Today, we will look at role of understanding sentences in understanding relationship between language and society. We have two parts in this course. First part is language, the other part is society. In the study of language and in particular, the study of the structure of language at the level of sentence, the unit of investigation is a sentence. However, in the study of language, in the context of society, the unit of investigation happens to be discourse. We have looked at it earlier, and little later we will look at it in details as well that a discourse is not a random collection of sentences. A discourse has got several other things inbuilt in it, to qualify to be called a discourse. Similarly, a sentence is not merely collection of words. It is much more than that. And therefore we would like to very briefly look at the structure of a sentence and what involves in understanding of a sentence for us to understand the relationship between language and society better. Such a thing will help us appreciate this relationship at a deeper level. Let us understand what goes in making of a sentence.

(Refer Slide Time: 2:04)
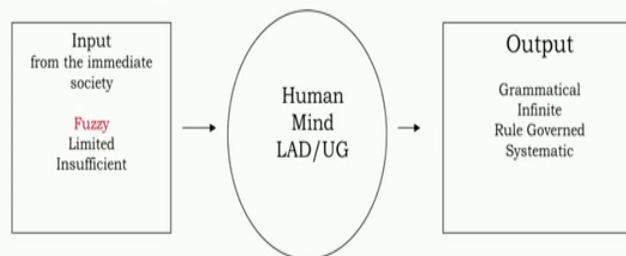
We know that human mind takes input and gives grammatical, infinite, rule governed, and systematic output. What makes this output grammatical, infinite, rule governed, and systematic is visible at the level of words, sounds, but also at the level of sentences.

(Refer Slide Time: 2:28)

Sentence

- What is a sentence?
- How are sentences made?
- How does understanding the structure of sentence help us to understand the underlying patterns of language and role of the human mind?
- Constrains on sentence-formation

Today we will be looking at what we mean by grammatical, infinite, and rule governed at the level of a sentence. So we will try to address few questions like: What is a sentence? How are sentences made? How does understanding of a structure of sentences help us to understand the underlying patterns of language and role of human mind in it? We will also look at some constraints on the formation of a sentence.

(Refer Slide Time: 3:02)

Components of a Sentence

- Subject
- Predicate
  - Verb and everything other than subject
  - Objects

- Lexical Category
  - Nouns, Verbs, Adjectives, Prepositions
- Functional Category
  - Number, Person, Gender, Tense, Aspect, Agreement

So let us first look at components of a sentence. And I invite you to look at chapters and other videos on language and mind to appreciate the structure of a sentence at larger and more detailed level. We will very briefly go through these things for the purpose of this course. There are two parts of a sentence: one is subject and the other is called predicate. The two parts - subject and

predicate - also requires us to understand these terms in little bit more details. The definition of the subject happens to be a difficult one. However there are two ways of looking at the definition of a subject. One is the grammatical perspective and the other is semantic perspective. From grammatical perspective, the subject of a sentence is the element, usually a noun phrase that agrees with the verb in the predicate. And this agreeing is an important part which we come to in a minute. Everything other than the subject in a sentence is part of predicat,e that is, verb and everything other than the subject. Objects are part of the predicates as they are defined and decided by the nature of the verb. To appreciate this thing, we need to look at the components of a sentence at a different level as well. The parts of the sentence could be put in two different categories. One is lexical category and the other is functional category. Things like nouns, verbs, adjectives, prepositions, etc. are going to be part of lexical category. However elements like number, person, gender, tense, aspect, agreement - where number, person, and gender are part of agreement - are called functional category. We will be looking at an example of a sentence to understand this in a better way.

(Refer Slide time: 5:37)

So we have two things, subjects and predicate. And then we have grammatical relations. Then we have the nouns and the verbs. So what we call a subject and what we call a predicate and within the predicate we have verbs and objects - these are grammatical relations. And noun does not automatically become a subject. And noun becomes a subject in the context of a sentence. Similarly, a noun becomes an object of a verb, and therefore because it belongs to a verb these are called grammatical relations. And then nouns and verbs are lexical units .

(Refer Slide time: 6:14)

Let us take the example of a sentence, "John loves Mary". The 'John' is the subject, 'loves Mary' is the predicate in which 'loves' and to be more precise, 'love' is the verb and 'Mary' is the object. "John wrote a letter to Mary" - 'John' is the subject, 'wrote a letter to Mary' is the Predicate in which 'wrote' is a verb, 'a letter' is a direct object and 'to Mary' is an indirect object. Both 'a letter to Mary' objects are part of the verb, part of the predicate and decided by the, nature of the verb 'write'.

So we will look at more examples and then we will see what it means to be a sentence. In generative grammar, all grammatical sentences and only grammatical sentences are called "sentences".

(Refer Slide time: 7:16)

So, the good thing about generative approach of looking at sentences from infinite set of rules, we get from a finite set of rules, we get infinite number of well-formed sentences. And the productivity of languages becomes clearer by looking at principles and parameters that govern language.

(Refer Slide time: 7:43)

So now we'll take you to the sentences again, the sentences that we have seen. And then we will focus on the simpler part. So when we say, "John loves Mary", we have looked at the grammatical components and grammatical relations in terms of subjects and objects and we know this is a sentence, it has two parts, "John" as the subject and "loves Mary" as a predicate. So what we want here to understand that the marker 's' on the verb 'love' which makes the verb 'loves' is the marker of an agreement. And in this sentence, this marks third person and singular number which are also apparently the features on the subject 'NP' which is third person and singular number. So these two features must match. That is the features on the subject 'NP' must match with the features of the verb, or must come, must be allowed to be present on the verb in order for a sentence to be grammatical and that is grammatical sentence. So verbs would not usually agree with objects and they agree with the subject if there is nothing intervening between them.

And verbs determine whether or not it requires an object. For example, there are two types of verbs at least. One is intransitive verbs and other is transitive verb. This categorization is looking at the nature of the verb. So there are two things that are related to the nature of verbs, one is transitivity and other is intransitivity. Intransitive nature of verb would not allow the verb to take an object. However, the transitive nature of the verb does exactly the opposite.

So a transitive verb will have an object, intransitive verb will not allow an object. So in this case we have an object 'Mary' and that testifies that is verb 'love' is a transitive verb and therefore it allows an object. So the relationship between the verb and object is very local, that is, within predicate and relationship between subject and the verb is across the predicate. So the two components of the sentence, subject and the predicate must agree in terms of the available features on the verb. These features are parametric in languages. For example in English, as you have seen in this example 'John loves Mary' we have number and person participating in agreement. However in a language like Hindi, number, along with number, person and number, gender also participates in the agreement. And therefore a language like Hindi is called a language with grammatical gender.

(Refer Slide time: 11:08)

For example when we say sentence in Hindi 'Rajuu ne caay pii' we see 'Raju' has got masculine gender on it apart from his being singular and third person. What we see in this sentence is the verb 'pii na' which is in this case, is in perfective aspect appears with the feminine marker. And then what we find here is the noun 'Raju' which appears to be the subject of the sentence does not agree with the verb 'piina'. Remember, in English only person and number participates in agreement. In a language like Hindi, number, person, and gender, all of them would play a role in the agreement features, in making a sentence grammatical. Therefore what follows from that and what we see in the sentence on the screen 'Raju ne caay pii' is 'Raju' - what appears to be the subject - that does not agree with the verb 'piina'. And that is because of the intervening of post position 'ne' which is also an ergative case marker.

So, a subject in natural languages would agree with a verb or the predicate only if there is nothing intervening between the subject and the predicate. Here the subject has an overt case marker on it which intervenes the agreement and therefore it would not allow the subject to agree with the verb. Now agreement is an important part in natural language and particularly in Hindi - the sentence must show agreement. So what actually ends up happening in the sentence is, the for the purpose of agreement the sentence looks for a next available noun which is available for the discharge of agreement. And then the next available noun 'caay' which happens to be feminine gender which has feminine gender on it agrees with the verb 'pii na' and the verb does not agree with 'Raju'. So in this case, this is an example of grammatical, the agreement which takes care of grammar. And here the NP, 'Raju' is not a grammatical subject of a sentence. For the purpose of grammatical subject, 'caay' becomes the grammatical subject of the sentence. However 'Raju' remains the semantic object, 'Raju' remains the semantic subject of the verb of the sentence. Same thing happens in the next sentence. 'Siimaa ne sev khaaye', you can see 'Siimaa' which carries feminine gender along with singular number and third person does not agree with the verb 'eat'. And that is because we see a masculine marker on the verb. What we also see the plural marker of the verb. And the subject 'Siimaa' happens to be reflecting a singular number. So therefore there is no way this semantic subject would agree with the verb in to take care of the grammatical, to take care of the grammaticality of the subject for this purpose as well. What happens instead is, it looks for the next noun and the noun 'sev' which has masculine gender on it and plural marker on it agrees with the verb. Therefore the noun 'sev' happens to be the grammatical subject and 'Siimaa' happens to be the semantic subject. This also helps us see the split between two types of subject. So most of the time in natural languages, we are going to have grammatical subject and a semantic subject. Most of the time, it so happens that grammatical subject and semantic subject at least in the language like Hindi happens to be the same NP and in this case, when or at any point of where the NP is supposed to be agreeing with the verb carries any other marker, in this case, ergative marker, then they will not be allowed to participate in agreement.

This is an important feature in the in the making of a sentence. And the features like person, number and gender are relevant. languages vary from one another in terms of what is allowed to participate in agreement. Some languages would only allow person and number and not gender. For example, English, some language will allow all - person, number and gender - to participate

in the agreement patterns. For example, Hindi. What is interesting to note as a foot note here is, there is, there happens to be a hierarchy in these agreement markers. For example, if a language, so see the hierarchy is the following. We have agreement and it is taken care of by three things. They are person, number, and gender. What, in short, they are also called P N G features. What I have observed while working on the syntax of Hindi at least and I want to share it with you to understand this with clarity that there appears to be a hierarchy in the three. So, look at it: these three things are participating in the agreement. If a language allows gender to participate in the agreement like a language, let us say for example a language like Hindi, and we see gender participating in the agreement like we see in the sentences. Then what we see that these two features will definitely be participating in the agreement as well. Whereas when we see gender, when we see only number and person participating in a language like English, then we need to check and what we find is gender is not a part of agreement in English.

The moment we see the number participating in agreement in English it is easy to conclude that person will also be participating in agreement in English. It works with same constraints in Bangla and there are languages where this is not going to, where none of these features are available. But, so it is possible that none of them would participate. It is also possible that one will only participate; it is also possible that two will participate and it is also possible that all three of them would be participating in agreement. That will make agreement parametric.

But what we see as an interesting phenomena is if gender participates in an agreement, then the language will also allow number and person to participate. If number participates, if only number participates in agreement, then it is likely that person will participate and not gender what happens in English. And likewise Bangla happens to be another interesting thing. And then Malayalam happens to be a language where we don't see any one of these features participating in agreement.

This is a very interesting thing about natural language. And this becomes an important part in making of a sentence. So these are also called 'phi features' - person, number and gender. And for the purpose of the hierarchy of just what we have discussed we need to put it in this order and they are called PNG features as well.

(Refer Slide Time: 20:49)

Agreement Features

- Phi Features (φ)
  - Person
  - Number
  - Gender

So, we find all these things participating in the formation of a sentence in a very critical way. And what we see and what we need to discuss little bit more is about the role of tense and aspects. And then we need to know about the conceptual framework of a sentence and that will complete an understanding about what we mean by a sentence and what is it that we need to see. We mentioned a question so we have answered what is a sentence and how sentences are made.

(Refer Slide Time: 21:52)

Sentence

- What is a sentence?
- How are sentences made?
- How does understanding the structure of sentence help us to understand the underlying patterns of language and role of the human mind?
- Constrains on sentence-formation

We have looked at some of the constraints in formation of a sentence, that a sentence must show agreement and if it agrees with one feature then it is, it works in a hierarchical fashion. And what we mean by understanding underlying patterns of language and role of human mind in it is the operation, the computation of these agreement features. And the way human mind treats this,

where gender becomes grammatical. That is gender participates in grammar in the sense that absence or presence of gender in the language will make the sentence grammatical or ungrammatical. And the presence of gender is going to separate what we know as grammatical subject and semantic subject. Such computation helps us understand the role of human mind in processing of sentences and we understand the role of human mind in processing of sentences only when we look at these intricate details. Intricate, inherent and innate roles which we don't know, but they operate in our sub conscious and that answers this question. Very soon we will be looking at other part of the sentences. Thank you.