Other Senses, Integration and Cognition
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Smell

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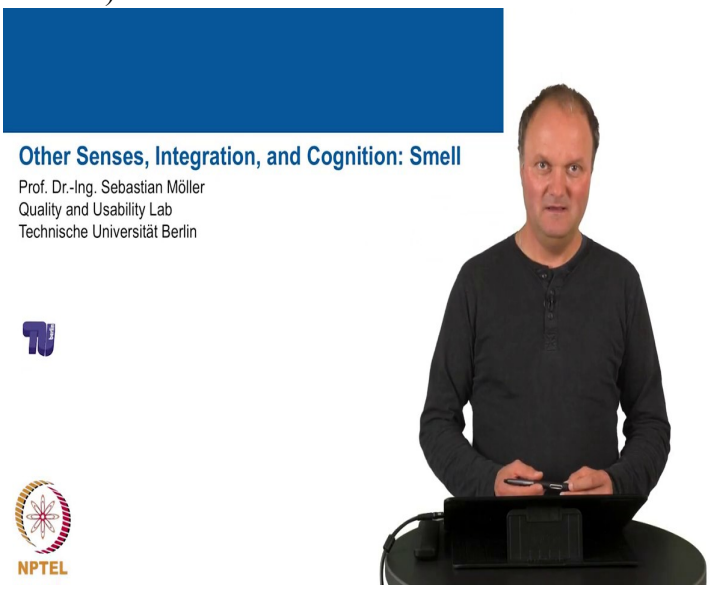

This very short video explains the sense of smell

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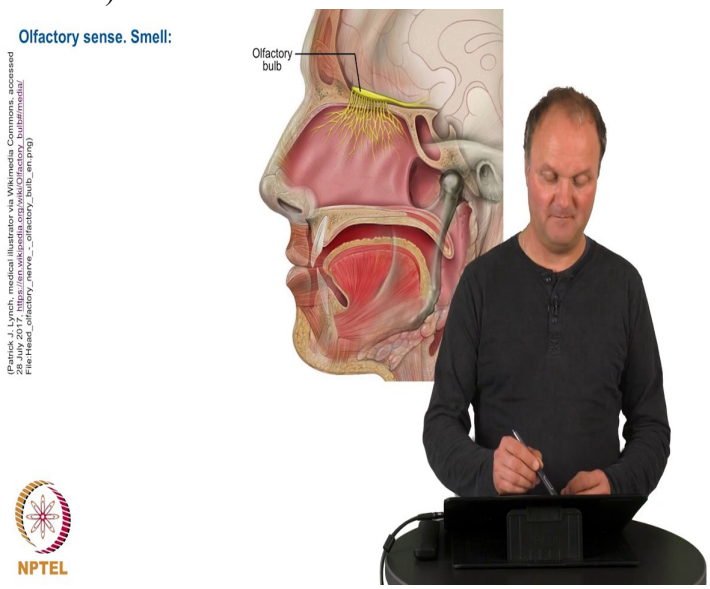

and this happens of course through to your nose. And in your nose there is what we call the olfactory mucosa membrane which is above each part of the nasal conchae.

This is with humans about 2 times 5 square centimeters large and this is in difference to other animals, for example dog has 2 times 25 square centimeters. So they are much more sensitive through their nose because they have larger membrane there.

In this membrane there are approximately 350 to 400 different receptors which respond to different classes of flavor. And these receptors then forward nerve impulses to the so-called bulbus olfactarius or olfactory bulb which you see in the picture to the cortical centers.

And in these cortical centers there are also very closely linked to emotions. So the with the help of the smell sense we can provoke, we can evoke emotions which is not yet used a lot in technological systems but this is something which we can expect the near future.

The olfactory sense is fully developed at birth but the judgement of whether we like something or dislike something, the so-called hedonic judgement is learned using, during the first 5 to 10 years from birth.

We can differentiate a large number of approximately 1 trillion of different smells. But it is very difficult to express them verbally. So they are far fewer smells we can report on verbally.

The sense is very accurate, very sensitive from approximately 10 to 100 billion molecules are necessary in order to activate the sense. And the number of molecules which are necessary is of course class-specific.

There have been approaches to classify

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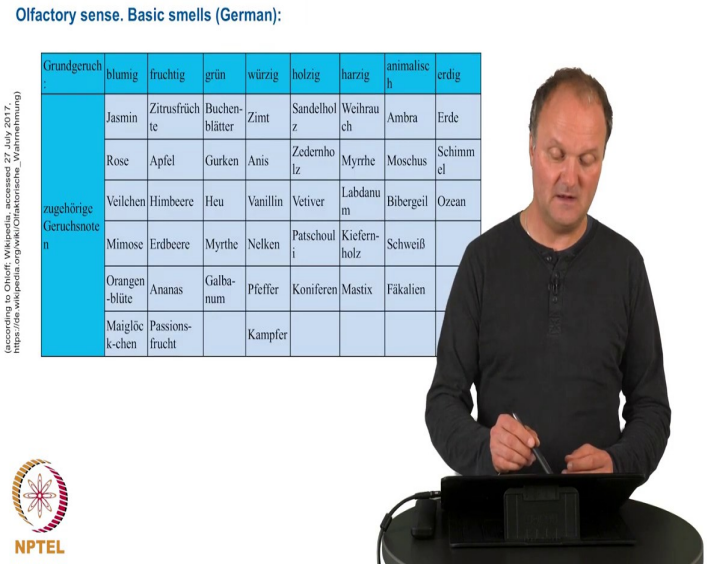

Grundgeruch:	blumig	fruchtig	grün	würzig	holzig	harzig	animalisch	erdig
zugehörige Geruchsnoten	Jasmin	Zitrusfrüchte	Buchenblätter	Zimt	Sandelholz	Weihrauch	Ambra	Erde
	Rose	Apfel	Gurken	Anis	Zedernholz	Myrrhe	Moschus	Schimmel
	Veilchen	Himbeere	Heu	Vanillin	Vetiver	Labdanum	Bibergeil	Ozean
	Mimose	Erdbeere	Myrthe	Nelken	Patschouli	Kiefernholz	Schweiß	
	Orangenblüte	Ananas	Galbanum	Pfeffer	Koniferen	Mastix	Fäkalien	
	Maiglöckchen	Passionsfrucht		Kampfer				

smells and these are as mentioned language-specific because we need to describe the sense, the smells and here you see a classification for the German language into basic smells like blumig, fruchtig, grün, würzig and the corresponding notes of the smell, in which we see here for example different kinds of flowers or fruits or something alike.

But as mentioned these classifications are very much language-specific.