

**Indian Institute of Technology Madras
Presents**

**NPTEL
NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING**

Introduction to Modern Linguistics

Lecture – 15

Consonants-2

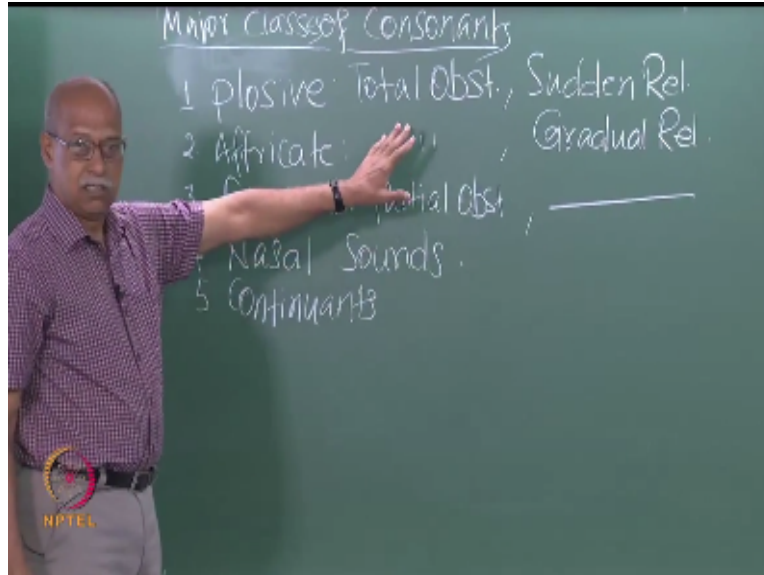
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Good morning are you alright lovely let us try and continue talking about speech sounds in natural languages and we have seen during the last two weeks that all speech sounds can be broadly classified into two major categories what are those categories vowels and consonants vowels differ from consonant consonants differ from vowels though there are consonants which look like vowels but do not behave like vowels there are consonants which behave like vowels.

But do not look like vowels but they are very cute you know nature always has exceptions to many rules you read in a book of anatomy that most people have only 32 teeth but suddenly you come across someone who has 34 teeth or you suddenly come across someone who has six fingers okay they are for want a better word we call them the freaks of nature okay but by your large consonants are consonants and vowels are vowels how do levels differ from consonants vowels are voiced over and unobstructed.

All the three things together no exception to that if they are not voiced if they are not oral or if they are not or if they are obstructed if they are not unobstructed then they are not vowels consonants on the other hand is everything else a consonant may or may not be oral may or may not be voiced may or may not be obstructed correct yesterday we also saw that there can be different kinds of consonants remember major classes can you name any major class of consonant closing okay what are plazas closets are those consonants which have total obstruction and major class of consonants.

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Actually major classes of consonants so number one we have closed if what is the characteristic of a plosive sound applause if sound is produced with total obstruction and sudden release please write total obstruction but sudden then we have a class of sounds for additions call affricate what are they how do you how do you define affricates what is the characteristic of affricate so it has total obstruction but gradual release marvelous god bless you okay.

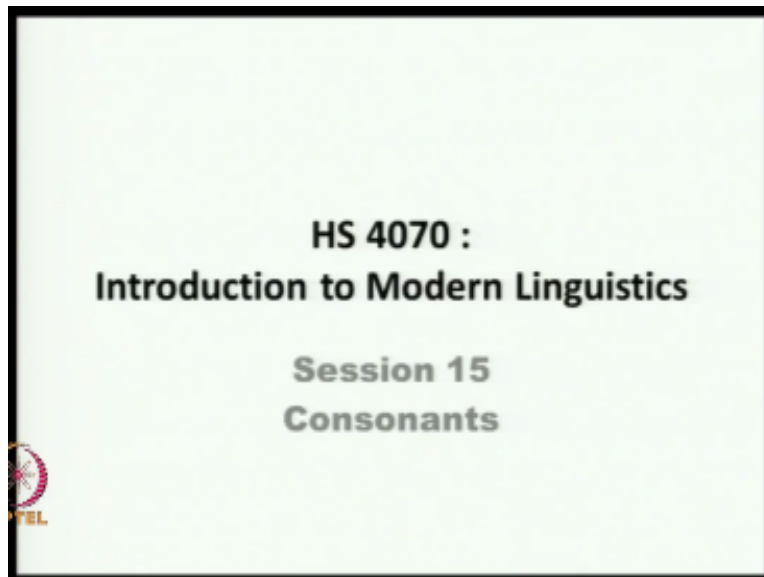
And then we talked about fricatives what is their characteristics their partial obstruction partial or double obstruction okay because the obstruction is partial so the question of release does not arise okay we also looked at the English language sounds major sounds major classes in the English language and we saw that English has about half a dozen plosive sounds nine oh sorry a pair of affricate sounds and nine fricative sounds a little too many you know in many Indian languages we do not have as many fricative sounds.

But we have many more positive signs what is the lesson for us the lesson for us is that nature has broad classes but each class are you with me I am trying to state a scientific truth you know nature has broad classes nature has major classes in anatomy and physiology books you will see that all men have a nose women also Avenues okay but no two losses are alike races differ from one another depending upon the geometry of nose okay our trigonometry of nose right.

So you know we have major class of sounds but local variations English has nine fricatives but only six plosives there are Indian languages which have nine plosives sort a dozen plosives but only two or three fricatives okay these differences there are languages which have no fricatives there are languages which are very few consonants more vowels there are languages which have more consonants few vowels okay all of these combinations and permutations are there in nature but the fact of life is that there are these major classes of sounds that differ from one another okay.

So far we have looked at English and we have seen that English has half a dozen plosives a pair of affricate sounds and knowing fricative sounds okay so how many do we get that with 17 right okay English also has nasal sounds in the production of which velum is.

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Description of English Csonsonants

- Nasal

/m/	as in met	voiced	bilabial nasal
/n/	net	voiced	alveolar nasal
/ŋ/	sing	voiced	velar nasal




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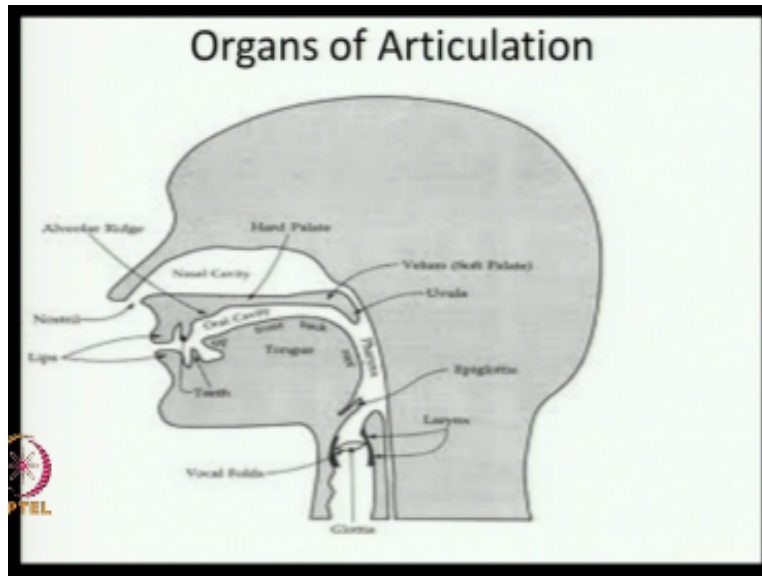
Description of English Consonants

- Continuants

/r/	as in road	voiced continuant	tap/trill
/l/	load	voiced continuant	lateral
/j/	yet	voiced palatal	semi-vowel
/w/	wet	voiced labial	semi-vowel



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See this is velum are you with me are we together please look at this screen and you will just see the arrowhead this is vellum right or uvula okay when uvula is raised speech air passes through please complete the sentence when uvula is raised his speech air passes through the mouth through the oral passage but when uvula is lowered his pitch air passes through the nasal passage right and we produce nasal sounds many languages in the world.

Some languages have lot more English has only 3 Malayalam Tamil have five each Telugu has about three or four you know and Malayalam is supposed to have the largest number of nasal sounds those who speak Malayalam anybody who speaks Malayalam in this class okay if you have Malayalam speaking friends ask them to you know produce nasal sounds and they have nasal sounds from the lips from the alveolar Ridge from the hard palate from the soft palate from fairies from nearly everywhere okay.

Americans also have more nasal sounds than the British you know when you hear an America for the first time you are thinking he is talking like you know from his nose okay it does happen you see so there can be nasal sounds there can be oral sounds and there is a third category there can be nasalized sounds okay well when uvula or this you know velum this is only partially load not fully load not fully raised then what is the result the speech here partly passes through oral passage and partly through nasal passes.

Then you have nasalized sounds you know I sometimes you come across people who speak with a nasal twang and you know some Americans particularly after certain words you know they have a nasal twang I have a friend unfortunately he passed away some years ago and when we were boys we used to make fun of him but later all our lives we kept apologizing to him but he becomes very powerful person billionaire and all that through business and we used to look up to him and we used to say thank you and we would say welcome okay.

These are the freaks of nature it can happen look at the English language so English also has like many other languages nasal sounds what is the characteristic of nasal sound all nasal sounds are produced when uvula is raised or lowered so that speech air passes through the nasal passage keep your you know like Hitler salute okay keep your hand upward or downward near your nose and just produce sounds like or say our say do you feel where do you feel the air is coming from your mouth or from your nose from your nose is the nasal passage okay.

English also has nasal sounds let us see the English list okay English has mmm it is not more it what is it is mu okay what is it hmm okay both your lips tightly shut together and air pass it through the nasal passage and you get the nasal sound mmm how do you describe it do not look at the screen and try and describe it attempt your own description please you know in the end you can look at the look at the screen no force right mmm as in met or as in mat or as in meet okay and then say voiced then it is bilabial and then nasal wonderful really voiced bilabial nasal okay.

Let us go to the next hmm do not look at the screen now attempt your own description and then compare with the given description okay the best way to learn is these things is by doing it how do you describe it voiced place of articulation alveolar great but in our languages in Indian languages you know we do not say not we send nahi okay we say no no we do not say no no do we say that nana ikada kuchandi do we say that unless you go to an English medium school of course you know we say no no we have it dental but in English it is alveolar okay.

And then nasal so what is the three term level for mmm close your eyes and tell me please everybody together voiced alveolar nasal lovely English has another sound it is a it occurs in

only non initial positions of the word you do not have a word beginning with own okay even in as far as I know even in Hindi and Sanskrit you do not have a word that begins with I think it is true also of Telugu you do not have a word beginning with but okay this particular sound occurs in non initial positions such as when you say ring King bring long okay.

In our languages also we have this sound Ganga Ganga okay Ganga I right so you know how do you describe this song do it produce M it do not look at the screen this can have your own description and then compare voiced or voiceless voiced only the sounds are voiced all laser sounds are necessarily voiced there is no exception okay then let us say place of articulation which part of your oral passage which part of the tongue creates obstruction back of the tongue touches the vellum therefore velar and nasal marvelous you guys are you know great phoneticians.

I hope you have a future in phonetics okay I was telling you before you know as we as we began this morning I was also telling you about some vowel sounds some consonants are produced like violence okay what is the characteristic of all vowels are oral continuous and voiced that morals are voiced oral and unobstructed or continuous there are some consonant sounds which come in one group okay they are also produced like vowels like you know Yarra lava in our alphabet also we group them together in one corner okay.

In Roman writing system which is what English uses they are all over okay but we are not talking about writing we are talking about speech okay someday we will also talk about writing perhaps all right so you know these sounds are continuous they are grouped together as continuance sounds or in layman's language we call them semivowels continuant or semicolons okay now how do you describe them very simple we describe them you know just as we did the vowels okay.

So for instance the first sound R we produce it okay is it voiced or voiceless keep your finger here voiced obviously okay I could have said continuant at the end I should have said tap and trill you know how is it produced look at the mechanism of nature when you produce and you

can have you can have various kinds of room it is a broad class of sounds there are smaller variations you can do it you can only have as inroad but you know in my part of the country.

When shepherds take their goat and sheep for grazing and if this sheep get stuck in one particular place then they drive the sheep through this way and the sheep is start moving maybe you know they have some acoustic effect I do not know so there can be a variety of different kinds of rock but all rock is characterized by this particular articulator movement the near between the tip and the blade of the tongue okay.

Let us call it the front of the tongue the tip of the tongue you know curls backwards this position and then it touches the upper teeth and sideways along the tongue this peach air can flow okay and as his peach air flows the front of the tongue is released and then comes back into contact again understand the process understand the mechanics please the tip of the tongue makes a contact sorry the front of the tongue makes a contact in English with alveolar Ridge in Indian languages with upper teeth and then it releases the contact.

In this process all along speech air flows through flows along the sides of the time because everywhere else there is opening but this contact you know can happen once when you say Road say it can happen several times in a second when you say do it strikes several times like you are playing tabla okay it has strikes several time this way you know okay so it is either tap or tree and when you say tap or trill it means that it is produced from the front of the tongue okay.

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Consonants in Maithili

- Voiced ~ Voiceless
- Place of Articulation / Obstruction
- Manner of Obstruction /Release of Obstruction

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Plosive

- /k/ as in kan "ear" Voiceless Velar Plosive
- /k^h/K han "mine" V.less, Velar Aspirated, Plos.
- /g/ gam "village" Vd., Velar, Plosive
- /g^h/ gham "sweat" Vd., Velar, Aspirated, Plos.
- /ts/ chor "thief" V.less, palatal, plosive
- /ts^h/ chhor "end", V.less, palatal, Plos., aspirated

So how shall you describe it simple we will say rule as in wrote voiced tap or trail then continuant okay voiced tap or trill then continue you see the manner features would have come last I made a mistake by putting it in the middle you can bring it to the last okay so the as in road but look at Hmm okay what is the next sound feel your tongue you just see how it happened do it alternately say and say Hmm do you feel tongue makes a different kind of movement.

What is the difference what is the difference come on please somebody allow yourself to be laughed at okay who will answer what is the difference come on please the difference is when you say sides of the tongue fooled you know imagine some sheet of cloth some curtain okay which is still in the contacting center but it folds like this it folds actually upwards tongue folds is like this if folds upward and this side and this side the air flows look at the diagram.

You know the speech air flows this is your tongue when you produce mm then tip of the tongue is in contact with the upper teeth or alveolar Ridge somewhere in that portion of your mouth and sides of the tongue curled sides of the tongue fold so that all his pitcher escapes along the sides of the tunnel okay and you get the sound mmm whereas when you produce a roll the sides do not curl you know the opening near the mouth lets the air pass or when you release the tap when there is her there is contact but when you remove the front of the tongue the air passes okay.

That is the difference between Road and load in many languages many people you know like you know I told you about my cousin's in my village we do not distinguish between sir and many people in South you know when I traveled from my home to Chennai by railway train we know from the you know the voice of the vendors whether we are involved measure or whether we are in Visakhapatnam in witness where they sell coffee but in Vishakhapatnam they sell coffee okay.

They do not sell then each place has its variations similarly in Southeast Asian languages if you go to China Japan many people not everyone of course many people do not distinguish it in a road and load so when that will give you the car they will tell you well you have a long road or they can say you have a wrong load when they mean you have a long road how would you correct them if you want if you have to correct them very simple you will guide their tongue movement you would say when you want to say you should fold the sides of the tongue when you want to say roll you should release the front of the tongue very simple.

You know how shall we describe it how shall you describe it as in load it is voiced because air passes laterally and laterally means sides of the tongue so in literature you will find it written as voiced lateral continuant okay simple look at here is nothing but a combination of two vowels E and a say it quickly together E and say it quickly yeah that is here and what ooh and quickly together just say Oh what okay so one is a dip tongue from the front of the mouth the other is a dip tongue from the back of the mouth yeah.

Is a diphthong from the front of the mouth and what is a dip tongue from them back of the mouth very simple yeah as in yet how do we describe it voiced palatal semi vowel palate or you could also say voiced front semi oval no problem because you know they are there is only one or you can say what as in wet you know to say what you have to round your lips around your lips and say whoa you cannot say it with flat lips ordinarily speaking so what as in wet it is voiced labial you know because lips are involved you could also say back okay.

Voiced back same vowel so English has three nasal sounds for continuance how many sounds does it make 2424 English standard British English is supposed to have 24 consonants but you see it Is not the case that it is all alike you know when next week when we begin talking about phonology I am going to contradict all of this I am going to tell you what we have studied so far it is science fiction reality of life reality in nature is a little different but at the moment we are learning the terminology rather than a particular language this terminology the idea of using three terminal levels referring to articulator movements can be applied across languages.

It is not that you can describe only English or Latin or Sanskrit or French with it you can describe practically any language you can apply it to the description of mother tongue say for instance I have taken some examples here from my mother tongue mightily okay so you know I gave you the demonstration the other day you can take your own mother tongue think of a word beginning with right as I have written her as in please and take a telugu word ker as in you know that is the first name that comes to my mind because of Hyderabad okay ker as in write it on the notebook in this manner okay.

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Sound	Word	Meaning	B-T Label
/k/	Kan	ear	voiceless velar plosive
/kh/	Khan	mine	voiceless velar aspirated plosive
/g/	Gam	village	voiced velar plosive
/gh/	Gham	sweat	voiced velar aspirated plosive
/t/			
/th/			

First write the sound that is the speech sound then write the word where it occurs as in then because Telugu is not known to all because my tree is not known to all so we give meaning English meaning in within quotes like this you know meaning and then we use three term level okay so for instance I have said K as in Kan which means ear here the three term level is voiceless velar plosive simple I want you to take example from your mother tongue not from my mother tongue please okay.

We also have unlike English another variety and that is where we have to use a different terminology say for instance we have something called use superscript when you do it on your computer please use superscript but is not parallel can you see the difference yes or no please okay so it is not parallel it is it a superscript K as in Khan I am using normal spelling not phonetic transcription here Khan as in meaning is mine how do we describe it is still voiceless it is still velar it is still closing but I want your total attention oh are we together everybody please okay.

Well does K change into Kha that is the question so what we do is as we release the obstruction okay say for instance a POC you know both your lips are together cheek puffs and you suddenly release it and you'll get POC okay but as you release it now see the mechanics now see the turbulence okay as you release it you add another puff of an extra puff here okay so it

becomes poor Plus quickly yeah power plus quickly very quick so quick that it become pop okay so quick that it becomes ka ga ja tha okay.

Another added extra puff of air because puff of air in Latin is aspiration inspiration is taking in throwing out his aspiration so here politicians call it wheeler a spirited a spirited plosive are we together do you understand yes or no please am I too rapid okay if you do not please try it once again you know the difference between Chi and Chi is that in the production of the speech sound we add an extra breath of air extra puffs of air you know immediately after the release of obstruction.

Release of obstruction is essential for the production of plosive sound but when you add an ex affair it becomes a spirited please make a note look at another very simple Ka Ga let us take ga in Mythili okay this is what is it in Mythili Dom you should be able to gum meaning village how do we describe it come give me the terminology please voiced velar then closing but when we take mark the superscript it is never parallel okay but here in orthography normal orthography I am using Roman alphabet to transcribe the word I am going to write it parallel.

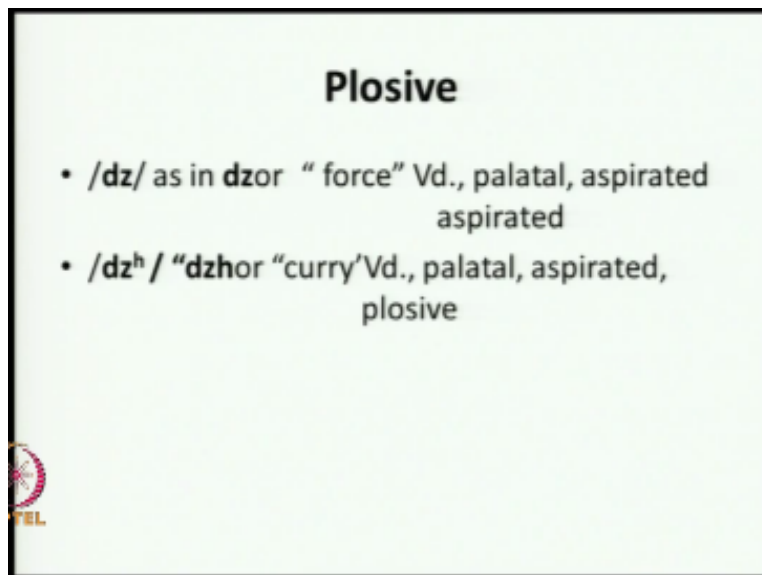
Calm in English it will mean sweat okay how do we describe it again give me the description please voiced or voiceless voiced place of articulation everybody please place of articulation Velar great now there is this extra thing how do you describe it aspirated elusive it does not matter you can also say plosive aspirated or aspirated plosive but in many books you will find a spirited closing in some books you can also find plosive a spirited hardly matters you know what is required is voiced or voiceless place of articulation manner of articulation correct okay.

Look at sure as in you know as in Telugu world can you give me a Telugu word which gene okay as in poocho horizon okay right please describe it the symbol for choice this is the symbol for choice you know I have deliberately used lowercase on the screen just to show that average is not affricate okay in Indian languages it is not affricate write it in this manner give me a word which come on please which word church is that Telugu Chakram Chakram the art in Telugu in Tamil Chakkarai a chapatti okay.

Wow you are thinking of food all the time okay then give me the meaning what does it mean write me wheel voiced or voiceless feel it that is it if you add all then it becomes voice if you say sure then it is voice that is it that is it is it voiced its voiceless okay then place of articulation palatal manner of release of abstraction plosive okay do you does telugu have Cha does telugu have this sound in my mother tongue we have.

Do you have any do you have this sound I think Dravidian languages you can have Sanskrit origin words alike sathram the canopy or Chatrapathi you canopy but in my mother in many North Indian indo-Aryan languages particularly North India North East we have sure so for example I have said chore chore can mean quit it can mean end it can mean a whole lot of things differently it is voiceless palatal aspirated plosive okay right I think you know we can go on we can describe.

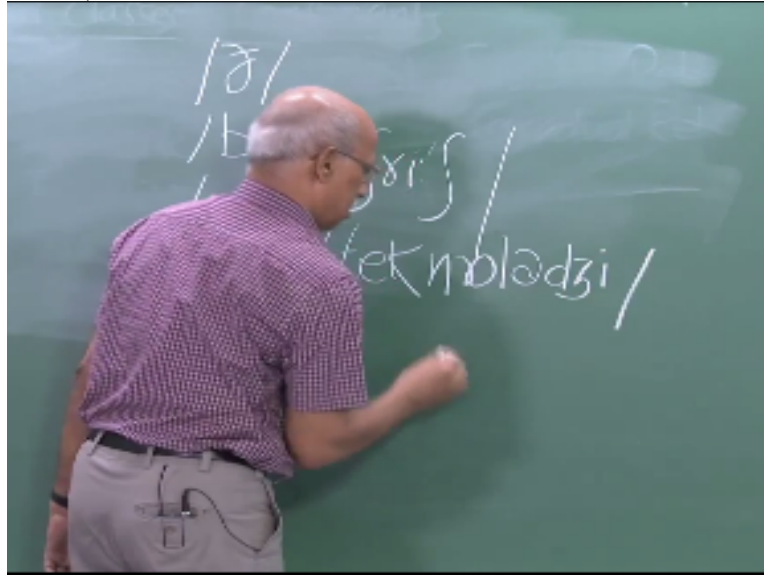
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Similarly cha cha ja ja we can describe it may not be a bad idea to take at least six songs from your mother tongue please describe it in this manner mail it to me this is an assignment are not doing which will bring you no punishment but doing it will bring you reward you will understand so I do not make it compulsory but if you try describing some sounds in your mother tongue one quick test can I give you one quick test for two minutes.

And then I will say thank you have a good day nice weekend okay and I will pray for a distinction to everyone without work right okay be ready please I am going to tell you the three term level and you are going to write the symbol ready voiced interdental fricative as in English voiced why English you voiced interdental fricative just write the symbol and compare with the symbol I write.

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Voiced interdentally synced this is the symbol how many people got it right raise your hands raise your hands please nobody okay at least I was going to jump from the third floor of this building him I have been shouting myself hoarse okay voiced bilabial plosive voiced bilabial plosive right the same one okay voiced labiodentals fricative voiced live your dental fricative voiced not voiceless voice this one last voiced velar nasal voiced velar nasal as in king ring actually you know you should have some practice using suppose first.

Write your name say for example my name using phonetic transcription what is your name write it on you quickly using phonetic transcription what is the name of our Institute Indian Institute of Technology tell me what is it I am writing now what is it technology okay right Indian okay you must have some practice in using these if you have an English dictionary you get symbols I have already given you a copy of these phonetic symbols if for English.

But you know if you go to Google if you just Google IPA chart you will get a chart on your screen save it download it save it and use it for and you see you will you will have a new power you will have learnt an alphabet which only you and a few other people use you can use that for conversation for communication for transcription for a variety of things any questions please thank you have a good day.

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