

Language and Mind
Prof. Rajesh Kumar
Department of Humanities and Social Sciences
Indian Institute of Technology, Madras

Module - 04
Lecture - 20
Structure of Sentence
Syntax

In this course on Language and Mind, now we have started looking at Sentences. We are looking at structure of sentences. And we are looking at structure of sentences because we established in the beginning that, by looking at the structures of different aspects of language, we try to understand role of human mind in a better way in understanding language. And also we understand language in a better way in the context of human mind, and the function of human mind for the purpose of acquisition of language.

In this connection, we have looked at two parts of a sentence. In the process of looking at the structure of sentence, we have started looking at components of a sentence, and then we established in great details that, there are two parts of a sentence: one subject, the other predicate. The predicate contains verbs and verbs in turn decide whether they need objects or not.

Either in the presence of an object or in the absence of the object, with other aspects of the predicate, the predicate becomes a complete unit, a complete part of a sentence by itself. Then we started looking at phrases and we looked at a phrase in the sense that a phrase is a smaller part of a sentence. It is bigger than a word. It could be a word, but it is a smaller part of a sentence.

And then, the question was, what is it that makes a sentence? We will be looking at what makes a sentence; but before that, we need to look at the domain of the study of sentence, and then we need to understand that in the context of the study of a sentence. The domain of the study of language which is linguistics, the domain of linguistics looks at sentences in its smaller part, which is known as syntax. The study of language at the level of sentence is syntax. A lot of things have been discussed about syntax and sentences.

(Refer Slide Time: 03:04)

Syntax

- Syntax is the study of the rules governing the way words are combined to form sentences.

- *garden the in
- *table on
- *Children are
- playing

2

We will try to understand very briefly here that the rules that govern combination of words together to make a sentence is called syntax. Now, I want to give you an example and please look at the components on the screen to check, why they are not acceptable or grammatical. The stars in front of these elements indicate ungrammaticality; the stars in front of these parts indicate ungrammaticality of these strings, the strings of these words.

So, we do not say - garden the in; that is not an acceptable combination of words. We do not say in English - table on, we do not say - children are and we do not just say - playing. Now, these parts of a sentence independently are ungrammatical, unacceptable, except the last one. And clearly, they are not grammatical because they are not arranged properly.

Therefore, the argument is the rules that show proper arrangements of words in a sentence are part of syntax; therefore, looking at this domain to understand sentences in a better way.

(Refer Slide Time: 04:41)

Syntax

- Syntactic knowledge:
 - *Humans can understand & produce an infinite number of sentences they never heard before*
 - “Some orange ants are starting to dance on microwave”
 - *Our grammar can understand and produce long sentences*
 - “John said that he thought that the esteemed leader of the house had it in mind to tell the unfortunate vice president that the calls that he made from the office in the White House that he thought was private.....”
 - *Determine the grammatical relations in a sentence*
 - Mary taught Bill.
 - Bill taught Mary.

Let us look at it in a little bit more details. We have talked about knowledge of language in our discussions of human mind, in our discussions with language and human mind and when we were trying to understand how language is acquired. The knowledge of language is a more comprehensive thing; a smaller part of that is syntactic knowledge. And what is it that we know about syntactic knowledge? When we break the knowledge of language into parts, clearly the rules related to sentences are part of syntactic knowledge. So, here are the things that we can say about it.

See, humans can understand and produce an infinite number of sentences that they may never have heard before. This is a unique thing about syntactic knowledge; this is a unique thing about knowledge of language and such a capacity is called, to repeat it again, generative capacity. So, look at this sentence. I am not sure you have heard this sentence before - Some orange ants are starting to dance on microwave.

Now, this is a pretty grammatical sentence; however, it is highly likely that you may not have heard this sentence before. However, we understand what this sentence means; we can say something of this sort in a different sentence as well. The other part of the syntactic knowledge is, our grammar can understand and produce long sentences. At this point, it is important for us to recognize and mention that human mind and the generative capacity of human mind is capable of producing infinitely long sentence. I repeat it again, infinitely long sentence.

Now, since we define it as infinitely long, it is not going to be possible for us to give an example of that type of a sentence. However, we can try to get an example of a pretty long sentence, which will help us believe, which will help us understand that an infinitely long sentence is possible and processable by human mind without difficulties. So, the example of this sentence is given on your screen, which is a fairly long sentence - John said that he thought that the esteemed leader of the house had it in mind to tell the unfortunate vice president that the calls that he made from the office in the White House that he thought was private...and on and on and on, without stopping. We can keep adding things and still, they will be part of a sentence.

Remember, we are talking about one sentence. We have looked at parts of sentence and when we are talking about infinitely long sentence, we are talking about one sentence. In the light of these things, in the light of the two parts of a sentence to begin with, namely subject and predicates and finally, and in the next step, we are saying human capacity is not limited to smaller sentences. Human mind can generate infinitely long sentences; there is a big gap in the middle. And to understand this, we need to understand the underlying patterns of sentence formation and we need to understand, what makes a sentence and that will help us understand infinitely long sentences. And that will help us understand, how and why human mind produces and has got no difficulty processing infinitely long sentence.

The syntactic knowledge also includes the capacity to determine the grammatical relations in a sentence; we have looked at grammatical relations yesterday. We have looked at...the subject and predicate are in grammatical relations; inside the predicate verbs and objects are in grammatical relations. Therefore, the terms like subjects and objects indicate grammatical relations and this, such a capacity to determine the grammatical relation in a sentence is part of syntactic knowledge.

For example, let us look at the two sentences - two brand new sentences on your screen - Mary taught Bill and Bill taught Mary. These two examples help us understand that Mary is the subject of the first sentence by the virtue of being in a particular place, by the virtue of being in a particular position. There is nothing, subject like, associated with the word Mary; in a different position, as in sentence two, it could be an object; and the same applies to the proper name Bill. In the first sentence, it is an object, in the second sentence, it is the subject. The grammatical relations between Mary and Bill in sentence

1 and Bill and Mary in sentence 2, is part of syntactic knowledge, which is part of human mind.

Now, all these things constitute knowledge of language; all these things constitute a specific capacity of humans, which is attributed to human mind. Now, it is also important for us to understand, while understanding the domain of study syntax, that it has been argued that the study of sentences, the domain of syntax, is independent.

(Refer Slide Time: 11:31)

Independence of Syntax

- A sentence with clear syntax but no meaning:
 - Colorless green ideas sleep furiously.
 - A dog was reading a newspaper in the library.
 - I gave the question to dancing flies.
 - *Furiously sleep ideas green colorless.
 - *Reading dog newspaper was library in.
 - *flies dancing questions I gave to.
- Sentences are composed of units that are combined by rules. These rules explain how speakers store infinite knowledge in brain.

Sometimes, it is referred to as independence of syntax or autonomy of syntax. It simply means the following. It means that the relationship between components of a sentence and the underlying rules of those relationships and underlying patterns of those rules are part of syntax. However, the meaning that the combination yields is not part of syntax. The fact that meaning of the sentence, meaning of the total combination is not part of the sentence is referred to as autonomy of syntax.

Now, let us take a step back and see. Words have meanings too and about the meaning of words, we have said, meaning to a word is arbitrarily assigned. Meaning to a word is arbitrarily assigned. Why a word means, what it means has got no logical evidence or connection. A word computer – means computer, has got no reason for that. Why we call a book – a book, has got no reason for that. This is called arbitrariness, which is also one of the features of human language.

Now, we are talking about the total meaning of parts of a sentence together, when the sentence is fully ready; how it acquires the meaning that it has; that is, how a sentence acquires the meaning that it is not part of syntax, is what has been argued; and sounds pretty convincing to a great extent.

When we look at some of the examples like - colorless green ideas sleep furiously; we have looked at this example a couple of days ago as well. Please look at this again. The sentences are like - colorless green ideas sleep furiously. Please pay attention to this sentence. This sentence sounds pretty grammatical; perfectly grammatical and normal. A dog was reading a newspaper in the library - pretty normal sentence, perfectly grammatical. I gave the question to dancing flies - pretty normal, grammatical sentence, according to the native intuition of speakers of English.

However, when we try to twist these sentences a bit as you can see on the screen, the ungrammatical or unacceptable counterparts in blue, like - furiously sleep ideas green colorless - not an acceptable string, not a sentence. Reading dog newspaper was library in - not a grammatical sentence; not a sentence, because it is not a grammatical sentence, and because the parts of the sentence are not in the proper order. Flies dancing question, I gave to – again, not a good sentence.

So, the grammaticality of these sentences is not dependent on their meaning; meaning therefore is independent of sentence. Sentences are composed of units that are combined by rules. These rules explain how speakers store infinite knowledge in brain; infinite knowledge about sentences in brain; infinite knowledge of language in brain.

We would want to talk about a few more things in this connection of the study of syntax...of the domain of the study of syntax. Most of these things started in 1950s with Noam Chomsky.

And the term - generative, we have been using the term generative in the context of generative capacity and generative grammar; we need to understand this as well. The term generative means a very explicit system of rules specifying, what combinations are basic elements. Let us understand generative thing. The term generative means - a very explicit system of rules specifying what combinations of basic elements result in well-formed sentences.

(Refer Slide Time: 16:38)

Generative Grammar

- Noam Chomsky 1950s
- *Generative* = a very explicit system of rules specifying what combinations of basic elements result in well-formed sentences.
- Defines the syntactic structure of a language.

The well-formedness of a sentence is part of generative capacity; is dependent on our generative capacity. It defines syntactic structure of a language; therefore, the term generative grammar.

(Refer Slide Time: 16:57)

Generative Grammar

- “all and only” = all grammatical sentences and only grammatical sentences
- Finite rules → infinite number of well-formed sentences
- Productivity of language
 - Principles and parameter governing language

And that means, all and only - all grammatical sentences and only grammatical sentences. They generate...the generative capacity of humans generate, all grammatical sentences and help us understand, why sentences may not be grammatical. It has finite rules; however, it can generate infinite number of well-formed sentences; and principles

and parameters governing language is part of productivity of language. All these are components of generative grammar.

Thank you.