Language and Mind
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Module – 03
Lecture - 12
Features of Sounds

In the last couple of days, we have been looking at Sounds. We have looked at mechanism involved in sound production; then we have looked at a brief description of sounds. We have also looked at places of articulations of various sounds and manners of articulations of sounds and the same time we have looked at the organization, we have identified features in binary terms. To talk about this in the context of the study of language and mind, let us keep it in the background that we are looking at sounds in terms of developing our understanding about… it is grounding in human mind in the sense of acquisition.

When at the very earlier stage children learn language, I have mentioned it to you that everything that is spoken to a child sounds like noise, and from that fuzzy input, they start figuring out sounds; and approximation, at the same time conditioning of vocal cord begins, on the basis of input. They are all very complex. However, an understanding of sounds in terms of their features, places of articulations, manners of articulations, classification in terms of consonants and vowels, help us understand the underlying pattern which in turn becomes evidence for what human mind figures out in acquisition.

We have seen that sounds are the fundamentals to language; they are building blocks, they get together and combine together to make a word. We will have a discussion on words little later; however, and we need to know that words combine together to make sentences. This combining process, this process involved in combination of sounds to form a word and the process or the rules involved in combining words into sentences is called mental computation, an output of mental computation.

So, we are going to be looking at sounds, to wind it up in terms of our understanding of how it works. This is the vocal apparatus. This tells us about the various places of articulations located in oral cavity; it indicates the places of articulations in particular that we have discussed so far.

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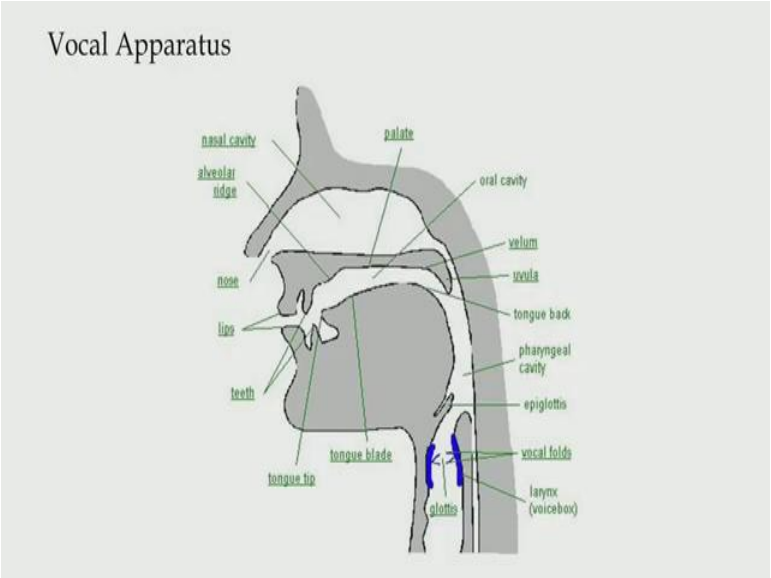

And it helps us understand the precise location of those places of articulations in our oral cavity in the vocal apparatus for us to understand about sound pattern.

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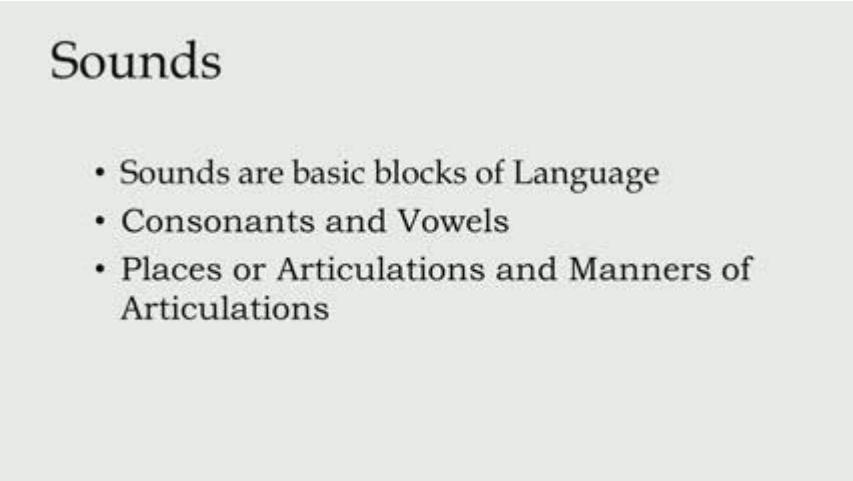

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	Oral Sounds				*Nasal Sounds*
	-asp -voice	+asp -voice	-asp +voice	+asp +voice	
Velar	k	kh	g	gh	ng
Palatal	c	ch	j	jh	ny
Retroflex	T	Th	D	Dh	N
Dental	t	th	d	dh	n
Labial	p	ph	b	bh	m

We have seen the places of articulations and manners of articulations of sounds. According to the… if you look at this chart, we have looked at two types of sounds; we have looked at vowels and consonants. We know what vowels mean, how vowels are produced and how consonants are produced. To repeat that again, through exhaling air, through the flow of exhaling air, with very little modifications in the vocal tract, we get sounds, vowels. And with more modifications or various types of modifications at various places in oral tract, we get consonants.

So, some of the types of consonants, some of the places of articulations involved in the production of consonants are: we have velar consonants, we have palatal consonants, we have retroflex sounds, we have dental consonants and labial consonants; we have seen these things. If we look at consonants, we have two types: some of them are oral consonants and some of them are nasal consonants; we have seen the distinction between oral sounds and nasal sounds.

We have seen the role of uvula in directing flow of air. When the nasal cavity is blocked and the air is released only through oral cavity, we get oral sounds. And when the flow of air is allowed by lowering down uvula to go through nasal cavity, we get some sounds; they are called nasal sounds; and we have them here in the chart. Now, we have seen some of them. To extend our discussions on the sound we need to look at a few more.

Keep in mind that the sounds that you have seen so far are, most of them are universal sounds and I will explain this again. In the discussions that we have seen, most of the languages all the languages of the world will have this distinction of consonants and vowels. There is no language, it is claimed, that has got no vowels. In other words, all the languages will have oral sounds; all the languages will have consonant sounds. It has been observed that vowel sounds, they may not be… the total number of two types may not be exactly identical or the same; there are going to be differences in them.

However, there are going to be vowels and consonants; there are going to be oral sounds and nasal sounds. However, languages vary in terms of sounds produced from different places in the oral cavity. Some languages may not have retroflex sounds, for example. To take an example – English. English does not seem to have retroflex sounds. However, all our languages spoken in Indian subcontinent, all our languages; remember - approximate total number of languages spoken in the world and approximate total number of languages spoken in India. The total number of languages is spoken in India is roughly around 1600 plus and minus; it is claimed that all the languages will have retroflex sounds.

However, English does not have retroflex sounds. Now it is a different discussion all together; the English spoken in India, that is English of India has got retroflex sounds. It requires a different discussion; we will have a discussion on that way later when we have talked about what we are discussing at the level of sounds, words and sentences.

But at this point, I simply want to mention and then move ahead that English of India, English spoken in Indian subcontinent has got retroflex sounds and this is also called first language influence on other languages. Then how do we understand this? We have velar sounds, palatal sounds, retroflex sounds, dental sounds, labial sounds. There are more places of articulations involved. There are more processes, places of articulation involved in production of sounds.

Some languages may need sounds that are not there in other languages and this is where it is important for us to understand that not all possible sounds in human language is going to be available for all the languages. And this is the beginning point where we need to understand the origin of differences in languages.

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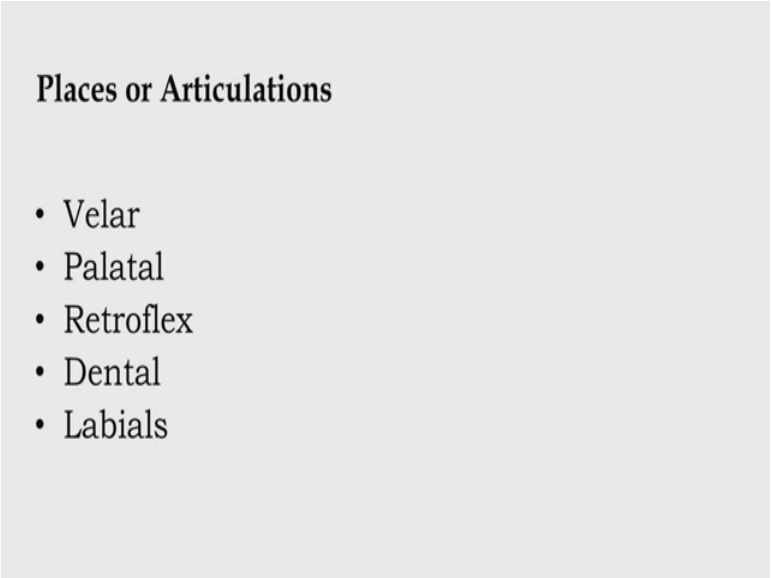

At the same time all these places of articulations that you see are not available in all the languages as well.

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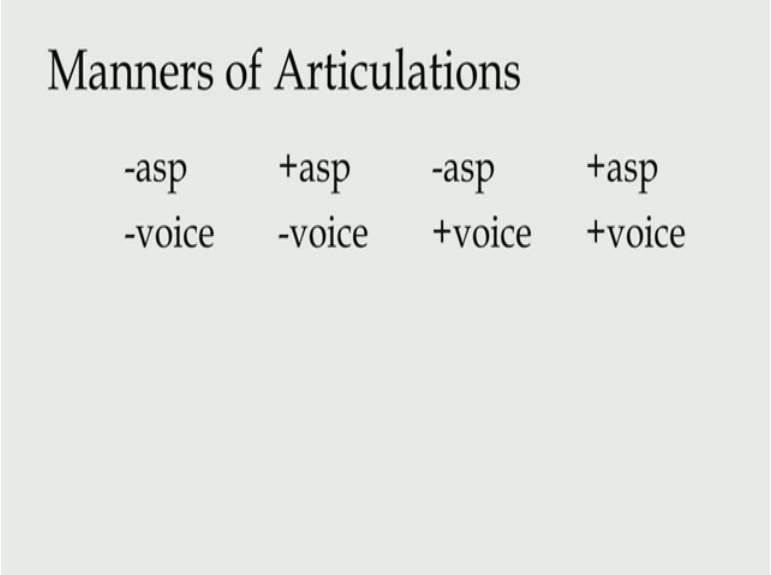

And then we have looked at manners of articulations and the features. If we put two types of features like aspiration and voicing together, we are going to find a unique categorization of sounds that we have seen in the previous chart. So, a positive and negative marking with aspiration and voicing are put in four different categories, and

then they become distinctive; they become and they mark distinction between different sounds.

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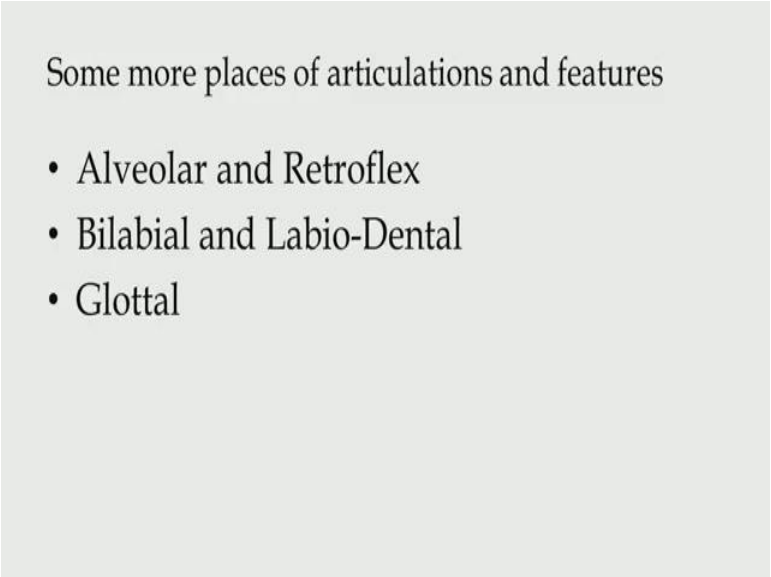

Then, here is an interesting point and that we need to understand. I have put only three, there are more; that we need to understand. But I will give you examples from at least these three. Let us start with glottal sounds. We do not have glottal sounds in many of our languages; however, some of the glottal sounds we may find which are borrowed from other languages. But, a careful observation of such glottal sounds in modern variety of those languages like Hindi may not be really glottal.

However, lot of languages like Arabic, Persian will have glottal sounds. The two that you see here - for example, alveolar and retroflex and bi-labial and labiodental - this is something that we need to understand carefully. We have retroflex sounds like Ta, Tha, Da and Dha; we do have retroflex nasal as well. Now, we have words like… I will give couple of Hindi examples like tamatar, thag. Tamatar is tomato; thag is a cheat. Danga or Dhaka - these are Hindi words; they begin with retroflex sounds like Ta, Tha and Da.

However, we do not find a word beginning with a retroflex nasal; and the story of retroflex nasal is little bit different and we need a separate footnote on that which we will discuss in a moment. But, another place of articulation which is adjacent to the place of articulation from where we get retroflex sounds… remember, we get retroflex sounds by curling the tip of the tongue backward and then it hits hard palate area or death raise area

and thus we get retroflex sound like Ta. Say it for yourself couple of times; you will see what happens to the tongue position and where it hits - Ta, Tha, Da. Most of our languages – Indo-Aryan languages, Dravidian languages and the Tibeto-Burman and Munda language salso have this sound. So, it should not be difficult for us to see the mechanism involved in production of retroflex sounds.

However, when we see the alveolar reason which is little lower than, where tip of the tongue hits in the folded way, little lower than that, near ((Refer Time: 14:07)) is the place which is called alveoli; and the quote unquote, standard variety of English or varieties of English spoken in other parts of the world like United States and Britain, Canada, Australia will have a sound like ta, which comes from alveolaries.

So, the distinction between Ta in our languages and why ta sounds different in English is because our ta are retroflex sounds, our ta is an example of retroflex sound and English ta, which is also called at times little softer, is an alveolar sound. That is the reason why these two things are different. Most of us speak English in a way, where we use retroflex sounds. For example, I am clear that when I am saying this word retroflex, I am using ta as a retroflex Ta.

Therefore, I sound, when I say retroflex, I may sound different from how it will be said, it will be articulated by speakers of English in North America, Canada or Australia or Britain. Now, hope this is clear and there are many more sounds like that. For example, when we say some more, let me give you one more example. When we say English word drama, we are using our Da which is retroflex sound and this is precisely because of interference of the conditioning of vocal tract.

For example, my vocal tract is conditioned with the sounds of Hindi. Therefore, I will be using Hindi retroflex sounds, even when I am saying few words where retroflex sounds are not involved and probably alveolar sounds are involved. Hope this is clear. Nonetheless, this discussion so far is significant for us to understand various places of articulation. However, we need to keep in mind that we are discussing this for us to see what human minds figure out on their own without conscious knowledge, without someone telling a child about these distinctions.

Take more examples. The distinction between bilabial and labiodental - an example like...

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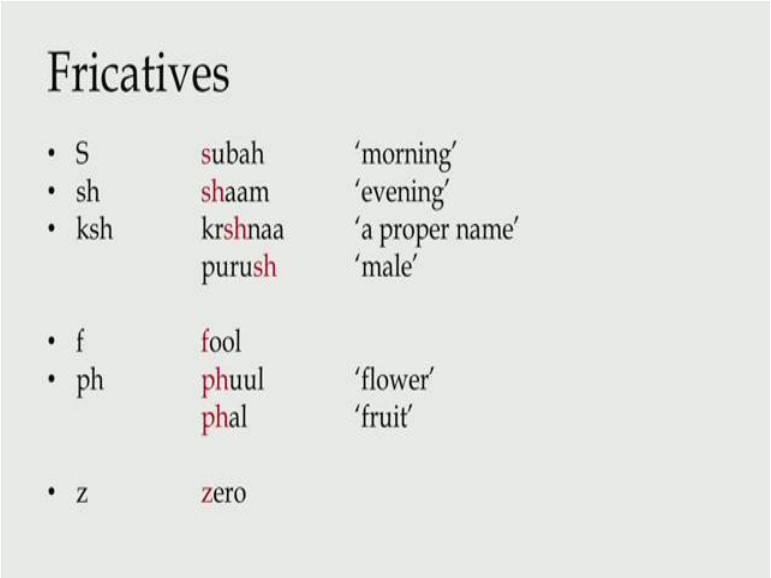

When we discuss an example a of a particular feature fricative, I will be able to show you the distinction between bilabial and labiodental. See three types of sounds here: sa, sha, ksha. Now, these sounds - one is a dental fricative – sa; at times it could also be alveolar fricative. Sha is clearly a palatal fricative; we have words indicated here. For dental fricative, alveolar fricative, we have sa in a word like Subah which means morning; sha in a word like Shaam which means evening; and ksha which is a retroflex sound and it appears in the words like Krishna which is a proper name, it appears in the medial position in a word. And in a word like Purush, it appears in the final position of the word which means a male. Now, sha, sa and ksha are fricative sounds. We call them fricative, because, we have hissing sound coming out of the obstruction created in the flow of air and this feature is known as fricative in natural language.

The next set of sounds that you see - fa and pha; fa in a word like fool in English is a labiodental sound. What is involved in the production of this sound is, if you try saying that fa, fa, is lip and teeth; therefore it is called labiodental and it is not bilabial, because both the lips do not come closer to produce this thing, the sound like fool.

However, in a sound like pha which is part of our language, mainly our languages, it comes in words like phuul or phal; phuul means flower and phal means fruits; the initial sounds are bilabial. So, the distinction between the two comes out of different places of

articulation in the oral cavity; hence very easy to observe such a distinction when we speak.

One more sound that I need to discuss today is za - it is also a fricative sound, and it is also alveolar fricative; but the distinction between za and sa, both being fricative is, za is a voiced fricative, where as sa is a voiceless fricative. You have seen the distinction between voicing; you know what voicing means. It refers to the vibration in the vocal cord. We have vibration in the vocal cord when we say za and almost no vibration when we say sa.

A footnote that is needed here is for you to see whether this is true or not. Sa and sha - lot of languages do not make distinction between these two in the sense that in some languages, we have only sa and in some languages we have only sha; therefore, speakers of certain languages may not be using sha when it is required because they have only sa. At the same time, the other way around - examples are also found and true. Pha as a labiodental sound and za as a voiceless alveolar, za as a voiced alveolar fricative are borrowed sounds in our languages. However, they are available in our languages.

Now, the interchange between sha and sa is one particular, one aspects, whereas sounds like Sha which is retroflex is almost disappearing in some varieties of languages and their merging in favor of palatal fricative sha. It is being neutralized; and the story is also true where I said something about retroflex nasal. No word begins with retroflex nasal. Retroflex nasal does not appear in the beginning of a word, with that kind of restriction on the formation of word.

We also see that that retroflex sounds are merging in favor of, are being neutralized in favor of dental nasals. It simply means, we are losing retroflex sounds in some varieties of languages and instead of retro flex nasal, people are using bilabial, people are using dental nasal.

Thank you.