**Soft Skills Development**
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Lecture - 15
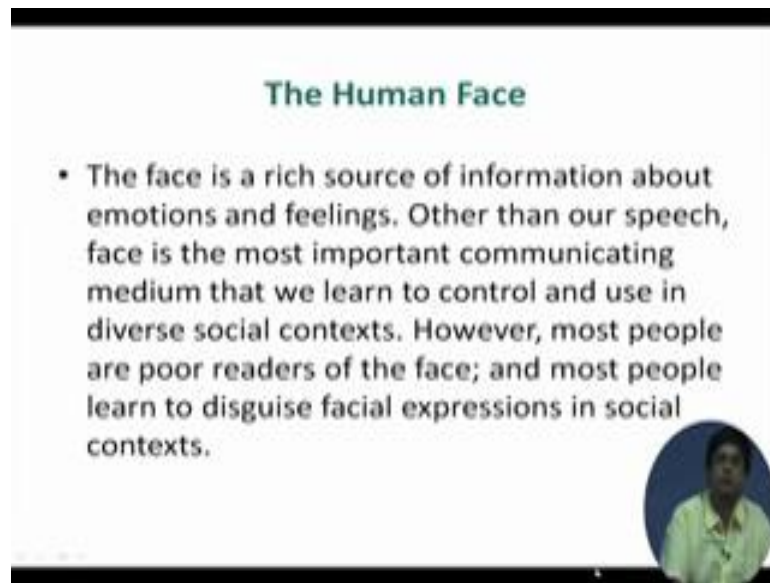**The Face, It is Expressions and What It Says**

Hello friends, in the last session we talked about normal way communication. We started off with that and there I promised you that will be talking about facial expressions in this session and we will be looking at the concept of deceit which is online right now, and many of you probably doing it. What I would like to quickly share with you is that, this is what we trying to cover.

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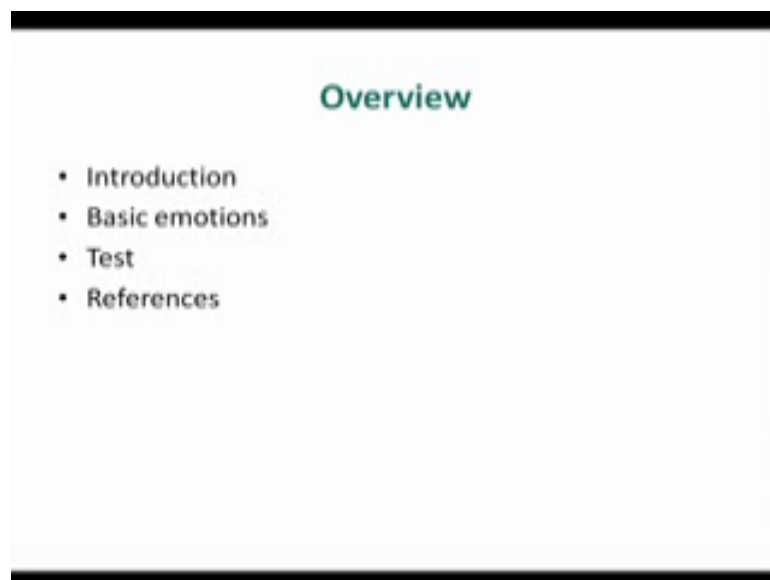
I will just introduce different aspects of facial expressions to you, talk about basic emotions. Then give you test to find out how could you are at the (Refer Time: 00:55) emotions in faces and then, we look at the references quickly and hopefully you will be able to know a little bit more about how faces communicate emotions.
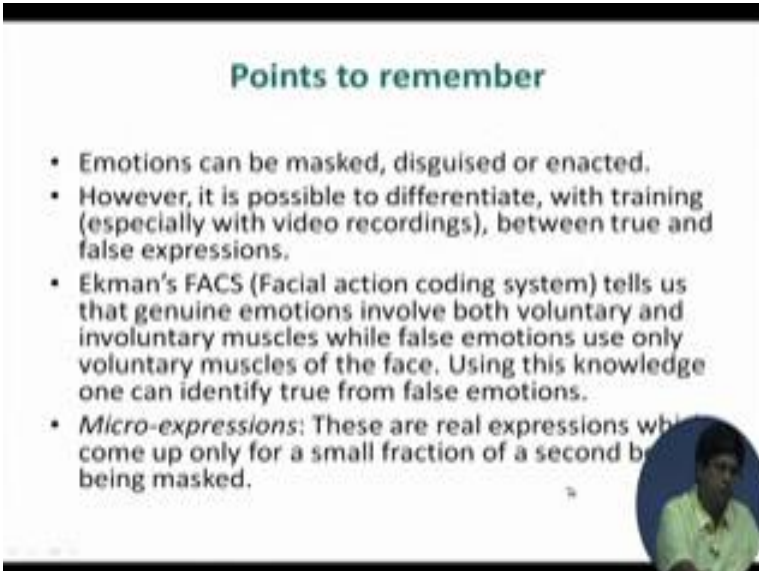
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Now, see that the face probably is the most important source of information about emotions. Emotions are communicated through just is as you could very well see in the gesture of captain had a contenting. But face was very significantly component of the communication of those emotions all though through just gestures you can communicate emotions, but facial expressions are capable of expressing a wide range of emotions and wide range of expressions which are not necessarily emotions for instance: when you want to say that I do not know you very often make a gesture as well as a facial expression together which look something like this.

Now, this facial expression is not an emotion. You need to differentiate between emotions and this is a facial emblem because it is substituting for a distinctive meaning in a social cultural context, it is not a direct expression. However, let us keep it in mind that of the face has the maximum number of muscles that we can control it also has a certain number of muscles which we cannot control. The reason for telling this to you is because when we can control the muscles we are able to manipulate the emotions which have been displayed on our faces. But when we cannot control some of the emotions some of the muscles then in spite of not intending to do, we are able to we are giving away some of the emotions or if you trying to enact certain emotions we are failing to do so. Tourists and researchers tell us that human beings are capable of making and identifying more than a 1000 facial expressions.

Now, it is might sound a little (Refer Time: 03:03) to you, but if you feel it let us assume that there are 6 or 7 basic facial emotions which will deal with and if we a lot to them different degrees of intensity. Let say intensity difference of 5 degrees then here it is elf you have 35 different emotions now, with this just add that sometimes emotions and not pure emotions and mixed let say combination of happiness and surprise, combination of happiness and calm, combination of sadness and disguised, sadness of anger, now you combined they when give them intensity you have maybe another 100 expressions. These statement that we are able to display and identify 1000 emotions, a 1000 expressions, different expressions is not really unrealistic; however, I would say that more social faces, we would be able to design very easily between 200 to 300 different facial emotions and then of course, there are the expresses.

But as I indicated in slide earlier we tend to disguise our emotions very often. That is something which we need to keep in our minds that is something which we are going to discuss today in slight greater detail than, in the earlier class where we dealt with gestures. Now points to remember this is very important emotions can be masked disguised or enacted.
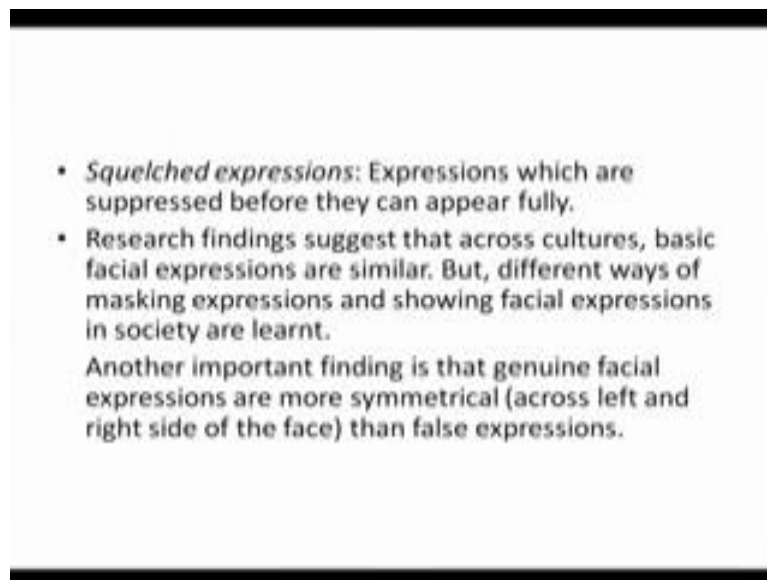
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Now, in a social face as I told you in the earlier class, you need to tell lies for instance: you have a guest and you are getting board because he is over his duration over there you know house and you cannot tell him to leave, you are giving artificial smiles, you are

trying to show interesting whatever is telling, now these are the example of white lies. White lies are innocent liars which we continuously keep on telling showing displaying in various ways in a social face because that is expected of us we, so that we do not look rude. For instance, let say 12 year old daughter comes to me and asks me whether have painting is looking nice or not now even if it is not a nice painting I will say that it is a good painting, it is a nice painting give a what of appreciation.

Now, what I judge this painting to be a, but it is important to encourage this person. If I ask this question whether truth is being told or false would then, it is very difficult to answer this question this is another example of white lies. Now Ekman has developed or Ekman have refer to him earlier develop to facial action quoting system which classifies different kinds of emotions and the different muscular movements. We will use a little bit of that in order to understand, how people used different muscles or different parts of the face to communicative emotions. We will also discuss the concept of micro expressions which are expressions which emerge for a very short period of time and very often carry genuine emotions.

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- *Squelched expressions*: Expressions which are suppressed before they can appear fully.
- Research findings suggest that across cultures, basic facial expressions are similar. But, different ways of masking expressions and showing facial expressions in society are learnt.
  Another important finding is that genuine facial expressions are more symmetrical (across left and right side of the face) than false expressions.

We will also talk about something which is known as squelched expressions which are expression which are suppressed in before they can appear. Now you see that I have already discussed this in the earlier section, research tells us that facial emotions till Paul Ekman pointed it out are considered to be socially dream. There were certain theories

filled that all our expressions of emotions including facial emotions are socially driven, socially generated, but it was Paul Ekman who found by studying certain videos of or communities who had no touch with civilization for a very long time that certain facial expressions are emotions universal, in the sense that they are available in almost all the countries and when somebody is not watching you these are the expressions you give

This is something we will touch upon a little later. One of the other important issues that needs to be pointed out is that the concept of symmetry and asymmetry. If this face is divided into two components then it is, if there is a match between both the sides that is symmetrical if there is no match that is asymmetrical. Genuine expressions are more symmetrical and false expressions are mores asymmetrical, in spite of the fact that even genuine expressions are a little asymmetrical. One side of the face expresses these emotions to slightly greater degree than the other side of the face.

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If you looking at some of the fundamental facial emotions happiness, sadness, anger, fear, wonder disgust and scorn in today's talk we will focus on the first 6 and will try to identify very, very quick and basic way how is it that you would be able to differentiate between these emotions. Now the funny thing is that all our lives. We look at other people's faces and hence it is assumed that when we looking at somebody's face we should be able to know to what extent what kind of emotion this person is displaying whether they are genuine emotions or their false emotions. But research tells us that our

ability to identify emotions including genuine emotions is roughly at the level of 50 percent which is chance level which means that although we assumed that, we are good at reading faces and their emotions we are actually not good at reading emotions and faces. Now this is unusual, but this is very interesting.

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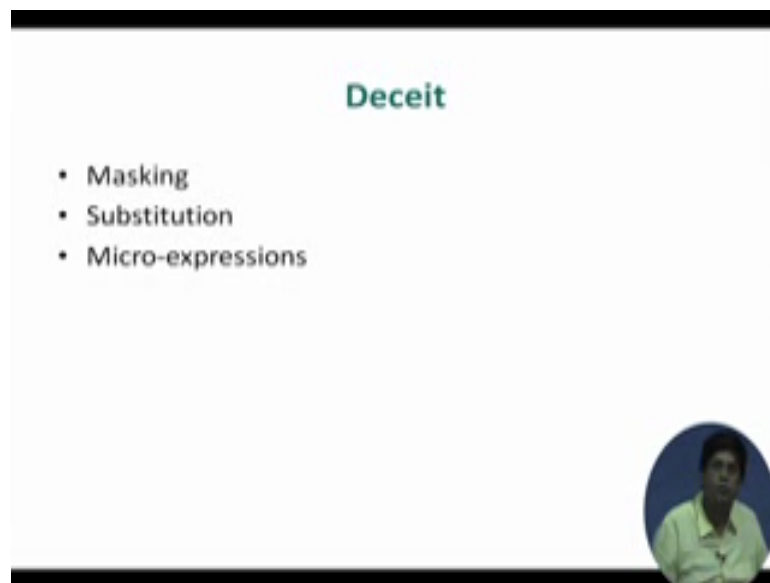
Let us move on to some of the basic concepts that we will be take up when we look at deceit because this is an interesting area where most of you interested because you like to know whether what is going on in the mind of the person, who is let say smiling at you across table in a negotiations or in a job interview whatever. If you are able to understand the little more about him through his facial expression, gesture, postures and thinks like that then probably your decision making and as well as your communication would benefit from that masking is a something, which is related to squelched expressions, masking is where even before or during the emotion appearing you control it, masking and happen by putting a deadpan face which is the face without expressions, masking can also took place when you substitute one expression for another expression.

Very common example is classrooms where, a teacher is getting angry with a person. Whatever anger outrage or same or sadness the person the student is feeling, see tensed not to display that very often you find that it is either replace with a deadpan expression or with the substitute expression. A student feeling angry and a teacher might be showing

sadness, it is trying to display sadness. So that the teacher will realize that actually the person is feeling bad about what he has done.

Or a smile let us say boss is abusing a subordinate and he smiles, and the smile is trying to conceal anger humiliation sadness and a number of their emotions. Substitution takes place as and micro expressions have indicated here, I would like to say that during deceit because we are controlling our emotional expressions, we manage to leak them. We manage to give expressions before we able to control them and these expressions last anything between one by fourth of a second to one by fifteenth of a second this are known as micro expresses. They are those they are so sort that is very difficult to identify them. In fact, in some of the studies that even we have been doing we use relatively high speed cameras anything between 1 by if 50th to frame with frame rates of 1 by 50th to 1 by 60th of his second to 1 by 400 of a second while capturing facial emotions. So, that later on we can analyze and search for micro expressions.

This is an interesting area where deceitful expressions can be identified, if somebody as lift micro expressions and these generally happening social contexts. In your personal life you do not trend to give that because you are expressing yourself, but in social face you trend to control them and that is where micro expressions emerge.

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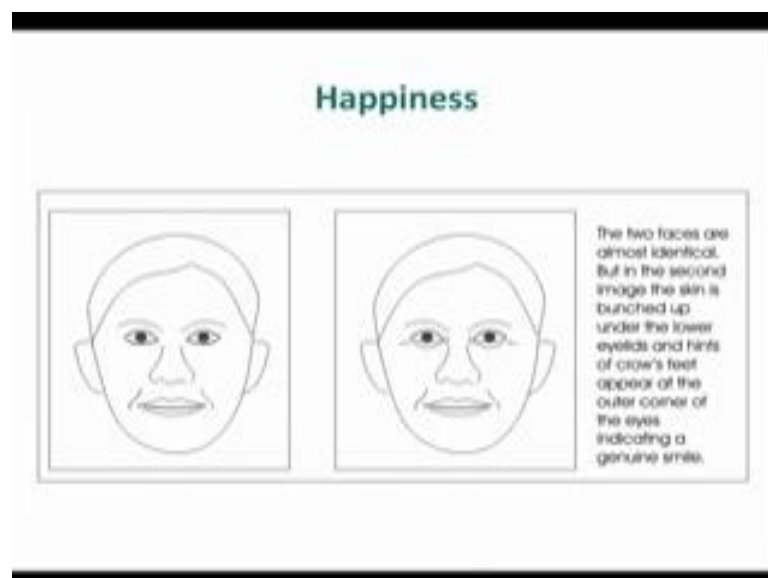
Now, what we have going to do right now is to look at series of images which will give us some idea about facial expressions of emotions I will be very, very non technical, I
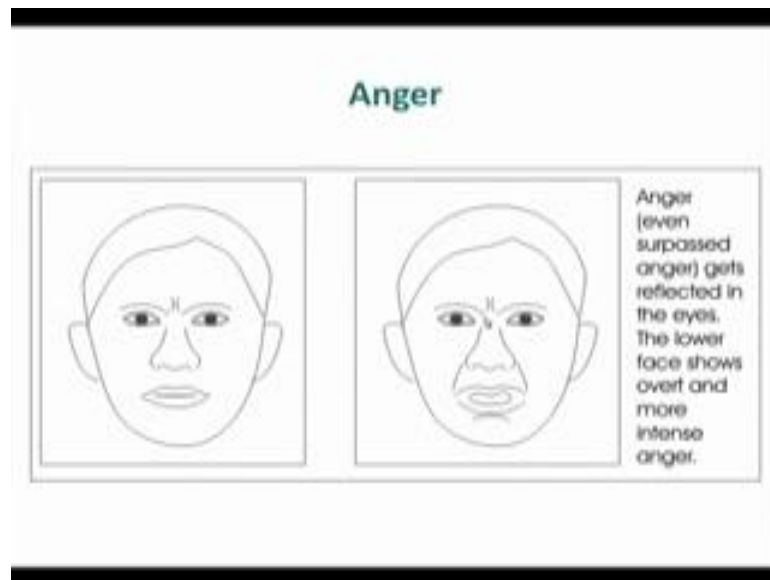
will not going to technical issues. The first set of images, are images where you see that two faces are being so on the face on the left, they smile the face on the right. They are smile and there is different in the sense that this may not be considered a genuine smile where as this would be considered a genuine smile what basically happens is that when, be genuinely smile we not only smile is to pull of the muscles which are around our chicks we have also manage to pull up muscles which are around our eyes and hence there is the tightening of their eyes, there is sometimes wrinkle around the eyes when we are smiling. And generally genuine smiles can be identified by just looking at their eyes. Very often we have this expression that he is smiled did not touch the eyes; that is what we mean by that. So, this is very quick analyses of happiness.
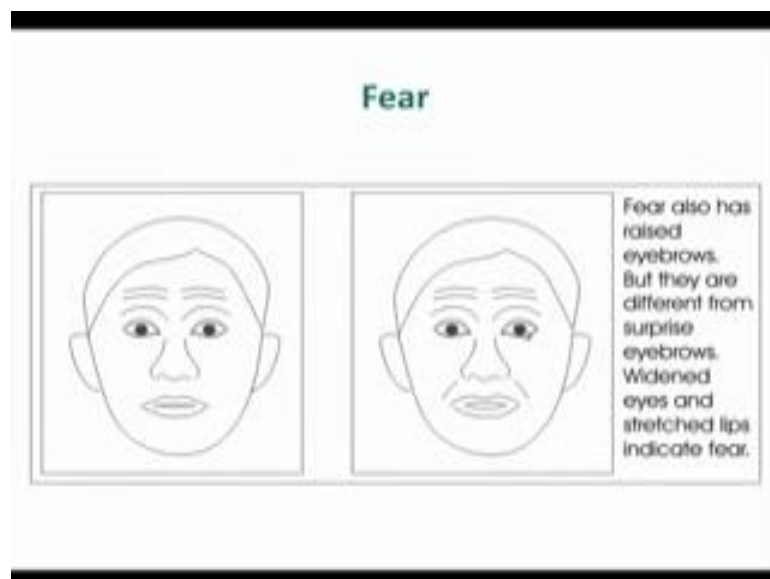
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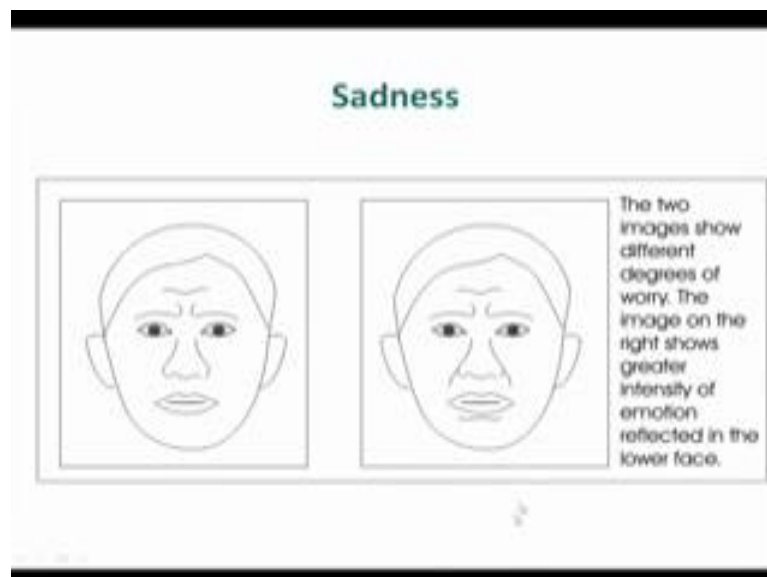
Sadness, here we are not looking at the non genuine expression of sadness we will, I will give you images to identify those. If you look at sadness in sadness what basically happens is that only the muscles around this place looking at lower a little bit a get raised a little bit I am sorry and hence you have a small wrinkle over the forehead. The inner eyebrows raised is an indicator of sadness which is something which, when you are trying to communicate false sadness may not happen because you might raise all the muscles here and thus give yourself away.

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Anger

Anger (even surpassed anger) gets reflected in the eyes. The lower face shows overt and more intense anger.

Anger is something where you see that you generally trend to bring both these muscles closer together. The muscles and both sides of the noses are lower little bit and brought together and that is how you find that the expression of anger is initially displayed in the eyes and then, when anger is displayed more distinctively then it touches the lower part of the body her lower part of the face. In other words the upper part of the face starts displaying the emotions and when it is a full known anger then there is bearing of the teeth, opening of the lips bearing of the teeth, jetting out of the teeth.

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Fear

Fear also has raised eyebrows. But they are different from surprise eyebrows. Widened eyes and stretched lips indicate fear.

Fear on the other hand gets displayed when all the muscles over here are raised, I would the inner eyebrows, more or less maintain their position and the muscles over here raised, the eyes are widened, the peoples dilate and initially again fear gets reflected in the upper part of the face and then when, it is intensive fight with open mouth it gets displayed in the lower part of the face.

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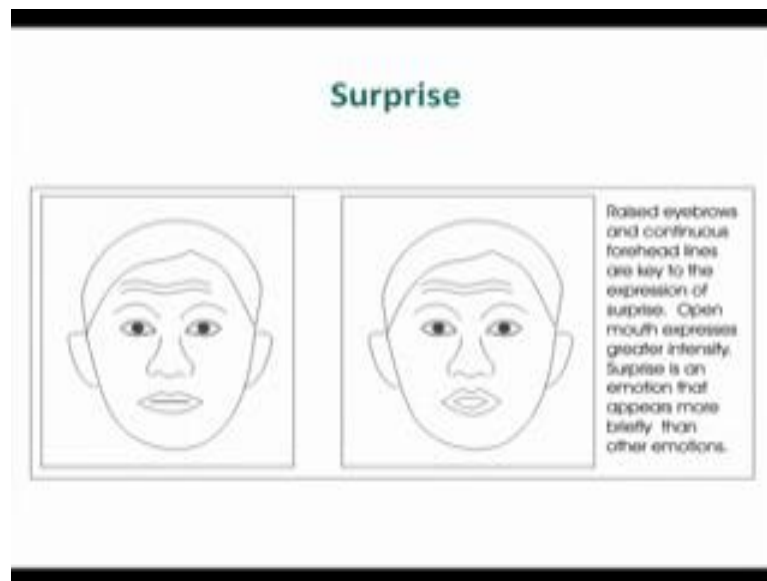
Surprise is an emotion which is very easy to copy or easy to emulate without actually feeling surprised, but the timing issue is very, very important because you see that surprise the very soft lift expression it appears and is immediately replace by something else. The moment you saw surprise after that you might saw horror, you might saw happiness, you might saw anger, so it is a very quick response and timing this response becomes very important when you are showing surprise; when you are showing surprise if, the timing is not right you know that it is not a genuine surprise. Somebody show surprise more quickly or they response is little delayed you know that it is not a genuine surprise and the intensity increases around the lips mouth while open when surprises are very intense.

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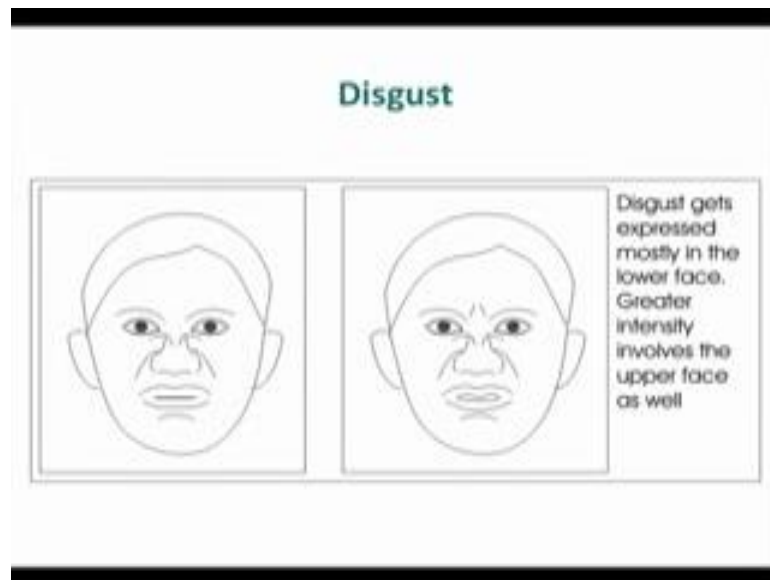
Disgust is a on the other hand and emotion, which starts in the lower part of the face around the nose, raising of wrinkling of the nose and then wrinkling of the muscles around the lips and then when it is intensified then, you find that it gets reflected in the upper part between the eyes which are wrinkled. Disgust is a gain on emotion, which is difficult that to identify differentiate between genuine and false disgust or I would say it is difficult it is easy to emulate and again there are definitely certain ways of finding out whether it is genuine or not based on the timing that you have.

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Now, what you have done here so far is we have looked at a set of emotions. Now what I am asking to do is to look at (Refer Time: 17:06) emotions which we elicited at certain point of time and to guess if you are able to try to identify the emotions, are you able to get this emotions or not. Here is the first one, what is the emotion getting communicate over here are you able to guess it, I will give you a minute, I will give you a few seconds and then I will give the answer. It is sadness which is getting reflected and it is getting reflected over here if you look at it very carefully, but as I told you in actual practice learning how somebody is communicating emotions is difficult I will talk about it a little later.

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This is an emotion which is very easily identifiable for a (Refer Time: 18:00) to genuine is happiness.

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Again what is emotion getting communicated, are you able to get it? It is fear, again you see that open eyes, raised eyebrows.

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Are you able to guess the emotion, in real circumstances guessing emotions can be very difficult this is surprise?

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This also is surprise and here you find that the eyebrows do not play very significant role or it is not easy to do that this is sadness, getting reflected in the lower part where the lips are turned down.
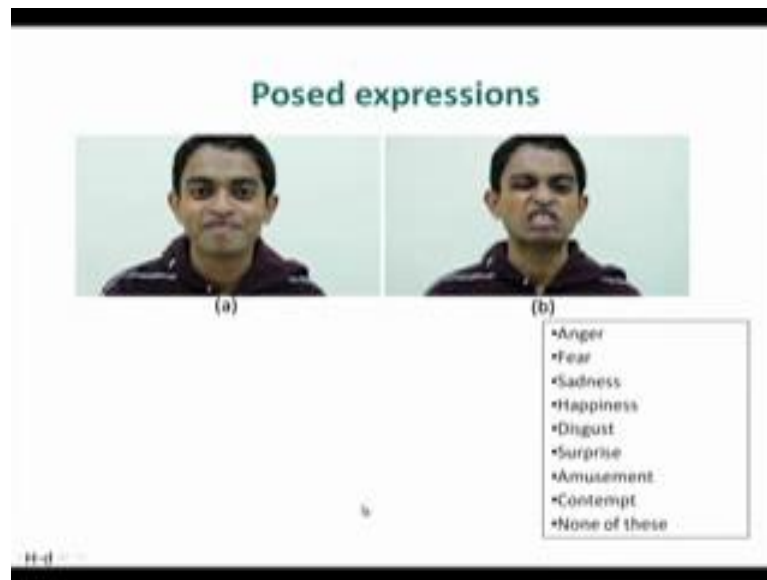
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Sadness getting reflected in the eyebrows as well as in the lower part of the face, lips turned down.
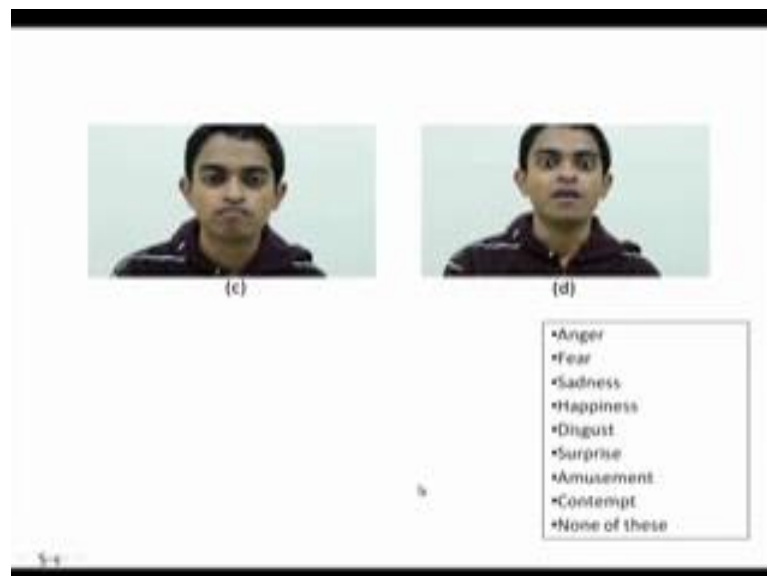
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Whereas this is reflects on of mild, disgust and because, of this specs is difficult to identify the nose wrinkling, but it is there.

On the other hand if, you looking at posed expression which means that these are not genuine expressions, somebody is trying to pose them you find that the first one which is supposed to communicate smile is more of (Refer Time: 19:40) rather than a smile and the second one which is disgust is symmetrical because, you see that one part of the face is more intensely showing an expressions where rather than the other part. Even here you find that it is a symmetrical, in both the cases you find that expressions are asymmetrical.

Again sadness other than the asymmetrical it does not get reflected in the upper part of the face in the eyebrows where surprise is something which is easy to ambulate, but as I told you they time may has to be kept in mind.
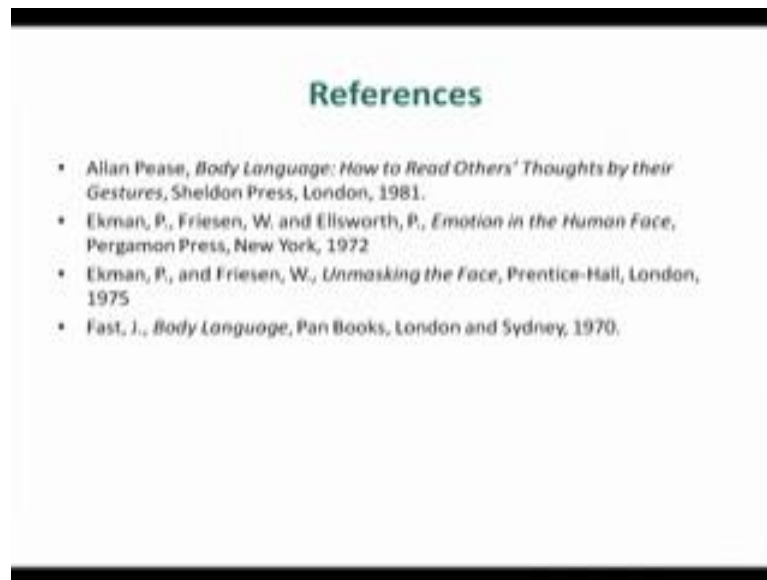
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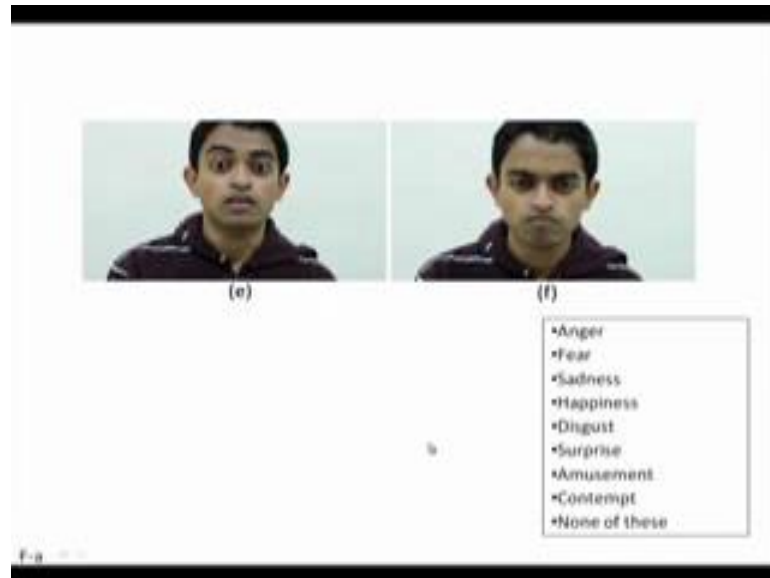
Fear, has been communicated through his eyebrows as you can see over here and widened eyes, but again asymmetrical something which is there and angry is something which to a certain extent is reflected in these part of the eyebrows, but it also reflected in the other parts to a certain extent and when you train yourself well, when you train yourself well you are in a position to differentiate between these emotions.

Now, the reason I am talking about training is because once you start working with facial action coding systems, you are suppose to train yourself, which certain training manuals where you have to decide for micro expressions which are shown to you for 1 by 15th of a second.

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References

- Allan Pease, *Body Language: How to Read Others' Thoughts by their Gestures*, Sheldon Press, London, 1981.
- Ekman, P., Friesen, W. and Ellsworth, P., *Emotion in the Human Face*, Pergamon Press, New York, 1972
- Ekman, P., and Friesen, W., *Unmasking the Face*, Prentice-Hall, London, 1975
- Fast, J., *Body Language*, Pan Books, London and Sydney, 1970.

And when you do that you find that your ability to communicate your ability to understand the different emotions are something which tested again and again, until you reach a certain level of maturity and then, you are kind of given the status of a certified trainee in understanding facial emotions. For many of the studies that we do in deceit we actually take the help of such trainers, such some of a students go and get trained and then they combined identify different emotions.

Now, as I told you deceit is something on which we are working, we have online things for you and I am sure that you are doing them, but more important than that, this small presentation on facial emotions I hope will go a certain way in clarifying some of the issues related to how difficult it is to identify guess somebody else's emotions and I hope that from the next point, I hope that next time you see somebody or you look at somebody you look very carefully for these changes that are taking place in different parts of the face. So that you can understand other people's emotions better. Because understanding other peoples emotion takes you once step ahead in the direction of better communication because, it is a part of better listening, better understanding and hence I hope that this short talk has been meaningful to you.

Thank you, friends.