

## **Basic of Language Science**

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### **Lecture 24**

#### **Components of a Verb Phrase**

Today we will look at complement and adjuncts distinctions. I think we have developed a fairly good sense of what a complement is and what an adjunct is, right? I am carefully saying that we have developed a fairly good sense of what a complement is and what an adjunct could be, ok. We do not know much about their structures so far.

We do not know much of their function so far. And at the same time, we do not know much about what is called an adjunct and how something becomes an adjunct, a phrase becomes an adjunct. So, first of all, let us begin with some of the features of adjunct and some of its names. We are going to try to answer both these questions today.

So, like you have seen, a complement is a required element by the verb, ok, in a verb phrase. When we talk about a transitive verb and its object, when we say the object of the verb, object of a transitive verb is a required element we also mean the object of a transitive verb is actually the complement of the verb. In terms of configuration that is in terms of a structure of a phrase. We can say a complement belongs to the head and the head requires a complement.

In the entire phrase the whole status of a complement is it is in a sister relationship with the head which gives us space that any head could potentially have a complement. Ok, verbs are going to have objects as they are complements or whatever comes in the complement position becomes the complement of that verb. Likewise, a noun phrase in a noun phrase, what is going to be the head of a noun phrase?

A noun, that noun could also have a complement. Ok, in a PP what is the head of a PP, a preposition. A preposition could have a complement which is usually going to be an NP right. It is easy for us to say here that most of the prepositions are almost all the most prepositions in languages like English, French and others are going to take NP as a complement. In our languages, most of the post positions are going to take NP as a complement, ok.

Remember it comes from the descriptive aspect of language that we have seen so far that prepositions are only going to precede a noun, remember this? So, if it is going to precede a noun which in technical terms simply means a preposition is going to have an NP as its object, ok. So, we see the head of an NP and could have a complement, a head of a PP, a preposition could have a complement, head of a VP, a lot of times have complements.

And we know the situations when they can and when they cannot. Ok, and also now we know the head of the IP, which is an inflectional phrase and what is the head? I can also have a complement which is going to be the entire VP all right. So that is the notion of complement which is the, in the structure of a phrase the position of whatever comes in the position of the complement in the sister relationship with the head is going to be the complement of it.

That is more or less to say that the required elements are called complements. Now, things that are not required structurally for the purpose of a sentence are called adjuncts. All kinds of things like adverbs or the entire PP sometimes an NP, sometimes a whole clause or a sentence could be an adjunct. Ok, it depends on which sentence we are looking at. So, when we come to that, we will talk about that.

How do we represent it in a, how do we represent an adjunct in a structure? We adjoin it to the phrase it belongs to. How do we adjoin it? We create another space with the help of the intermediate category and then we just adjoin it, that whole process of creating another space through the intermediate category is called adjunction.

Ok, it is called adjunction. Ok, then the question is how do we distinguish between them further? Ok, I am going to talk about that distinction shortly. Before that we were looking at this sentence right and this structure.

So, the reason why I still have this structure for you, is just for you to take a look at. Is there any question about this structure?

Student: The order in which agreement tense and aspect comes?

Professor: Well, let us not worry about the order right now ok.

See in the order, I do not have much to say about the order right now. However, all I can say this is given in the right order, the way it should be. Ok and therefore I have not put aspect first and tense first or something else. Since you have asked this, I can say one more thing which I have already said yesterday and one new.

One thing is once we break this I into various components then there is no need of I ok. Once each component of I is going to project itself in terms of a phrase then there is no need for something which combines them together alright. So, we need an I or IP. We call a sentence an IP only when we are putting the whole thing agreement, tense, aspect everything as a bundle of features in the head position of I. Ok only then we need IP for the purpose of simplification or you can say for the purpose of combining everything together alright. So, when we remove that, we start with AGR, AGRP ok.

Student: Sir why we write I there, when all the features are on this side of a branch. Why do we need I on that side?

Professor: Which side?

Student: AGR branching on of I dash.

Professor: So, all the features are on which side, this side.

Student: Right side AGRP and TP, ASP aspect. These are on the list under I.

Professor: Oh, right now it is listed under I, right now it is listed under I because it has expanded from I ok.

Now, the most important point that I am trying to make is there is no need for an entire IP. Ok, so leave it right now this way but there is no need for an entire IP once you start seeing it in terms of agreement phrase and then tense and then aspect. Ok I have kept it so that you can see that agreement, tense and aspect have branched out of I, that is all is the purpose so far. So, I want you to look at this structure as removing something from, removing I from here that is removing complete IP from here.

Now the other thing which I want to tell you is that in many cases, people just talk about TP. Ok, TP that agreement is also not that significant for those people who start with just TP and they say look, what is important in a sentence is basically tense and tense takes care of the agreement also.

But let us not go into those complications, for the purpose of our point I just want to tell you that when we come, there is a way to combine all of them together and put them as a bundle in I that therefore we call the sentences as IP. If we want to expand them then there is no need for IP and we can start with these phrases, agreement phrase, tense phrase or aspect phrase, second point.

Third point, all that higher up VP is called a functional layer. These are the 3 important points from this structure that I want you to see. And then it starts a lexical layer from the VP. Ok there is another process which I am going to talk to you very soon which is called displacement. Ok, in other words movement. Elements from the lexical layer move into the functional layer to combine with them.

And then they give us a surface structure that comes a little later. I am just mentioning at this moment for you to be prepared for that, a VP moves to TP. I am sorry, what moves is not a VP from the VP, V that is head moves to T ok and then the verb gets tense combined and then we get tense on the word in the surface structure that comes a little later. I will show you those things with evidence. Right now, if I just mentioned these things they are not going to make much sense.

So, let us just look at only in terms of functional layer and lexical layer for the time being. And then as you know this is potentially, not potentially this is the structure for the sentence that I, we have been looking at. Students of physics like pizza in the evening and we have seen how VP works, how the subject NP works, and then what is the functional layer and what is the lexical layer so far that ok?

Can I move? Ok, any other question? Anyone? Before I move to complement and adjunct and talk more about this. Is this ok? So, with that I am moving to complement and adjunct distinction. We have not been not really been delaying a discussion on that. We wanted to take care of other things first, that there are a couple of more things about the structure that we need to take care of but we can that can come little later.

And every relationship and everything that we are going to see now onwards is going to be in terms of structural relations. So we are going to be looking at structures more anyway. So let us look at this thing.

In this sentence, the same one that we have been looking at, we know that NP pizza is a complement and PP in the evening is an adjunct. The question is, this is what I am telling you right and this is what I have tried to show you in some sense that pizza is an object, therefore a complement.

But that description does not necessarily make sense in the evening in an adjunct. At best what we are saying is pizza is the complement of the verb of the V in this sentence right. How do we test these things?

There are 2-3 tests that I can show you for this and you will be able to see that these tests really work and they make sense in the following way. So this is the structure of an adjunct. This is how adjunct is represented in the X bar scheme. In the blueprint of the structure, in the original structure of a phrase there is no space for adjunct.

Ok, in the original structure of a (space), of a phrase there is no space for adjunct. By definition they get adjoined. In fact, that is also one of the reasons they are called adjuncts because they are adjoined, additionally adjoined.

When we were looking at this NP we said, of physics is the complement, as a PP of physics is a complement of N. What makes it a complement? And how do we test it? Because just now in the sentence we have seen in the evening as a PP is not a complement. So, complements or adjunct are not, ok let me put it this way. If PP is not going to be either a complement or an adjunct all the time, depending upon its nature, depending upon its internal features it could be a complement, it could be an adjunct at times. In this PP, we have already discussed NP as the complement of this P.

Now I want you to look at a few more phrases, these are all noun phrases right, they are all noun phrases. King of England, student of physics, student with long hair, a student of physics with long hair, ok. Are they all NPs? You see that some of them have compliments. What you see in red? There are all supposedly complements of the head N. And what you see in blue or is that blue? That blue, is they are adjuncts in the phrase right. Ok.

When we look at this VP, we have already seen the VP. We know that in this sentence Mary will meet with her doctor at 5 pm, with her doctor becomes complement and at 5 pm is an adjunct. In this phrase, we have both within NP we are looking at a complement and an adjunct right. Where do you see this adjunct, adjoined in the PP?

Do you see at least the adjunct comes the same way you have seen an adjunct in VP? Ok now at this point I want you to keep in mind that all the structural notations that we have discussed so far none of the phrases you have seen violating such notations that is these are not arbitrarily decided ok. It is never going to happen that an adjunct is going to be arbitrarily adjoined to something else.

Ok this adjunct in the whole phrase, a student of physics with long hair. If the PP with long hair is an adjunct, this adjunct is not going to be adjoined anywhere else such as VP or something else. Can you make a bigger sentence with this noun phrase? Student of physics with long hair is not a sentence. Can you make a sentence with this? I want a VP with VN complement.

Student: Student of physics with long hair walks down the corridor.

Professor: Walks down the corridor is great but walks down the corridor is the VP. But it does not have a complement, do you see? Do you understand this? Nice.

Student: With book in her hand.

Professor: Still does not have a complement. Still does not have a complement. As long as you keep the verb walk, you keep adding everything.

You know from the very beginning that a sentence can be infinitely long. The moment we say infinitely long, we are not going to have a physical example of that, that this is an infinitely long sentence. We can only understand that a sentence is infinitely long. Why does this NP not have a, why does the sentence that your friend Sandeep said not have a complement because the word walk by nature cannot have a complement?

And everything else you keep adding to the end of finiteness they are all going to be adjuncts. And you can keep the way you have seen the structure developing this structure allows you to have infinitely long sentences because the process of adjunction is simply recursive. There is no end to which you can keep adding an adjunct but the space of the complement is still going to be open.

Ok, the moment you have a transitive verb there, you put anything else or not that is going to come. The NP is going to come in a transitive verb in the complement slot. So, can you try it again? A student of physics with long hair is eating pizza. Alright that is fine. But we get the point? Then once we have a VP what I was trying to tell you here with this example is the PP, adjunct PP with long hair cannot be adjoined within VP.

Ok, the adjunct PP with long hair cannot be adjoined within VP. Why? It is not part of VP. This one even though it is an additional stuff, this additional stuff provides us additional information about the NP, not about the PP. I am sorry, not about the VP. Therefore, it belongs in NP. So, keep that in mind. Keep the following things in mind X bar structure. Ok each phrase that you have seen so far longer or individual phrases are not violating its integrity.

That is each one of them is guaranteed to have a specifier, head and complement. They are keeping the specifier head and complement. Sometimes that phrase may not have any specifier; it is leaving that position empty. Sometimes the phrase may not have a complement. It is leaving that place empty.

If something is adjunct that comes in an adjoin position, things are going in proper places. So we are not violating any phrasal integrity. You have seen this much so far. Now why is, what are the features of a complement and features of adjunct? Let us look at that.

When we say, ok this whole notion of complement and adjunct helps us solve one more thing. When we say John is a student of physics. What is the meaning of this? What does it mean? Student of physics, student who studies physics, is that right? When we say John, a student with long hair, does it mean that the student studies long hair? No. This distinction is not making much of a sense until now. Hold on I am coming to that.

Before that I have already talked to you about this with the pizza example of where we, I wanted a VP. But can you guess why these sentences are ungrammatical? John will imitate, Mary will abandon and Tim will reconstruct. These sentences are not good sentences for speakers of English. Why are these sentences not good sentences?

Student: They are transitive verbs.

Professor: Each one of them is a transitive verb, transitive predicate and they are missing their complements. A transitive predicate missing its complement is going to result in ungrammaticality.

Ok, that is, there is one more aspect which I will discuss with you probably tomorrow, it is called thematic grid of a sentence. Remember, I think I have mentioned something about selectional restriction to you, did I? Briefly mentioned selectional restriction, I am going to again talk to you about thematic grid in which I am going to show you how complements or what are required by the verb gets other roles and assigned and how such roles are assigned.

But look, these 3 sentences are ungrammatical because they are missing its, missing their complements, alright. Now, how does it, how does this dichotomy or phrase structural X bar theory help us resolve the ambiguity between a complement and adjunct?

Let us look at that now. Enough of, we can make the distinction between a student of physics and a student with long hair. Let us look at this sentence, this phrase. Students of high moral principles, do you, if I tell you that this sentence, this phrase could be ambiguous, that is this phrase could have two different meanings. Does it even come to you that, do not look at the screen for a moment? Do you believe that this phrase could be ambiguous? Yes? No?

When I looked at this phrase for the first time, it did not come to me alright. I believe it because you were telling me so, but I do not get how this phrase could be ambiguous. That also is an example of knowledge of language that because I am not the speaker of English this ambiguity does not automatically pop up. Ok, as a non-native speaker of a language, I need to look at it carefully.

In the cases when of high moral principle is a complement, it means something else. The same phrase could be an adjunct and then the sentence, then this phrase could mean something else. So, when we say a student of high moral principle with a complement, the whole PP as a complement this phrase means a person who studies high moral principles, ok.

And when it is not a complement, it means a person who has high moral principles. Ok now, this kind of ambiguity is not available with the students of physics. In that we have only one reading. The person who studies physics, we cannot say the phrase also means a student who has physics. Agree with me? I can say I am talking about something subtle but it is not really that subtle.

It should be and if it is not so obvious but it should be obvious now that we in order to see the ambiguity and the distinction between complement and adjunct and what it does and how they, how their distinction contributes to different meanings we need to see a phrase like this, student of high moral principle. It could be ambiguous in 2 ways. One that a student who studies high moral principles.

Imagine it is a major, it is a discipline right someone doing a well M Tech is not possible in high moral principles but you can do less of some diploma in high moral principles right like people do diploma in judiciary and all kinds of things. At the same time someone who has high moral principle in the sense that who practices high moral principle.

These are 2 different things. We have some very obvious phrases. Students of English, students of physics, ambiguities are not available there because they are, those things are categorically complements, simply means one thing. So, this distinction between complement and adjunct helps us reduce this ambiguity.

Next, how does the syntax work for these things? Syntactically speaking, these are the things that you can say. When we have both a complement and adjunct, a complement is always going to proceed the adjunct, ok. We have just seen the phrase student of physics with long hair, of physics is a complement because if you reverse the order of the 2, the sentence is going to be, the whole phrase is going to be ungrammatical.

We cannot say a student with long hair of physics, can we? Now without understanding the distinction between complement and adjunct, if I asked you this question. In fact I should have asked this question before.

What is wrong with this phrase? Students with long hair of physics, trust me it is not possible to answer this question without understanding the proximity requirement between phrases. You understand what I mean by proximity requirement? Here is the point that I am talking about.

See, we are talking about an XP, this is the proximity. We have the head, student. Am I right here on this phrase and the complement is a PP. I am just going to leave it here that this PP of physics and we have another PP as an adjunct with long hair. Now if I put of physics here and then with long hair here, this is going to yield ungrammatically because this slot is for complement. And if there is a complement, it should be in close proximity with the head.

This is the only reason why this phrase in B is ungrammatical ok. If we do not know this distinction then we can only say look, this does not make sense. You would still be right, a speaker is still right. If you ask any English speaker why this phrase, why is the phrase not good ok.

The person can only tell you this does not make sense, you have to say it this way, that is an intuitive judgment, does not have an explanation. With all its advantages that you have seen so far over phrase structure rule, these are the things and these are the subtle nuances which can be explained through X bar theory.

And this also helps us understand the role of an intermediate category in a better way than if we did not have this intermediate category then there is no way to project adjuncts. So, now bring it in your mind, the structure of a phrase with multiple branches. In that we are going to have an N, we are going to have 2 PPs.

We can also have a determinant because multiple branching by definition says we can have as many branches as possible. But then we can only say one PP is the complement and the other PP is adjunct. And one has to believe you that really does not make a structural distinction between a complement and adjunct. The introduction of the intermediate category helps us capture this thing configurationally. No ambiguity left behind.

Let us look at one more thing. The adjunct could come in a recursive fashion. How many complement slots do you see here? In the whole phrase, how many complement slots do we have, just one. Therefore, a head could have just one complement. The structure does not give us a space for more than one complement in a phrase.

Whether we are talking about the VP or we are talking about an NP or we are talking about a PP by structure we have only one slot for a complement. How many slots do we have for an adjunct, as many as you want, infinite slots. We can keep adding adjoining things and it will give us the whole infinitely recursive, infinitely long sentence in a recursive fashion, but we can have only one complement.

I have just asked you this question before with the sentence that Sandeep was saying. The student of physics was walking in the corridor, walking is a verb that does not have a complement where we can keep saying walking in the corridor with books, with friends in the evening for nothing. You can keep saying everything that you want, but does not have a complement.

And if it were to have one it can have just one which is taken care of by the structure that you have seen so far and the structure helps us understand that a phrase could have just one complement. Is that what we are talking about here? In principle it could apply an arbitrary large number of times but complements recursion is not possible. Therefore, you see this kind of sentence is possible.

But what is not possible is this. We cannot say students of physics, of chemistry, right? What we if, if we at all end up saying with grammaticality, what we mean is students of physics and students of chemistry. This string at once is not grammatical and again this structure helps you understand that the syntax of complement and adjunct becomes clearer with the help of the structure that this string is not possible just because we have just one slot for complement right, yeah.

Student: A phrase something like this, a student of physics of high moral principles, then of high moral principle is bound to become an adjunct, right?

Professor: Yes, if we have if a phrase has already had a complement, the second one will not be the complement, will be the adjunct. And in that case, I think what is in your mind is we do not have any ambiguity left. That phrase only means a student who studies physics has high moral principles that is all.



It does not mean the student who studies physics studies high moral principles. Just one meaning, no ambiguity left. So only that the second phrase could only be a complement, could only be an adjunct and that we know very categorically once we have phrase structure in mind, clear? Anybody? Anything else? Yeah.

Student: Since you said that only one complement space, so for ditransitive verbs to both the objects come in that one complement space?

Professor: Very good question, what is that? What are you going to do with the ditransitive verbs then right? No, both of them will not come in, hold on for that. I will show you that right. You understand the question, a very significant question. We have said, we have established that there are some verbs which take two complements.

Again, when I talk to you about thematic relations, I am going to show you tomorrow that when we say one complement, we mean the total number of and these things are called arguments, complement. These things are, semantically speaking they are called arguments. There is not much in the name, whatever we call it they do not change.

So, if we have one complement, then the whole sentence has two arguments, namely one complement and the other subject, two arguments. If a sentence does not have any argument, any complement it has got one just one argument. And if a sentence has two complements then it has three arguments. Each one of them are assigned different roles, I am going to show you that again, so, no going back from that. Then the question is how do they get represented in this structure when we have just one slot for complement.

We have to, at least you can guess, right that we have to do something that may look ad hoc, by ad hoc I mean it is going to be a modification on this, right. But they have to be here and there has to be a difference between the adjunction of an adjunct and some modification for a complement. This much you can see? But let us hold on to that before I show you that, very significant. Anything else? No.

It just follows that you can look at it since we cannot have two complements in a phrase. So, there is no question of reordering. By definition period we just cannot have two. If two of them are allowed that is if two adjuncts are allowed then it is possible to freely reorder them whichever way we want to reorder.

Now, we can apply these things as tests also. If two of them are allowed and by allowed what do we mean by allowed? If still, if we have two phrases and still the phrases grammatical then we know both of them are adjuncts. There is no complement here, ok. If we are going to have a complement and an adjunct then inter change of position is not possible.

By not possible we mean it is going to result in an ungrammaticality like we cannot say a student with long hair of physics. This kind of thing is going to be allowed alright. So, these are just simple tests keeping two things in mind, phrase and the phrase structure. All these things that we could say about complement and adjuncts are only possible when we understand this structure, ok.

