what are those basic emotions, and how is that two emotions they mix together, and what

is the third thing that gets generated out of it. So, these things will also like to discuss here.

So, let us first begin with James-Lange's theory which was proposed in 1884.

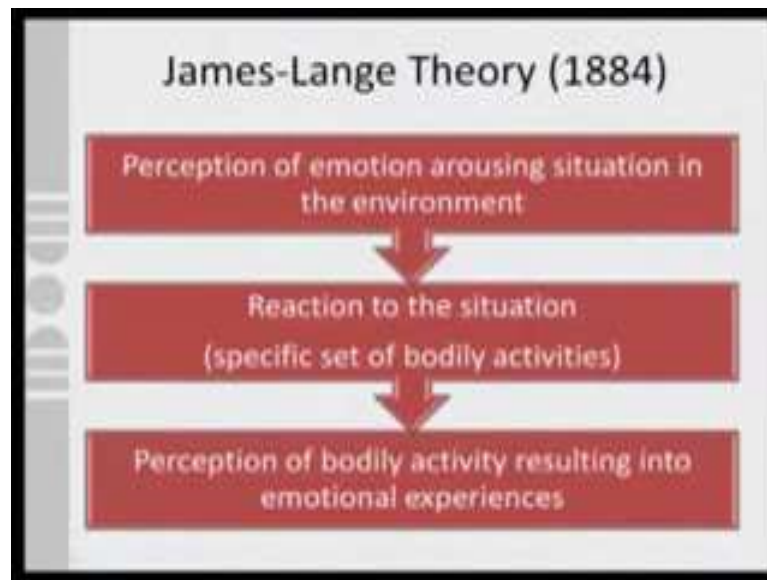
(Refer Slide Time: 09:22)



I am quoting him he said “We feel sorry because we cry, angry because we strike, afraid because we tremble”. So, what actually he was saying was that it is not that you first feel the emotion and then you respond to it. He said that you become cry therefore you feel sorry in a given situation. So, because you are scared you tremble therefore you are trembling behavior gives you a feel of fear, you are afraid of something. This means what we otherwise think that we feel and then the process takes place, he says the reverse of it.

Now, when William James was thinking about how human beings experience their emotion, along with this American psychologist there was somebody else a Danish psychologist called Carl Lange he also proposed similar type of theory. And therefore, although this theory was not an outcome of collaborative work, but in the literature you will find that the credit has been shared with both of them, both of them have been recognized for proposing this theory and therefore this is called James-Lange Theory.

(Refer Slide Time: 10:59)



Now, what this theory says is that first we perceive emotion that arises out of a situation in the environment. There is a situation in the environment and you perceive it. This perception of emotion leads to reaction to the situation which in turn basically could get reflected into terms of specific set of bodily activities. And when we react to the situation we then perceive our bodily activities, the perception of the bodily activity then finally results into an emotional experience. Let us understand by this very example.

What did you see here primarily this man was afraid of the dog. Now, why was this man running? Because this man was scared of the dog, according to James-Lange Theory this man actually saw the dog in the environment. So, there was a perception of the dog in the environment, two he react to it he started running away, because he is started running away therefore third step comes where he perceives that he is sweating his heart beat is increased. This whole experience subjective experience of running away from the object that is internalized and then it finally results into the perception of fear.

Now, think of a situation what James-Lange says is that you have the object, the situation present in the environment, you respond to it and accordingly you feel the emotion. The example that we saw right now was that a man is scared of dog and according to James-Lange his fear of dog is governed largely by the fact that he is trying to run away from the dog. Look at this very example and interesting example where you find small child 14 month old child playing with a python.

(Refer Slide Time: 13:25)

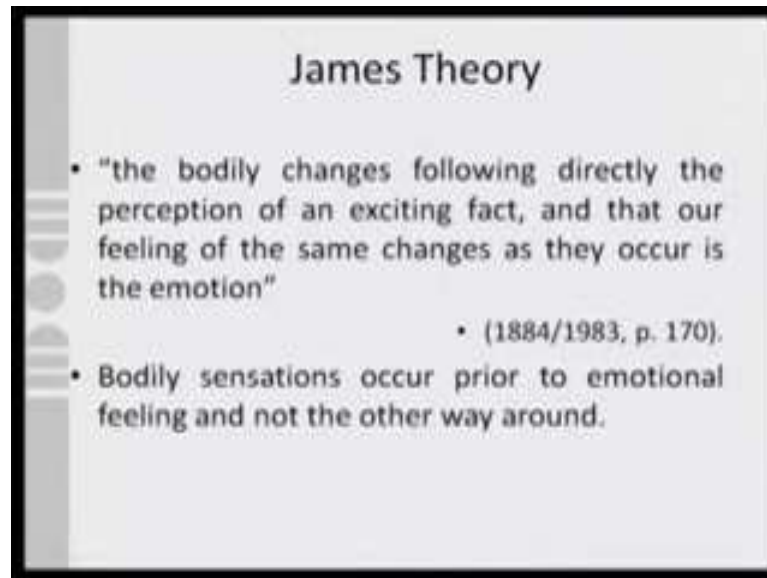


The previous example we saw where this adult man was running away from the dog because he interpreted that this is a fearful object in the environment he ran away, and because he started running away he experienced fear. In this very example the python you can see he has **scrolled** and then the baby is playing at least the feet is under the body of the python, the hand is too close to the body of the python, and there is no experience of fear at all.

Now in this very example this baby is not scared of the python because she is not considering the object, she does not perceive the object in the situation to something that she should be skeptical about it and run away. Because she is not running away therefore that fear is not induced. Whereas, most of us if we are put in this very situation we would be extremely scared. So, this is what was James-Lange Theory.



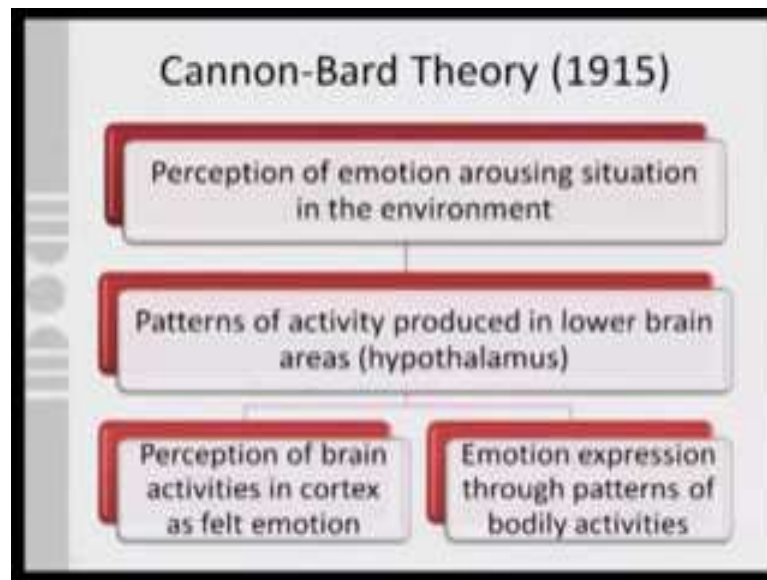
(Refer Slide Time: 14:44)



James theory further says, I again quote him that “the bodily changes following directly the perception of an exciting fact, and that are feeling of the same changes as they occur is the emotion. So, he was trying to explain emotion as the feeling of the changes that takes place in the body. And this theory further says that the bodily sensations they occur prior to the emotional feeling and not the other way around.

Most of us we thing the other way around that we have the emotion it is the emotion that leads to bodily changes, whereas James-Lange Theory proposes that we have the bodily changes first the sensation first. And it is this bodily sensation change there that finally leads to the experience of a given emotion

(Refer Slide Time: 15:36)

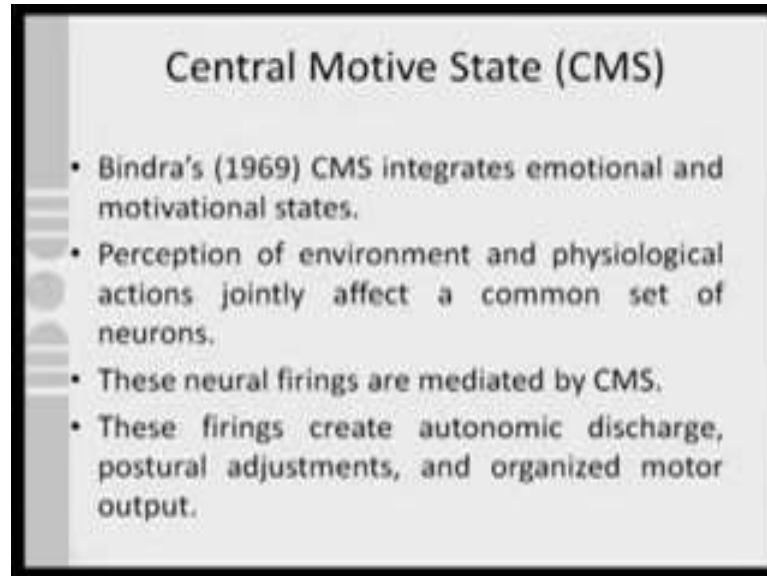


We come to the other theory now. Cannon-Bard Theory came in 1915, and this was further revision of James-Lange view point. They said that perception of an emotion is based on the situation in the environment which is of course arousing enough, so the person concerned perceives the emotion arousing situation in the environment and this in turn leads to pattern of activity in the lower brain areas. Because, the activity has now right from the perception of the situation in the environment has now gone to certain type of pattern that is produced in the lower brain areas therefore, two things now simultaneously happen; one perception of the brain activity in the cortex which is felt as an emotion, and simultaneously the emotion expression that takes places to the pattern of bodily activities.

So, the change between James-Lange Theory and Cannon-Bard Theory was that James-Lange Theory said that we perceive the emotion arousing situation in the environment then we respond, and because our bodily response takes place we look at our own response pattern and therefore we experience the emotion. Cannon-Bard made a change here they said perception of emotion arousing situation does takes place, but then this perception leads to certain type of activity that takes place in the lower brain areas. And that pattern of activity that takes place in the lower brain area leads to two simultaneous things. At the same time when we experience the emotion because of the activities in the brain we also experience our emotion through the bodily activities.

So, the bodily response and the felt experience of the emotion both of them they go parallel to each other. This was Cannon-Bards Theory.

(Refer Slide Time: 17:56)

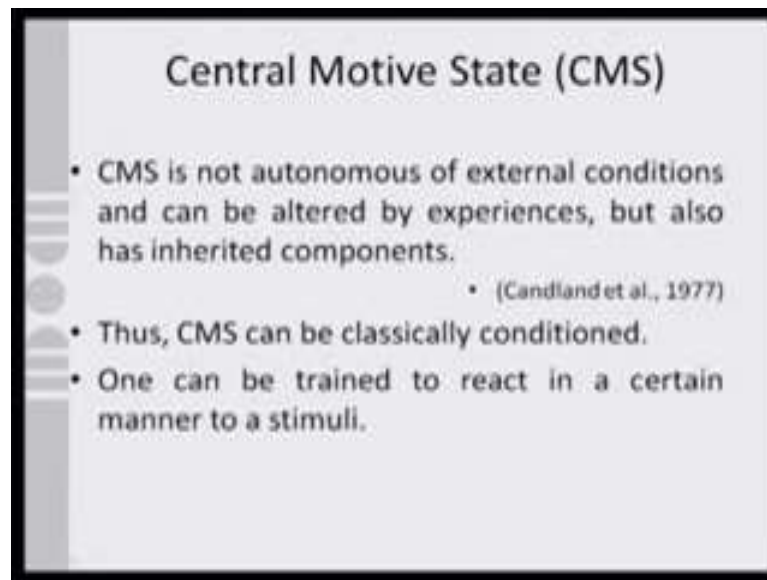


**Central Motive State (CMS)**

- Bindra's (1969) CMS integrates emotional and motivational states.
- Perception of environment and physiological actions jointly affect a common set of neurons.
- These neural firings are mediated by CMS.
- These firings create autonomic discharge, postural adjustments, and organized motor output.

The third theory which is considered at the biological framework is the Central Motive Theory given by Bindra. Bindra's theory says that you need to integrate emotional and motivational states to understand how human beings experience the emotion. And according to Bindra the perception of environment and the physiological actions jointly affect a common set of neurons. These neural firings are mediated by the Central Motive State. And these firing they create the autonomic discharge, postural adjustments, and they also organized the motor output.

(Refer Slide Time: 18:32)



Therefore the Central Motive State actually is not an autonomous state of external condition and can be altered by experiences, but also has certain inherited components. And therefore, it is also suggested that the Central Motive State can be classically conditioned. Means one can train to react in a certain manner to a certain stimuli.

Right now the example you saw the baby playing with a python. The Burmese father who recorded this who was basically trying to propagate the message that people should not be scared of animals and they should take care of all animals including animals for whom we have great degree of fear like snakes.

Now, he was basically trying to train not only his own baby, but also try to he was trying to give message to the society. Basically this is what see a message that, one can be even trained to react in a certain way you can be trained not be scared of a python which is usually against what is commonsensically perceived.

Key words - emotion, james, lange, Cannon bard, central motive state