

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

Module – 05
Lecture - 25
Sentence
IP (Inflectional Phrase)

We are trying to understand structure of sentence and we have underlined the significance of such an understanding for a better perception on the role of human mind in understanding structure of language, in understanding language as it is. So, to see the structure of sentence, we have gone through parts of sentences; we have gone through the categories of parts of those sentences; and then, we want to now look at phrasal structure under which even a sentence is a phrase.

So, here is what we have seen as parts of sentences. There are two parts of a sentence: a subject and a predicate. Each one of them are equally important for a sentence. We do not have a sentence without each one of them. Both of them are significant parts of a sentence and essentially required units of a sentence. Then, we looked at predicate and we realized that verb is actually the nucleus of the whole sentence, in the sense that verb is the essential part of a predicate and it also takes care of...that is, the nature of the verb dictates whether or not a verb will need an object. At the same time, other parts of the sentence which are not part of verb, which are not required by verb are also part of predicates.

So, we looked at two types of categories: lexical categories and functional categories. Lexical categories are the items like nouns, verbs, prepositions and adjectives. Functional categories are... the things in functional category are: a number, person, gender and tense or aspects. Then we have looked at what is it that we call a phrase and we have also looked at structure of a phrase. Today, we want to look at the structure of the whole sentence and we want to understand, why we call a sentence also a phrase.

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Phrase Structure Rule

- Students of physics like pizza in the evening.

[S/IP/TP/AgRP [NP Students [PP of physics]]

[VP like [NP pizza] [PP in [NP the evening]]]]

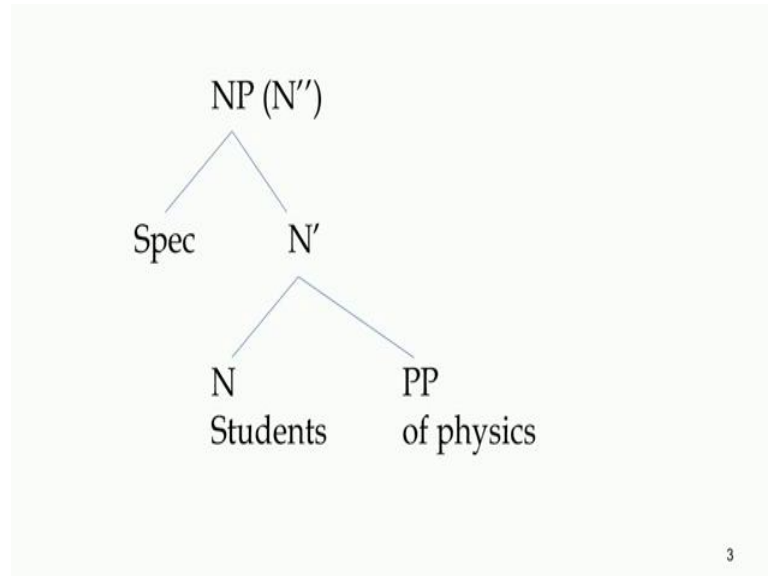
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So, here are the things that we have seen. We have taken an example of a sentence - Students of physics like pizza in the evening. Then, we try to analyze the components of this. That is, 'students of physics' is a phrase, is a noun phrase and the phrase, the whole phrase is the subject of the sentence; 'like pizza in the evening' is the predicate, out of which the whole thing is called a verb phrase, where 'like' is the verb and 'pizza' is the complement of the verb; and 'pizza' therefore, is a required part of the verb. 'in the evening' - though not a required part of the verb, still belongs to the predicate.

And then, we have seen that 'pizza' is the complement of the head V in the verb phrase, whereas PP 'in the evening' is not the complement of the verb phrase. We looked at the structure of a phrase in the particular way that... where we have three different layers: maximal layer, an intermediate layer and a terminal layer - that is a lexical layer.

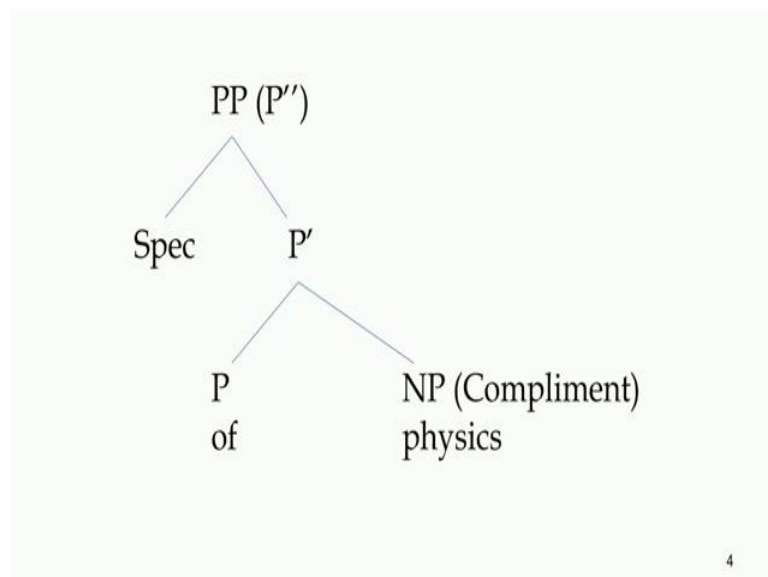
We have seen that each phrase would follow a template of a phrase; that is, phrases are defined in a particular way, where different elements in a phrase, different layers of a phrase, indicate hierarchical relationship between the elements of a phrase. Then, we have seen how they combine together.

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For example, a noun phrase 'students of physics' has 'of physics' which is a prepositional phrase as the complement of the noun 'students'; and it does not have any specifier.

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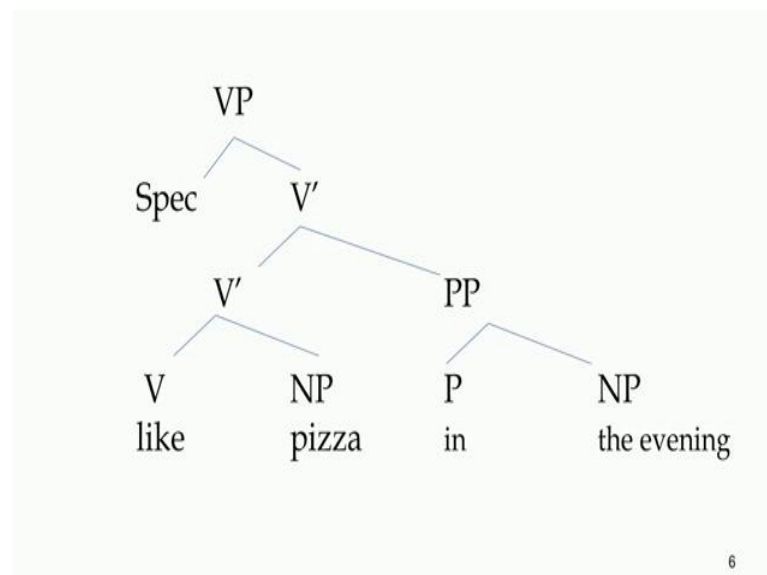
In the prepositional phrase 'of physics', 'of' is the head of this phrase and because of the head being preposition, this phrase is called prepositional phrase. And the preposition takes a noun phrase as a complement of this head, which is 'physics' in this case. And then, when we want to see them together - students of physics, this is how it looks like.

So, we have just...in this structure, we have only expanded PP and tried to demonstrate that the whole PP 'of physics' is the complement of the head noun 'students'. And in the second one, the head is a preposition and the whole NP 'physics' is the complement of that preposition.

So, this is the structure which indicates how two different types of structures are combined together. Then, we have looked at a verb phrase, where we tried to understand the relationship between the verb and an object, in the sense that, the whole VP which is 'like pizza in the evening', which is the whole predicate, the structure on the screen tells you about the proximity and relationship between different phrases in the predicate.

If you look at the structure carefully, this is what you find and see that this structure is maintaining the template. It starts with a specifier; there is no specifier of this verb phrase; therefore it is left empty. Then we see intermediate category, which is a V bar. Then, we see V bar splitting into two: V and NP, where NP 'pizza' is the complement of the verb, which is the head V and then we see the relationship between the head and the complement is very, very close. The same node splits into two and that defines the relationship between the head and the complement.

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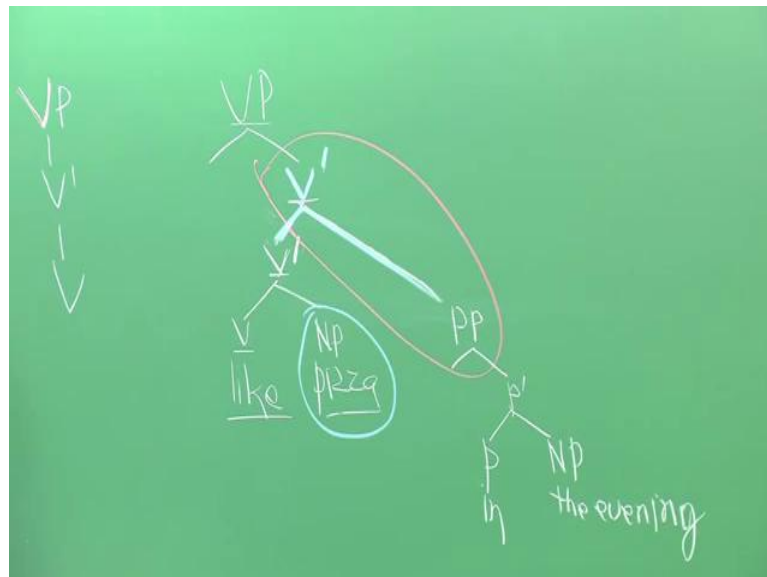


We again see something as a PP, which is 'in the evening', where 'in' is a preposition, head sits on phrase and it takes an NP – 'the evening' as a complement and therefore.. and that PP has a different status in this sentence. We come back to that status, the status

of PP, that is, 'in the evening' in a minute, to understand the similarities and distinction between two types of phrases – Like, the relationship of 'pizza' with the verb 'like' and the relationship of the phrase 'in the evening' with the verb 'like'. Because, both are part of the verb phrase and both are related to the verb phrase. Therefore, the relationship of each phrase with the verb has something to tell us.

First, we would like to look at the structure of the entire IP for us to understand why we call a sentence as an inflectional phrase; why a sentence is also a phrase. Let us look at this and for the purpose of simplicity, I am putting 'John' as the subject and not 'the students of physics'. However, even if we have that big NP, heavy NP in the subject position, for the simplicity we can just put all of them under that NP 'John'.

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Now, we have seen things that are part of VP. And here are the things that I want your attention to. So, this part is an important part. Look at this bare structure first. So, this is maintaining the template of X bar. This is a maximal layer, this is an intermediate layer and this is a terminal layer. We see two nodes of intermediate layer; we are coming to that and we will look at why we need two of them. But, this is a minimum template. We want 'like' here because that is the verb, which is the head of this whole phrase.

And then, this is the place for a complement, which is an NP in this case and namely, 'pizza'. Now, this is a verb and this happens to be, the NP 'pizza' happens to be the object of this verb; this is what a verb phrase would normally look like. In this case,

remember, we mentioned it in the beginning that the whole idea of this intermediate category with single bar, after which the whole phenomena is known as X bar; so, in this case V bar.

The introduction of this intermediate category is for various reasons. The first one is, it helps us maintain binary branching and with the notion of binary branching, we can demonstrate very nicely, with a hierarchy, the relationship between different elements within the phrase and relationship of those elements, with respect to other phrases as well. That is how... this is why... that is one of the purposes of the intermediate category.

The secondary purpose of the intermediate category is for us to get more and more space for different kinds of phrases. Now, the whole phrase 'in the evening' is talking about 'liking to eat pizza in the evening'. Therefore, this phrase is part of the whole VP; we only need space for this phrase within the VP and with two of them, we are only trying to create this space, this space for a PP.

What does this give us? What this tells us? What this space, this branch and creation of this binary branching with the help of an additional V bar, allows us to create the space for a PP within the verb phrase. If you try to remove this thing out, then we can see that we are still talking about... Then, in that case, we are still talking about VP, V bar and V, like VP, V bar and V.

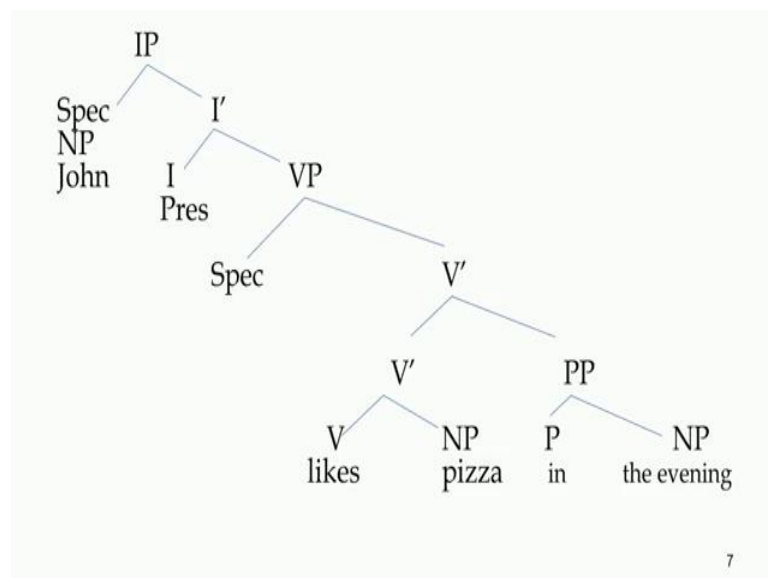
And introducing an additional V bar with the notion of binary branching, we are getting another space for PP. Now we want to see what does this buy us? This space simply tells us that the relationship between 'pizza' and... in the relationship of this NP with respect to this PP, which is – 'in the evening', the first thing that we see is the relative distance between this NP and this whole PP.

This PP, you can see the same thing on the screen that you have seen before. You may see minor differences in the drawing of the whole tree. On the board, I am trying to show you each and every node; on the screen, we have tried to simplify some of them. So, while drawing PP, we see, because this PP does not have any specifier, we do not need more space in this. So, we can start with P and NP and that is a shorter way of doing this.

However, such a thing assumes that this is going to have a specifier also. This can have a specifier potentially. But, because it is not available here, so we can make it short and we can simply say P and NP. Now, the important part is to see this NP 'pizza' is too close to the verb 'like'. Whereas, this PP is notionally far from the verb 'like'. This we can capture beautifully with the notion of this whole structure, which is known as X bar, where X is a variable, where different lexical elements can be projected.

This is about VP. How does this work with an IP? Please pay attention how we bring in the subject and we connect subject and the predicate, and where is the role of the functional element that we have discussed, which play a role as part of agreement.

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Now, if you look at the screen again, you can see the specifier of an IP, which is the top thing in the structure, is the space for a subject; and then, it gets branched into I bar and then, we go to I. Therefore, the head of this IP is an I, which is a position in this structure, you see, 'present' there, because the tense of the whole sentence is present and we are indicating tense in that place.

However, that place is for several features together; the whole cluster of things can be put in that place like: number, person, gender, aspects, tense. Given this structure so far, we can put a whole lot of features under the same head; that head is called inflection. Therefore, we say a sentence is headed by inflection; and therefore, we call a sentence, we give the title of this head as IP and therefore, we can say a sentence is equal to an IP.

Then we can clearly indicate the head of the IP is I, which is bunch of features and the complement of this I is going to be VP, which is the entire predicate. This is how we get the whole sentence projected; this is how we represent whole sentence. This is a template for a sentence where you see representation of a subject, you see representation of functional elements as the head of the IP and the whole predicate as VP, where you see, in the nucleus of the VP, the head V - the verb; and then, it also maintains relative distance between its object and something, which is just an additional information and not really a required element for the verb, which is PP – ‘in the evening’.

This is a canonical template for any sentence. This helps you understand the structure of a sentence and each sentence can be represented with the phrasal structure that you see here as a template. And this helps us understand all the elements that we have seen about sentences so far. We will be looking at couple more aspects of sentence shortly.

Thank you.