

Language and Mind
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Module - 03
Lecture - 15
Words

We have seen some discussion on some words in the last two days. We want to continue little bit more on words in order to see what we meant; in order to see more and more details, what we meant by underlying patterns. Words have sounds combined in them; sounds combine together to make a word. Words have patterns in the sense that, what we have seen so far, we cannot combine any few sounds to make a word. Only certain sounds are allowed... certain sounds have restriction that they are allowed to get combine together, and some sounds may not be allowed to get combined together. And we have seen several other restrictions on formation of word.

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Words

- How do we modify words?
- Can more elements be added to words?
- What are those elements?
- What do those elements signify?

In particular, the sets of phonotactic constraints that we have seen, what we see is the alternation of consonants and vowels in various permutations gives us numerous words, lot of words. Uncountable number of words in any given language can be generated through permutation of alternating consonants and vowels. The moment we begin with

some kinds of constraint in terms of existence patterns, we see the total number of possible words being reduced.

And this is significant for us to understand, because again, while uncovering underlying patterns along with acquisition of language, mind figures out these things effortlessly. And they constitute the body of knowledge which we have referred to as knowledge of language and remains not really dormant, but as part of subconscious knowledge for which we said this type of knowledge is the kind of knowledge which we do have. We know, but we do not know that we know them carefully; we know them all.

So, let us see the nature of this dormant knowledge. We have seen in terms of the patterns and you have seen one set of patterns; and the moment we start seeing that the other set of pattern in terms of constraint on information of word is when we see clusters of consonants; when we have a cluster of two consonants, we still get what many words. However, when we see a cluster of three consonants, they are mostly restricted to the beginning of a word; that is, at the initial position of the word.

And even within the cluster, the constraints are so heavy that we can only have a particular type of sound at the initial position of the cluster. One of the sounds from the set of a few sounds at the medial position of the cluster and again, one of the two sounds possible at the final position of the cluster; namely, we can have a dental alveolar voiceless fricative, which is *s* at the initial position of the cluster; one of the stop sounds like *p*, *t* and *k* at the middle position of the cluster; and one of the liquids like *r* or *l* at the final position of the cluster.

At least in English, we have seen examples with these constraints and out of which, we see a handful of words possible with this constraint. We also mentioned and saw that a cluster of four consonants in the beginning of a word is unlikely in English in particular, and possibly in all the languages of the world.

This constraint tells us about the nature of patterns involved in formation of words. We would also like to see little bit more on the discussion of words in terms of, can more elements be added towards and if at all we can, then what are those elements, what do those elements mean, and how do we know about them? The answer to the question, how do we know about them, is still part of innate nature of learning, innate nature of the

knowledge involved in learning, which happens to be following from the knowledge about universal grammar.

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Morpheme

- A minimal meaningful unit is morpheme.
 - Sit verb
 - Sits verb
 - Seats noun
 - The sound *s* is a morpheme. This is a third person singular and present imperfect marker in *sits* and plural marker in *seats*.
 - The sound *s* in the initial position of all the three words are not morphemes.

Now, let us see examples. Before we talk about more examples and what gets added and how they change a word and how they help us understand the word, what we understand by them and how they make our knowledge of language richer; before we do that, let us take a look at the example on the screen that you see. These are three words - very simple English words; you have seen these words, we say these words several times a day and we know these things very well.

I draw your attention to a particular part, to a particular point. The particular point is, in the word sit, we have one instance of the sound *sa*. Again, this is alveolar, voiceless, fricative; just one instance of the sound *sa*. In the second one sits, which is also a verb, we have two instances of the same sound, one in the initial position and one, at the final position. And then in the third example, seats, we see two instances; again, one at the initial position and the other at the final position.

In each one of them, we have *sa* at the initial position and in two of them, we have *sa* sound at the final position. Think about the two sounds and see, do they mean different things. The initial sound *sa* in all of them, irrespective of their category - verb or noun, does not mean anything; that is independently, this sound does not have a meaning. They are just *sa*, a sound, which is part of these words.

However, the sound at the final position in the verb sits and in the noun seats, these two sounds have got their meanings, these two sounds mean something. What do they mean? They mean the following. In the word sits, which is a verb, the final sound indicates that it is a third person, singular and present imperfect marker. You can see that. And in the word seats, the final sound sa is a plural marker.

Now, what does that have to do with the discussion here? What do they help us understand in the current discussion? The final sound sa, it is one singular sound and it has got a meaning. Of course, this meaning is grammatical meaning and see the load on these sounds. In the word seats, as a noun, it is just a plural marker. However, the same sound, when comes in a verb and we make it sits, we know just because of this sound, we know that, if it is used in a sentence, the subject of the verb is going to be a singular noun.

And therefore, we will discuss about subjects and verbs little later to develop our understanding about structure of language in terms of structure of a sentence, in little bit more details. At this point, we can understand this in the following terms that the sound sa at the end of the verb sits indicates singular number. It indicates third person and it also indicates time, the tense - present and the aspect imperfect; a lot of things is loaded on this sound and these are the terms that I have used.

By these terms, I mean grammatical meaning. Therefore, it is open for people to discuss and debate whether the word sit is different from the word sits or the word, verb sits is generated out of the word sit, with adding this sound. Now, without getting into that debate, I want to introduce the term morpheme. We call this term, this sound, a morpheme and by now, you must have figured out that, if it is called a morpheme, then a morpheme is a minimal meaningful unit in a word.

A minimal meaningful unit in a word is called a morpheme. Words are made of morphemes; there could be one morpheme in a word, there could be two morphemes in a word; like we have seen, parts of a word in terms of syllables. We need to understand one more term in terms of morpheme. And now, under the notion of morpheme, I want you to take a look at a set of examples from Hindi to see, what it does, and when we remember the question, more things be added in a word, do they make a new word; what is the pattern underlying adding these new things which are grammatically loaded and

these things carry grammatical meaning. We are going to see a set of examples from Hindi.

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The following examples demonstrate the plurals in Hindi:

- Masculine Nouns:

- kamar~~aa~~ kamare 'rooms'
- gamal~~aa~~ gamale 'flower pots'
- paanii~~Ø~~ paanii~~Ø~~ 'water'
- ghar~~Ø~~ ghar~~Ø~~ 'house'

- A masculine noun that ends in a sound /aa/ changes to /e/
- A masculine noun that ends in any other sound does not change form for plurals.

Let us look at a set of masculine nouns, a few examples from Hindi. We have a word like Kamara, which means a room. Please pay attention to the plural counter part of this word; it is Kamare. What is the difference between these two words? It is indicated here in red and you can see that, the final sound which is a vowel in this case aa changes to another vowel e, it become e in its plural counterpart, and then it means plural.

This is an example of a morpheme, this is an example of a process. The knowledge about plural formation is again part of knowledge of language for people who learned Hindi as their first language. And such things are part of knowledge of language for speakers of any language. We are talking about examples. So from Hindi - we will restrict our discussion to Hindi - for us to understand the phenomena and implication of this phenomena, for understanding about human mind and understanding about grammatical computation involved in plural formation in Hindi.

So, how does it work and why do we call it part of knowledge of language. So, the rule is: aa becomes e, and then we get a plural form. Now, if you check this thing with the, if you are a Hindi speaker, you check this thing yourself; if you are not, listen to others speaking Hindi or if you know some Hindi speakers, ask them this question. You do not

have to interrogate them; you just observe them or check with them, you will find the following.

If you start with the question - is this the pattern of plural information in Hindi across the board? That is, can I apply this rule in Hindi to get a plural form in all the nouns? The answer that you will find is certainly a big No. This rule does not give us plural uniformly; it applies in lots of cases. For example, you look, you use it to Gamala; we get Gamale. I have given only two examples here; you can apply to large number of words from Hindi which end with the vowel aa will work this way, but others do not.

For example the word Pani - this word also ends with a vowel, but in the plural form, it does not have the marker e. The word Ghar, this does not even end with a vowel, it does not have e sound at the end of a word in its plural counterpart. So what is the story? What is going on and how do we understand plural formation? Simple question is, what is the underlying pattern, underlying role in plural information in Hindi? Please try to understand the description that I am giving you for plural formation of Hindi.

And I invite you to find out plural formation, underlying rules of plural formation for the language, all languages that you speak. It is a very valuable exercise for you to believe most of things that you have heard so far. And my intention or my interest is in drawing your attention to the fact that, whatever maybe the underlying pattern, you know that. This is the claim of knowledge of language, you know that rule.

And the simple evidence of what I am saying right now, confidently that you know the rules of plural information inside out, very well, on the basis of the fact that if you are given the word of your language and asked the plural form of that word, it would not take you more than a few seconds to give a plural form. Unless you knew the rule, you would not be applying that so fast and coming up with the plural counterpart. This rule you know, you know the computation and you know the application of this rule as well.

The only thing is, if someone asks you to write this down or articulate this rule, so that a new learner could apply the rule to get a plural counterpart could be difficult, and that proves the point about innate knowledge and about knowledge of language. It talks about many things at a time.

Now, you come back to the examples again. If you are a Hindi speaker, you could have figured out many things by now, that, you have been using forms of plural in Hindi for every single word, every time, all the time. But, if someone asks you the underlying pattern in the formation of plural, how would you explain this to others? You can pause for a moment and think about it or at least, you can explain these four words. Why would a word like Pani would not change in plural form, why would Ghar, I mean, you can come up with an answer that Pani is an abstract noun and most abstract nouns do not have their plural counterpart. That is not the answer, I am looking for.

Well, Ghar is not an abstract noun; it is a countable, it is not a mass noun, it is a count noun. But, it does not change its form either. So the distinction between a count noun and a mass noun does not help us understand underlying pattern of plural. So, I am not suggesting that the distinction between count noun and mass noun is not significant for us, for anyone to understand, language. All I mean here is the distinction between count noun and mass noun does not help us understand plural formation of Hindi. What does help, what helps and which rule will apply?

So, to understand that, we need to understand, we need to first look at another part, back track and look at another aspect of gender. We will have more discussion on gender in Hindi and some other languages later, but at this time, I want you to pay attention to gender of a word in Hindi, gender of a noun in Hindi; this is also part of innate knowledge. This is also part of knowledge of language of Hindi speakers that gender is arbitrarily assigned to nouns.

Yes, gender is arbitrarily assigned to words, but speakers of Hindi know the gender very well. So, nobody, I mean, there are going to be cases where people are going to disagree with the assigned gender of a particular noun. However, in most of the cases, people have almost no disagreement. Again, the disagreement has got significance; the disagreement tells us about different varieties of Hindi, different types of possible rules for Hindi.

However, we put that, this discussion aside for the time being and we focus on the point. I have picked up examples purposefully for us to see that, very few people, almost nobody will have disagreement about the gender of these nouns. I have checked it with

many speakers that I have come across; I have also checked it, when I was looking at this rule for the purpose of my research.

So, Kamara is a masculine noun, Gamala is a masculine noun , Paani is a masculine noun, and Ghar is a masculine noun , without a doubt to many speakers of Hindi, who speak Hindi natively, who speak Hindi as one of their first languages. Then, this information is critical for people that the rule that works is the following.

A masculine noun that ends in a sound aa changes to e, in their plural counterpart. However, the words that do not end with aa... we cannot say that way; we have to say that words, masculine nouns that end with anything else; that is other than the sound aa, we will not change for their plurals and that explains this set, the set of these four examples. So, Kamara ends with aa, so it changes to e, Gamala ends with aa, it change to e, but Paani does not end with aa, therefore it does not change. Ghar does not end with aa, therefore it does not change.

So, this combination of these two explains plural formation of all possible Hindi nouns without exception. A combination of these two rules will explain plural formation of masculine Hindi nouns without exceptions. You can apply this rule and see, if you come up with an exception. There are some, I would want you to know up front that, there are words like Raja, which means King; Raja, though it ends with aa, does not have a plural counterpart like, we have a plural counterpart of Gamala as Gamale; we have only Raja.

We have Pitha, means father, ends with aa, is a masculine noun, does not have a plural form. Well, something else has to be brought in to explain Raja, Pitha, and a couple of more examples that you may find. However, the types of nouns that you see on the screen, the examples that I have given you, will follow the rules that has been described.

Similarly, we have looked at plural; we have looked at masculine nouns; now we need to look at feminine nouns separately.

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Feminine Nouns:

- khiRkii	khiRki-y-aaN	'windows'
- gaaRii	gaaRi-y-aaN	'cars'
- kitaab	kitaab-eN	'books'
- bahuu	bahu-y-eN	'brides'

- A feminine noun ending in a sound /ii/ gets /aa/ (nasalized) as plural marker.
- A feminine noun ending in any other sound gets /e/ (nasalized) as plural marker.

So, there is a set of rule for masculine nouns and there is a set of rules for feminine nouns and together, they describe all the nouns possible in Hindi with the exceptions that I have just listed. So, when we look at feminine nouns, again we find two types of feminine nouns. Nouns that are going to end in a vowel - long e; words like Khirkii, Gaarii, are examples of that.

So, we will find many feminine nouns which end with long e, and then we are going to find many feminine nouns, which would not end with long e; and examples are Kitaab and Bahuu. I am purposely keeping these two examples for you to see - Kitaab ends with a consonant and Bahuu... Kitaab means book and Bahuu, which means a bride or daughter in law will... Bahuu ends with a vowel.

But, the common thing between Kitaab and Bahuu is both of them do not end with long e. So, again there are two sets of rules; one for the feminine nouns that end with long e; the ones that end with long e has a particular type of plural formation. You see, Khirkii becomes Khirkiyan and Gaarii becomes Gaariyan; and the ones that do not end with long e like Kitaab and Bahuu will get a sound like ae, which is nasalized in the plural form.

So, all the plural forms in feminines are nasalized; Khirkiyan, Gaariyan, Kitaaben, Bahuyen. However, for the set of nouns that end with long e, we have plural marker aan and for the set of nouns that end with without long e, that is, anything else, any other sound, will get ae and then we get these things. We get the output that you see.

Now, a division of all the nouns in terms of masculine and feminine; that is, looking at the gender of a noun and the application of the two sets of rules, will explain all the possible nouns in Hindi. And with... apart from the examples which need to be explained in a different way, it will, these rules will not generate exceptions.

Now, what do we find out of application of this? First of all, it tells us about the underlying pattern. So, this is, the sets of rules that you see are the underlying patterns in formation of plurals in Hindi. We figure out this very carefully and we have got absolutely no hesitation applying these rules, absolutely no question applying these rules. This is the knowledge that we have figured out subconsciously in the process of learning.

So, a word like Kitaab will become Kitaaben; a word like Bahuu will become Bahuyen. Now, if you see an example of a noun that ends with aa, but that happens to be a feminine noun, will work exactly this way. In a word like Maala, which means necklace, or Maa, which means mother - both are feminine nouns and they will follow the pattern of feminine nouns which do not end with long e. So, Maala becomes Maalayen; yen being nasalized as a plural marker and Maa becomes Maayen, yen being plural marker with nasalization and they work perfectly fine.

At the same time, you have seen before that the noun that ends with a masculine noun which then ends with long e – Paani - it does not change, because it is a masculine noun; it is not like a feminine noun Khirkii. Otherwise, it would have a different set of rules applying to this. So, abstract knowledge about arbitrary assignment of gender to the nouns in Hindi is categorically clear in human mind and human mind has found these categories, and then applies the set of rules for plural formation without any trouble.

And thus, we see examples of computation involved in it in terms of application of rules and examples of how human mind plays a role in it in understanding these patterns of Hindi for Hindi speakers.

Once again, to summarize, all the languages will have sets of rules that will apply to nouns for plural formation. Like I have mentioned before, I invite you to find out an example of abstract knowledge, which is knowledge of language, which you have as part of the speaker of the language that you speak. Please find out underlying patterns of plural formation in your language to see, to get hands on experience of what we have discussed as part of word formation and the patterns involved in formation of words.

Thank you.