

**Basics of Language Science**  
**Professor. Rajesh Kumar**  
**Department of Humanities and Social Sciences**  
**Indian Institute of Technology, Madras**  
**Lecture No. 07**  
**1-Language and E-Language**

(Refer Slide Time: 0:17)

So far ...

-Language

-Language is more language a continuum.

-Study of Language

-Language in Mind (I - Language)

-Use of Language (E - language)



So far, we have looked at the language where while talking about various aspects of language and it is generic features by now, I was trying to make you see a particular point about language which is more like a continuing than like definite numbers for a particular reason that there are no boundaries, specific boundaries defined at one place, one is to stop and then the other begins. Now one can ask a question, is this completely unfair to count languages?

That is not also completely unfair because at one point on the same continuum 2 languages or let me put it this way, at 2 different points on the same continuum, if we think language is a continuum thing does sound very different. Sometimes so different that they are mutually unintelligible therefore it is okay to count them as different numbers too as long as we understand that in some places on the same continuum, it might be difficult. Or languages share a lot of things with one another as long as we understand these things, we are fine.

Then we also started talking about 2 different aspects of language study, that is two different approaches through language are studied, one is language purely as a phenomenon of the human mind and the other is a language, the use of language in the actual world and other societies.

These are two different ways of looking at language. We started looking at some of them and we will go into detail. Along these 2 lines where we will be focusing largely on language is a phenomenon of the human mind which is I language.

(Refer Slide Time: 2:54)

- Language is the most sophisticated product of Human Mind. It is a 'special purpose' cognitive ability.
- Language is a powerful social tool.
- The nature of language is that of a system. It is mathematical. It is one of the things that we learn without putting much efforts to it as a native language.



Some of the other things, just to refresh ourselves and to help you keep these things in the mind all the time as part of generic understanding of our general knowledge about language, it is the most sophisticated product of the human mind. What could be other products of the human mind? If we say this is one of the most sophisticated it assumes that there are other things. Other things may not be, may not be as categorically a product as languages are or languages.

When we say the most sophisticated product of the human mind, we refer to other kinds of activities that the human mind performs. And in such activities, it has a specific distinction. We will also go through lots of specific details, where we do not claim that we are studying the human mind per se but we will see how studying language helps us study the human mind. Lot of scientists have studied the human mind from different perspectives: biologist, neurologist, neuroscientist.

In fact, beginning from ancient times and Philosophy to Mathematics to Life Sciences. This part of a study, this part of scholarly undivert to study the human mind that is the functioning of the human mind has been one of the real goals of many types of studies. Nobody as of now conclusively claims that they have figured out this thing. However, the pursuit is on.

Do you know people who are studying actual physical properties of the human mind have concluded that there is nothing inside it? Do you know about this position? Are you familiar with people who have studied the physical properties of the human mind? That is when they opened it up, they found there is nothing inside it. Now I mean on a lighter note that it sounds not just hilarious but it is consistent with what people have from hence in time people have been calling, if they find somebody who does not understand much, they say he has an empty brain. He has an empty mind. Actually, the human mind is empty, there is nothing, nothing in that.

Now that part is just a side comment. However, what is interesting about it is, if there is nothing to see then how does it do all kinds of computation? This question clears you when you open up any machine, a motor engine or this kind of machine you find lots of, lots of circuits, lots complicated machinery units in any one of them, in all of them. However, there is nothing in the human mind at least, there is nothing visible. Then how does it function? Do any one of you know how it is one of the ways, one of the things available in the human mind, that helps it coordinate its functions. No, no. Have you heard about neurons? What are they? What is that? What are neurons?

Student: Brain cells.

Professor: Brain?

Student: Brain cells.

Professor: Not really cells but well, if we are not particularly technical in terms of definitions, we can say that, how many of them are there in the human mind?

Student: Billions.

Professor: And then people studying neurons claim that specific sets of neurons are assigned a specific activity and then they report to one another and then to the larger units and then to the larger units and they are also assignments in a way that they can perform multiple actions at a time. Therefore, while we are doing other things, we are either aware of things happening or we can perform multiple activities.

Now, that is one part of it. Yet we do not know if there is a set of neurons assigned to language. We know or at least we believe that there is a set of neurons assigned for carrying information all

over the place. Telling us information about the environment around us. And thinking, seeing, moving, motor coordinated, coordination is probably there are things for that, there are specific sets of neurons assigned for that but we do not have evidence if there is a set of neurons assigned for language.

That is one point and remember, I do not remember whether I told you this thing in the last class or the before or the class before, there is still a discussion going on about language that is coded in human genes. So, these are hypothetical questions that scientists are working on, we do not have evidence for these things as of yet. So, this is what we mean, when we say it is one of the most sophisticated products of the human mind and we call it a product because otherwise to study the human mind, we need to look at its physical properties.

However, if you look at the structure of human language, then that leads us to the study of the human mind as well. Sometimes, when it is difficult, the powerhouse, probably looking into the product can help us understand where it is coming from. So, that way, studying the structure of language, particularly human language and trying to find out its underlying system helps us understand the human mind. That is if the underlying system of language is such that we are, the underlying system of language is designed in such a way, in such a complex way then this must not be a product of ordinary activity. And backward we look at the human mind and then we say, studying language helps us understand the performance of the human mind as well.

When we look at a specific aspect of language and its complexities, I will remind you from time to time with reference to why it is called I-language and what it refers to when we say I-language and then how complex a phenomenon it could be. In terms of E-language when we look at it, it seems to be a very powerful social tool. We have talked about the spread of language 6800, 1650 in India and then how the language and continuum that we discussed just told you about it that it is difficult to count and how it is, how it can be looked at in both ways.

How language becomes part of the identity of human beings as a group, as a society, or as an individual. Sometimes it is more, it is stronger than religion and other aspects of life and things like that. Therefore, it is undoubtedly a very powerful tool as well besides being systematic, besides having an underlying system which is purely, sometimes when you look at it as a structure you will see it is purely mathematical in nature. And we will look at the mathematical

part again when we are looking at specific structures and all levels of sounds, words and sentences. More so at the level sentences.

And another interesting aspect of language is which also we have briefly discussed. We are going into the details of that as well. When it comes to learning a language, hereby learning I refer to learning a language as a child. Learning a language in a natural environment that is not in a classroom setting and we are talking about the first language, all these terms, first language, and the natural environment are technical in the sense of a study of a language. We will look at those terms as well. What I want to underline here is, when we look at the learning of language, we end up concluding that it happens in such a way that we do not even realize what happens.

And before you realize it, you end up speaking a fully developed system which we call grammatical sentences in a normal setting. And which enables us to communicate with one another in a nice way and at that stage, we say now the child is linguistically adult. And which happens, do you have any idea when it happens? When do you think a child starts speaking a good grammatical sentence?

Student: 4 to 5 years.

Professor: 5, 4 to 5 years. That is simple. So, by the time, by the age of 4 and 5, a child becomes linguistically adult in a very strict sense that by adult we do not mean a discussion on nuclear science. What we only mean is a good sentence. A child can convey to you simpler things whether it wants water, food, it has pain, it does not, a child wants something, the child can talk in a normal way and then that kind of thing continues and we reach different levels.

So, this is what we mean that we learn it without putting any effort, and even as an adult, you want to go back and see which people have done it in a systematic way. What does really happen when a child really begins speaking such a complicated system by age of 4? What could have happened? We can only say it happens; we do not really know what happens. And I will show you some of them as well.

(Refer Slide Time: 16:04)

- Language is a rule-governed system.
- Linguists/linguistics makes such rules explicit with scientific investigation.
- Language is one of the strongest marker of society, culture, and identity.



And you know these things we have just been talking about . It is a rule-governed system and the strongest marker of society, culture and identity and a few words about the culture I am not sure if we get to come back to this thing. Or when we are looking at sentences, I will refer back to it a couple of times. The only reason why I am bringing culture in it is most of the time in class on principles and parameters or about I- language, people would want to stay away from this term. Because they only want to look at language as a phenomenon here. They only want to look at the mathematical properties of language. That is the communitarian capabilities of how words combine into sentences and what are the underlying rules in it.

I am bringing in this term culture to prepare you to look at in a little bit more serious sense of the term culture and which is the following. When we acquire language or we continue enriching it. Equalization of language does not take place without the equalization of its cultural components. There are a lot of things that are embedded in language which are attributed to its cultural components. And a speaker of a language by a speaker I mean, a native speaker of a language does not learn such things as specific additional instructions. They grow up with such things the way they grow up speaking a language.

For example, if someone, if we have to say someone died. There are various different ways of saying the same thing in different languages. And because I need to move to a different thing, I am not giving this specific example but you understand what I am saying. Now nobody tells you

which one is appropriate in which circumstances but you know that. How can we talk about it without giving you an example? Can anyone of you give an example? What are the terms for death?

This may not be a great thing to talk about early in the morning but nonetheless when this has come up, let us talk about an example. Give me just 2, 3 terms and that could be in Hindi or any other language. Anybody?

Student: ((??)) (19:16). Serenity.

Professor: Which refers to, that is not what I am referring to. I am referring to different words for death in a particular language. For example, I can give you 2 from Hindi Marna, Mrityu, Dihanth and some of the derogatory ones. A Maut is not a derogatory one. Even these 4, 5 of them when we want to talk about somebody in a more dignified and respectful way which one would you prefer? If, do we need to say, let us talk about the recent one. I did not want to use the example of Mahatma Gandhi. Let us talk about the recent one or for that reason Mahatma Gandhi.

Do we say Mahatma Gandhi ki mrityu ho gayi? Or do we say Mahatma Gandhi mar gaye? Which one sounds better? Why? The other one has a little bit of, the other one is a little bit marked. And there are more derogatory ones than that which we do not use in a specific situation. All I am trying to tell you is, we do not learn these things. We are not given a list of words for different situations and then we are never told either in a classroom or in any other form in society, use this one for this situation.

And everybody agrees on which one should be used in which situation, for example, when I gave you this example, I think all of you agree that one is marked over the other. This acquisition does not take place in an instructional way. Therefore, we can say that cultural components of language also take place at the time of its acquisition as a systematic phenomenon, as a rule-governed phenomenon.

(Refer Slide Time: 22:12)

- In short:
  - Language is child's play!
  - In learning of the first language children perform better than adults.
  - Language is special purpose cognitive ability.



And this is why we say language is child's play. Really it is child's play because children perform much better than adults. And here I have a reference to, it means more when you compare it with second language acquisition. So, every time we talk about a child, we mean first language acquisition, and every time we are talking about adults, we are talking about the second language. So, it simply means that, if you want to learn a language, learning a language takes place in a better way when a child learns it.

However, as an adult when we try to learn a language you know what happens. We can learn a little bit here and there. We can go all the way very close to native like competence. We can say that near native competence but we never depend on such competence. What we depend on or what makes us a native speaker of a language is the situation where we have learned. We have acquired a language as a child while growing up. That is what it means.

And the last one is language is special-purpose cognitive ability is also related to the first one. And it is related to what we started with language as a sophisticated product of the human mind. For example, when you look at other things like let's say swimming, or riding a bicycle or, let us take just these two examples. There is a rule of practice in these things, the more you practice, the better swimmer you become. The more you practice, the better bicyclist you become. And there are lots of other activities which are cognitive abilities, for example, singing. The more you practice, the better signer you become. Such activities are called general-purpose cognition.



Language is called a special purpose-cognition because there is absolutely no role of practice in language. Learning a language does not take place through practice. And I will come to this and emphasize this more and I am only underlying this right now for you to think. A lot of times we are made to believe that we learned language also through practice. The more we practice the better we perform in language. Now we can accept the role of practice in learning a language when it comes to a second language to some extent.

In acquisition of a first language the role of practice is 0 and I say it with responsibility it is 0, absolutely no role of practice. A simple argument is, if we learn a language through practice, then we would learn only the words that we have heard. We will be speaking only the sentences from our languages that we have heard before. However, as a native speaker of a language irrespective of which one you speak, you have capability to speak a sentence that you may not have ever heard before.

In other words, you have the capability to speak or understand any word, any sentence of your language, whether you have heard them before or not. Do you get this thing? This argument alone completely rules out the possibility of practice in learning a language. And therefore, language as a cognitive phenomenon of the human mind, as a cognitive ability is special in the sense that it is different from everything else the human mind performs. There is a role of the human mind in singing, there is a role in swimming, cycling, everything else. But the role of the human mind in learning a language is way different from learning anything else.

There is one more distinction which is quite obvious which is all other things that we have just mentioned like swimming, riding, singing, you perform better at these things when you grow up. Your ability to perform at these things develops or increases when you are growing up. If you look at language it decreases the more you grow up, it decreases. Why does that happen? There is a theory for that, not assumptions and I will take you through that as well.

(Refer Slide Time: 27:40)

- To begin with, it is hard to count languages.
- There are 6800+ languages spoken around the world.
- 1652 languages are spoken in India.
- India speaks around 25% of the languages of the world.
- India speaks languages of FIVE major families:
  - Indo-Aryan
  - Dravidian
  - Austro-Asiatic
  - Tibeto-Burman
  - Andamanese



These are again, I have just put them as a list here, these are the things which we have discussed. 6800 languages and 1652 in India which is approximately 25 percent from 5 different language families.

(Refer Slide Time: 28:01)

- All the languages of the world have limited number of sounds.
- All languages of the world share sounds with one another. In other words, there is no language of the world that does not share sound with the other one.
- Language boundaries are so porous.
- All the sounds must have a combination of consonants and vowels.
- No words can be made without a vowel sound.
- Most common combination of sounds is CVCV



Some of these things also we have discussed and I am just adding a couple of them as a new fact here. Languages of the world have limited sounds, they have sounds in a limited number that is no language goes beyond 50 or around 50. All of them will share the sound with others, that there is not going to be a language which has a completely distinct set of sounds from other

languages. And again, this reference to the language continuum. The more closer they are on the continuum, the higher the possibility of sharing a larger number of sounds.

The further they are on the line or the continuum lower the possibility of sharing many sounds. So, it is no mystery that Tamil and Telugu will share more sounds than Tamil and Assamese and for that Tamil or French. This is no mystery. Geographical proximity, geographical co-existence, and mutual existence help you conclude that these languages will share more sounds.

However, what is more interesting is, no matter how far apart languages could be, it just does not happen that they do not share a sound or a few sounds. And here, once again to underline that it never happens that 2 languages share just one sound for the sake of maintaining these rules. It is not just one sound. If not too many it definitely has a bunch of sounds. And that also tells us irrespective of geographical boundaries, language is a definite phenomenon of the human mind. And therefore, the human mind functions alike.

This sentence should not be difficult for you to understand now that language boundaries are pores. There are no hard and fast boundaries between languages. And which is in either consequence or which helps us, people to communicate. When I say consequence, language being pore is probably a consequence of language sharing sounds. Or we can look at it in a different way which is they share sounds because they are in closer proximity and because they are pores.

Now when we are talking about a set of sounds, all the sounds are not of just the same type. Have you heard about these terms, consonants, and vowels? Now, I do not need the definition from you. I only want you to understand it because definitions are not that relevant or for that matter, we will talk about that and we will spend a couple of minutes on that. But I want you to understand more fundamental stuff and something which is more theoretically in nature.

Now in the set of sounds in a given language, again there is no language which has just vowels or only consonants. Whatever the number of sounds available in a language maybe that is going to be a combination of both, consonants and vowels. Can you guess why? Or can you guess what would be the result of it? If I can give you a hint at the level of words. Because eventually, we make words out of sounds. So, if we need both and all the languages definitely have both sounds, both types of sounds. So, what will be its consequence at the level of word? Any idea? Maybe

you are thinking too hard, therefore you are not saying it. It is a very simple thing. No. Tell me what I am going to say is a consequence of that or not.

If we have a word in any language you cannot get a word only with consonants. If vowels are required in every language, then vowels are going to play a role in every word. In no language, you are going to have a word where there is no vowel. Pay attention to this carefully, you can have a, the reason why it was difficult for you to guess probably and I am guessing about it is you can have a word only with vowels. Therefore, we cannot say that all the words must have both consonants and vowels. Get it?

We cannot say all the words of all the languages must have both. We can have a word in probably all the languages of the world. Only with vowel sounds. But there cannot be a word in any language of the world only with consonant sounds. While you are thinking about a word on the basis of what I have just said, which sound is more fundamental? Consonants or vowels?

Student: vowels.

Professor: Naturally, vowels are going to be more fundamental because now on the basis of this we can say there cannot be a word without a vowel. We can have a word only with vowels, we cannot have a word only with consonants. Therefore, we cannot have a word without a vowel. Does it sound like something mathematical to you? Do you see some nature of mathematics in it? This is the underlying system of a language at the level of sound.

And this is way too fundamental that I am telling you. Which is, see how our noise at the level of sounds. That is, or at the level of words. No words in any language without a vowel. Get it? Now at this note can we quickly talk about the vowels and consonants very quickly? Because I need to go to language and dialogues. Very quickly what you think is a vowel sound? Or what do you think is a consonant sound?

You may have heard this thing when you hear these 2 types of sound, you were told something along with it. And we are going to look at not exactly the definition of these 2 types of sounds but what they really mean in a little bit more. Not tomorrow, tomorrow we will be talking about the acquisition of language but a day later that will be next week but today I just want to hear something from you about consonants and vowel sound. What do you think is a consonant sound?

No, you know, heard these 2 sounds for sure. That there are some of the sounds that are consonants, some of the sounds that are vowels. Forget about the definition or anything about both. What is the difference between the 2? No? Think about them, I think I am taking you to a way too fundamental level in the study of language. About sounds and it is a classical distinction between a consonant sound and a vowel sound. And yet I want you to think. You not knowing this does not say anything about you, trust me. It is not really saying that you do not understand anything or you do not understand about sounds.

Now what I want your attention to is the following. A speaker of a language, we do not need a laboratory to establish whether we speak languages or we speak language, but it is very easy on the basis of this example to conclude. When you speak a language you definitely speak, you definitely have that inventory of sounds of that language. Again, that inventory includes both types, consonants and vowels. Now you know the consonant sounds and vowel sounds of the inventory of your language. But when you asked, can you give me some vowel sounds? In a classroom setting, in an articulated way, it is difficult for us to even tell the distinction between the two.

Hang on here. I am not trying to make fun of it, I am trying to establish a point which is this capability that I know here refers to equalization of the language of what we know I-language. And that is the capability which refers to what is called knowledge of language. And I come to this term again at that point in time it will be easier for you to see. And I will give you tons of examples of these things that language is, the role of language that consists of rules that we all know. But we just do not know that we know them all. Like this particular example of the distinction between the consonant and the vowel. Get this point?

We will come to more of such rules later and please think about the distinction between two. Like I said as a speaker of the language we do not need to know those rules. As the speaker of the language we do not really need to know the distinction between consonants and vowels. But if we want to study them, there is a way to find out the distinction between the two. And I am not asking you to look them up in any books, I am only asking you to think about them. What could be the distinction between the two and we will make them more obvious when we are talking about the sounds. And I am leaving the last part of CVCV, CVCV simply refers to consonant vowel, consonant vowel and we will talk about these types of phonotactic rules little later.

(Refer Slide Time: 41:11)

## Some Questions

- Keeping E-language in mind, where does one language stop and the other begins?
- What are the names of different language families?
- What is the difference between language and dialect.

What do we mean by a variety of a language?



Now we have discussed some questions like this before. So, keeping E-language in mind, where does the language is, where does one language stop and the other begins? We have looked at that and it could be difficult. There are overlapping areas and those overlaps are not ordinary overlaps. Those overlaps are not inconsequential. We have huge consequences in defining the language or understanding language as either a phenomenon of the human mind or as a phenomenon of society. We will keep looking at them as well. We want to look at today. We did not get to spend a little bit of time on language and dialect.

(Refer Slide Time: 42:08)

## Dialect

- a particular form of a language which is peculiar to a specific region or social group
- a variety of a language that is a characteristic of a particular group of the language's speakers
- a regional speech patterns,
- dialect may also be defined by other factors, such as social class



And I want you to understand this particular distinction in a little bit more technical way. And by technical, I mean a little bit more clear of fashion. Which is the following, so these are the things that you hear when we say a word dialect. Whether we put them in these words or not, these are the things that we have in mind. These are different words and under different bullets but eventually, there is a way to combine them all and this is what we mean when we say dialect.

However, even more fundamental than this is when we say or when we talk about the distinction between language and dialect. What we know to begin with or what we assume is language is something superior and dialect is something low. That nobody debates that, just the two terms tell about themselves that one is higher the other is lower. This is like oxygen or blood in us.

(Refer Slide Time: 43:32)

- Language and Dialects

- Number of speakers
- Literature
- Writing system
- Sub type of main one

- Variety of Language



However, what I want you to look at is that is not true. We can understand them whichever way we want, we can talk about them in different ways that we want but that is not true. The moment we talk about up and low, we are talking about and I want your undivided attention here which is we are talking about language in society. We are not talking about the language here. That is, I-language, at the level of I-language there is absolutely no distinction between these two terms. Let me first show you some of these things and then I will underline I-language again.

Some of the things that you will find people telling you is languages have more numbers of speakers and dialects have lesser, fewer numbers of speakers. Now if there is no distinction between the two terms at the level of I-language and what we mean by I-language is the way we

acquire language, either two different varieties of language or two different languages. If we compare any language with Hindi, the total number of speakers is going to be lower than, lower than Hindi for any language. Does that make any other language dialect of Hindi? No. Also, do people learn two different languages in two different ways? When we are talking about learning a language as a child?

A newly born baby or when it is growing all the way to the age of 5 either in the natural environment where Tamil is spoken or Telugu is spoken or for that matter, French, English, or German are spoken, they acquire languages in the same way. If there is no distinction at the level of equalization of language, how can we say that external factors will make a distinction in putting value judgement about the two?

So, when we say there is no distinction between the two terms in a technical sense, we mean that acquisition takes place in the same way. That is the similarities or differences with other languages. If we call a language, as language A and language B as dialect. And let me give names here. Let's say if we say Hindi is a language and braj bhasha or avadhi are dialects of Hindi. What I am saying is, if Hindi is acquired this way in the same way as braj bhasha or avadhi, how are they different from one another?

They are different from one another of course at the level of a number of speakers. But then in a scientific understanding of an object, that number of speakers would make a difference. Get this point? Similarly, if there is literature available in a language and not in other languages, how does that make a difference between the two, two instruments as in the forms of spoken languages?

It is just a matter of coincidence that in some languages we have written stuff in other languages we do not. What is the language in which most of the books are written in our time? English so that it simply means English is, we can associate different kinds of values, values judgements with English. It is more important it is just spoken in a much wider geography. It is spoken by a large number of people . We say a language which is not spoken by the same number of people or there are not those many books written in languages like, let say Hindi, or Bangla, or Punjabi that are not languages. That is not going to be true.



So, look at defining the distinction between the two namely language and dialect on the basis of these terms are only superficial ways of looking at them. That is the only point I am trying to make. I am not saying that languages with lots of literary volumes are not good. That is not the point I am trying to say. It is just a matter of coincidence that a language has lots of books written in it and the other language does not have it. A language may have too many people speaking it and the other may not have, may not have too many speakers, that would not make any difference at the technical level.

At the same time, whether a language has a writing system or not again is not important. Because I have, we have talked about this so that we can write any language in any script. It is only a way to represent sounds. Now when we talk about English, we are more used to seeing the language English in the Roman script. When we talk about Hindi, we are more used to seeing the language in the Nagri script. That is all. It is a matter of use. Now if that did not exist then at one level, we write any language in any script. Again, this is not dived. I am not trying to devalue the significance of a script. All I am trying to say is any script can write any language.

Therefore, again whether a language has a script or not has nothing to do with its underlying system and it will be clearer when we talk about its underlying systems of languages. Therefore, whether a language is lower or higher, it is decided on the basis of socio-political status. And people start to agree. The power structure is such that we agreed to anything. Only in that sense, people accept okay fine, what you are saying must be true, one is higher language the other is not so higher language. And this is so much in our system that we do not even need to say that. And we accept these things.

However, at the level of its underlying system equalization and other technical aspects, there is no distinction between what we know or what we have been told as language and dialect. We will keep looking at these things more and more when we look at these systems.