

Basics of Language Science
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Lecture 23
Complements and Adjuncts

We have been looking at X-bar theory in order to see how a sentence is structurally represented. To see how a sentence is structurally represented, we have looked at the structure of a phrase, that is, the internal structure of a phrase, what it consists of and then how they combine with another one. If you see a little bit beyond the structure of a phrase or with the help of a structure of a phrase about the process of combination of a phrase with the other phrase, there are two things that come up very significantly and they are the relationship between head and a complement and the relationship between a complement and an adjunct. That defines to a great extent how the structure is going to look like.

But before we come to this distinction and how to represent a complement and an adjunct, I will again go back and talk to you a little bit about how a sentence is called an inflection phrase and then what are the components that are called inflection and how they are represented in this structure. So, these are the two things that we hope to have done today. Let us see how we go through this thing.

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Phrase Structure Rule

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

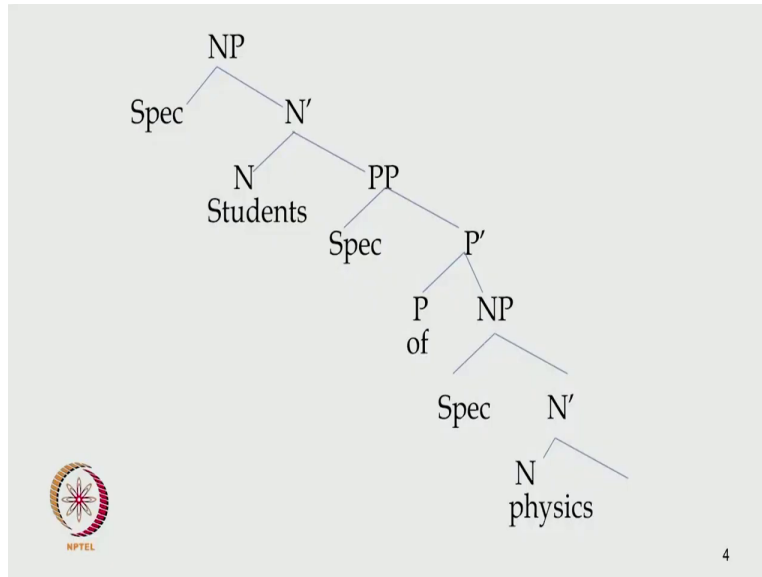
[VP likes [NP pizza] [PP in [NP the evening]]]]

S = IP = TP = AgrP



So, to take you through these things again, no questions here, we understand. The phrase structure, that is, in this representation we are trying to put categories to, we are trying to indicate phrases in the sentence and its relationship with another phrase.

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This is how we looked at a noun phrase which is, students of physics, right. We are still working with the same sentence for the purpose of simplicity and for the purpose that we understand the sentence and the structure properly. So, this is how a sentence is, how a noun phrase is represented where the important part that I want you to look at is the head of the first NP has PP as its complement and then in that PP the head is P which is, of, and another NP is the complement of that P.

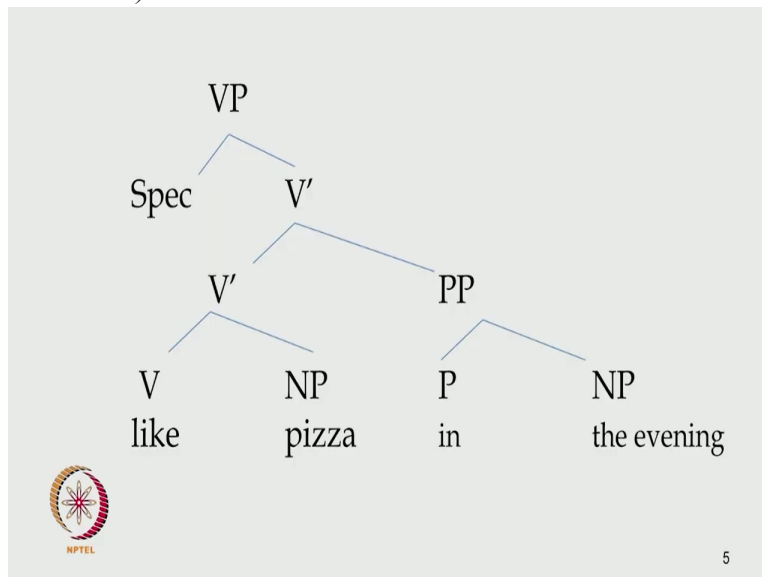
See complements belong to heads. When we say in the first NP, we have PP is the complement of N, that is, complement of head. The relationship whatever it denotes, whatever we mean by complement, complements are of heads, making sense? Complements are of heads, not to the phrase; however, a complement is part of a phrase. A complement is part of a phrase but it belongs to heads.

We are going to look at, as I promised you, the relationship between a complement and adjunct and the differences and similarities between them and once we are done with representation of this structural representation of a sentence and phrase, we are also going to look at some configurational relationships. That comes up a little later so let me not

talk about them. And then again in the last NP which is the complement of P, you see we have N which is the complement is an NP which in turn is an N, which is, physics, and in this one you see there is no Spec and no complement any further and then it stops there.

However, the spaces are available which means again this physics, this N, physics, can potentially take another complement but it does not have any in this case. Is this structure clear now? This structure is clear to everybody now.

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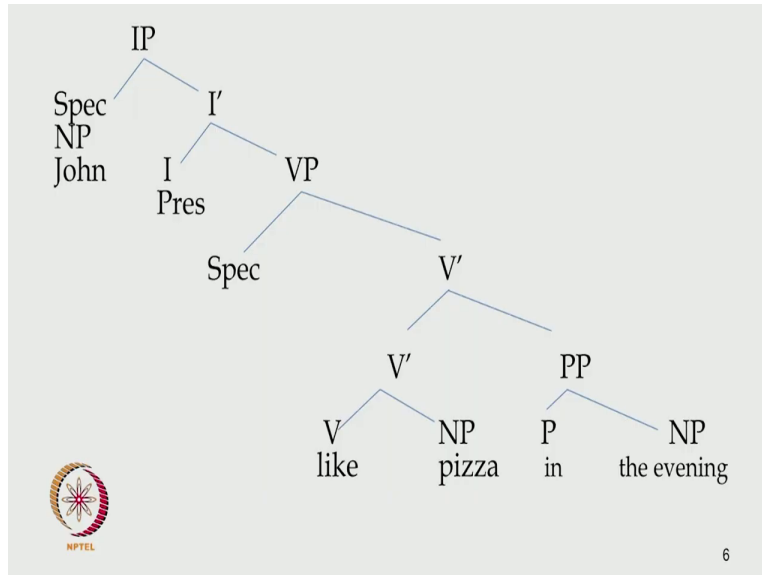


We looked at the structure of the VP yesterday. We did not have questions so far, right, was good. Here again we have two things to keep in mind, the NP, pizza, is the complement of the verb, like, and PP, that is, in the evening, is an adjunct to the whole V bar, that is, adjunct of the verb and therefore it is simply adjoined by a manipulative fashion where space comes through V bar.

The idea of this intermediate category is to provide us a space to represent several categories and through that we see that PP gets projected far apart from its complement. It is a coincidence or it's a structural point that it stays higher than the complement NP which is pizza, but you can see it is too far apart structurally from the complement. Do you see that, it is too far apart from the complement? Everybody, do you see that it is too far apart from the complement, okay, and then again within that PP which is adjunct PP you have the NP which is the complement of P.

We have seen these things. I am only repeating these things for you to see the structure categorically once again.

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Now, we started looking at this thing where we stopped yesterday and then we saw that when we project the whole sentence, we project it as IP. Do you see a system underlying this structure that every structure has the same system which is specifier, head and complement? Specifier above head and complement and among head and complement there is a sister relationship.

Do you see this structure in every structure of every phrase, right? So, the whole sentence is projected as IP where the head of this IP is, I, which means inflection. As I discussed with you yesterday and we have discussed these things earlier, that there are two parts in a sentence. One part is called, one part consists of functional categories and the other part consists of lexical categories.

Things that belong to lexical categories are nouns, pronouns, adjectives, verbs, prepositions, and so on. Stuff that belongs to functional categories are things like tense, aspect, agreement, and their components like number, person, gender, etc. So, the point here is all such functional things, functional stuffs are part of, I. All of them are bundled in the head called, I. And we ensure or the name of this thing is inflection. See all those functional elements are part of the inflection layer in the sentence.

The idea that sentence must be projected as an IP captures the notion that such elements that are functional elements in a sentence are significant aspects of the sentence. They are all, they are the chunk which make a sentence which is a significant part of a sentence, not that it reduces significance of its lexical categories but the point is functional elements bind lexical categories to make a sentence.

Are we good so far? Yes, no, difficulties? Can I take this thing as yes and move ahead? We had a couple of questions here and I think we have answered those questions and they should be clear to you. Is there any aspect of this functional thing which is still not clear or making any difficulty for you? This will be the time for you to let me know, not that you cannot let me know later, but this would be the right time to talk about this. Is there anything else, any further confusion, problems?

Student: Adjunct, exactly how do you define it?

Professor: How do we define an adjunct which you are not sure about, right? I am coming to that in a moment. Give me a moment. Do you see the representation of an adjunct? This is the reason why I am carrying one adjunct all along without talking much about them and without giving you a definition for it, all along I am carrying an adjunct in the sentence at least just because it should be in front of you at least. Do you see the adjunct? I am going to define that in a moment. Do you see the adjunct here in this phrase?

Student: In the evening.

Professor: In the evening. What I see is that you are not sure why it is an adjunct but when I tell you, in the evening, is adjunct and, pizza, is the complement, do you see the difference between the two? Forget about their definitions, do you see the difference between the two in terms of their structural representation? Yes, or not. Everybody? You see that, right? You do not see that? What do you see about the difference between the two?

Student: To accommodate the adjunct an extra layer was added, the V dash.

Professor: To accommodate adjunct, an extra layer is added, that is, by notion in this whole structure the place of an adjunct is an additional place. The place of an adjunct is not part of the phrase. Adjunct does not have a space in the original structure of a phrase.

Do you see this thing at least? Do you understand the original structure of a, original place in a structure? Quick, quick, tell me. If there is a problem, tell me that I do not understand the original structure of a phrase. Then only I can move on and talk to you about what the original structure of a phrase means. Do you understand when I say the original structure of a phrase?

Student: Sir.

Professor: No, no, no, hold on. Answer my question, then I will answer your question.

Student: Original structure of a phrase is you have X double bar.

Professor: Yes, sure, go ahead.

Student: Then your specifier, and then you have X bar and then it has X and then a complement.

Professor: This is the original structure of a phrase. Here, X bar is just a mechanism to go further down, right, done. We are left with three things, specifier, head and a complement. Do you see any space for an adjunct here? There is no. That is what I mean by the blueprint of a phrase, that is, the structure of a phrase.

So, in the structure of a phrase, there is no place for adjunct. The place for complement, however, is located. We do have a space for complement. So, when I am asking you if you see the difference between the two, at least the initial difference which you can see clearly on the screen is, pizza, as an NP is the complement of the head, which is V. At least this much is totally clear.

The same status, the PP, in the evening, does not have the same status. Do you see this point that does not have the same status? What is the status that it has, that is, how is it

represented? Is my question clear, is the question making sense to you? How is it represented?

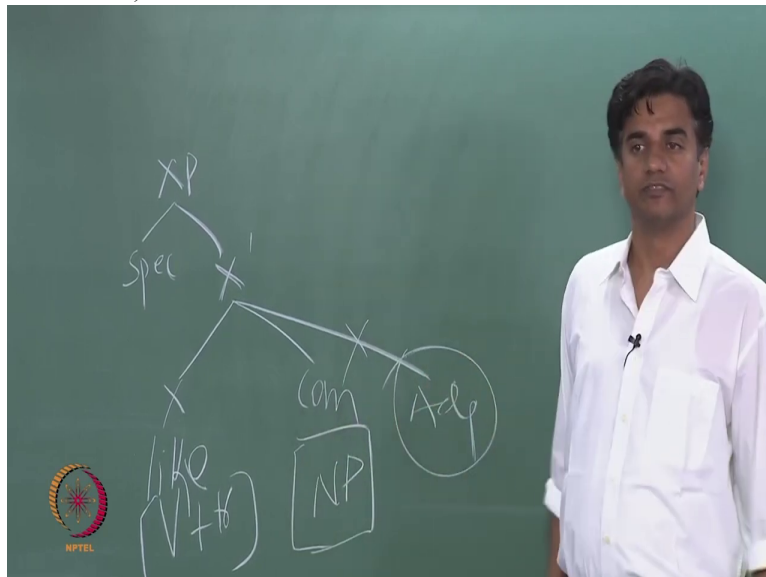
Student: It is not following the structure of a phrase.

Professor: It is not following the blueprint of a phrase.

Student: Blueprint of a phrase.

Professor: However, it is not violating also the structure of a phrase. Do you see this smart play here? Do you see this, this is what we call manipulation. The smart play is we do not want to violate the structure, that is, what will be violation of a structure? Let us say if we bring a specifier down and we take complement up, that will be a total blatant violation of the structure and probably we would not be able to capture anything with that.

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We are not also violating its binary structure, which is, we are not saying that we have an XP here and we have a specifier and we have an X-bar and here is our head, here is our complement and now we have an adjunct so let us put it here. That is not what we are saying because this is again a violation of what we started with, out.

Out, not because it does not look good or anything. Out because this does not tell us anything. What is the problem here? If we say this is the space for our adjunct, what is the problem, what is the conceptual ambiguity and mess up here?

Student: Structure is not binary.

Professor: That is structure is not binary and what is it not capturing? It also tells you that there is no distinction between a complement and adjunct. In terms of its structural representation here there is no distinction between a complement and adjunct. That is one, which in turn means that the fact that a head could be, let us say a head like, like, which is a verb, and we are saying this is transitive, plus transitive which means by definition it is going to take one NP complement. Understand this?

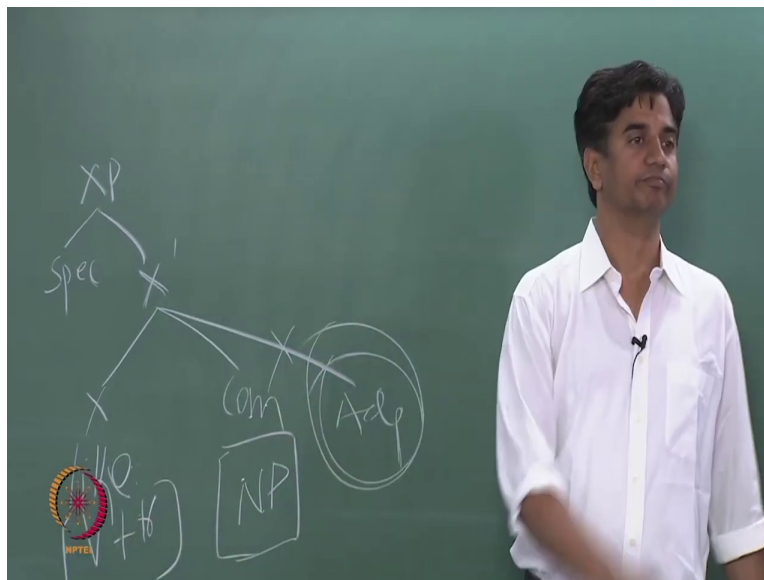
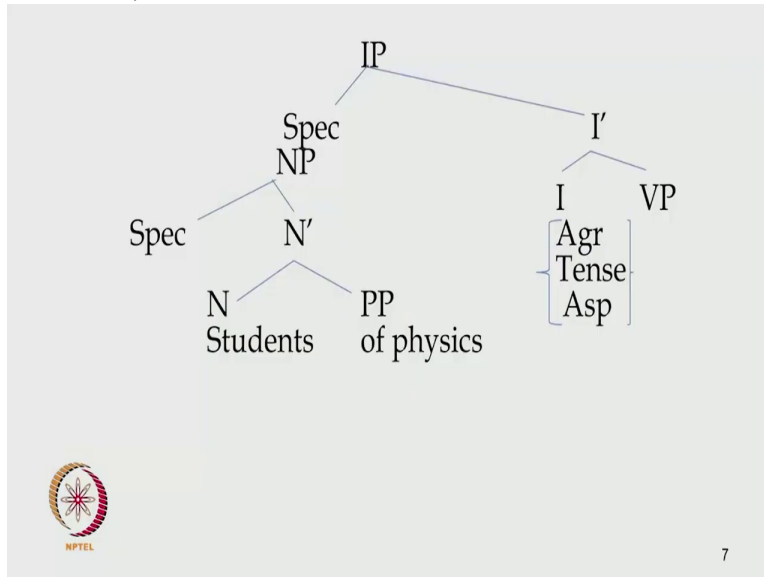
We are saying because the verb as a head, if it is transitive it is going to take an NP complement. In that notion we are not saying anything about adjunct. We are not saying whether the transitive verb will take an adjunct also. Whether it will take two adjuncts, whether it is not going to take any adjunct, such things are not guaranteed by the nature of the verb.

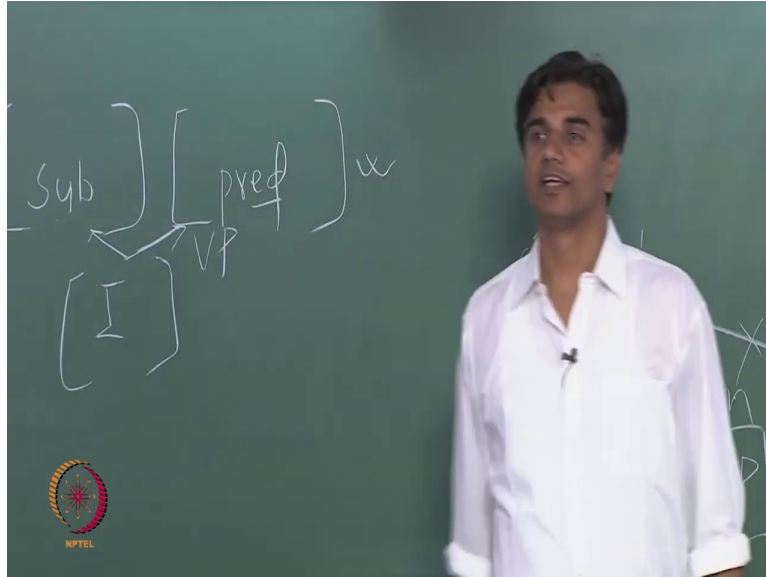
And if that does not follow from the nature of the verb then what we end up saying here is we do not care about a complement and adjunct. All of them have same the status, see this thing, which is taken care of in this structure that you see on the screen that is not violating the fundamental structure of a phrase. What it is doing, it is just adjoining another, creating one more layer, re-duplicating the same thing which is V bar.

With that it is keeping the adjacency requirement between the head and the complement intact. It is keeping the aspect position high up. It is only taking, re-duplicating this thing and taking another space for a PP or anything that comes here as adjunct to tell us that look, there is a difference between these two. So, do you see structurally the difference between an adjunct and a complement? Now, I am yet to give the definition of this thing in literal terms, but I am bringing you to a point where you can define adjunct by yourself.

Adjuncts are adjoined elements in a structure if we are trying to define an adjunct structurally, we can say they are adjoined elements in the structure. They are always going to represent themselves with this adjunction, that is, creating another space because they do not have a space inherently within the phrase, clear. I am coming to complement and adjunct again to see a little bit more about them.

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Now, let us look at the inflection part separately in bringing certain things in focus. You have seen the structure of a VP and I want you to keep in mind the first point from here is the VP is the complement of, I. With VP what we were saying, what we have seen so far that there are two parts of a sentence.

In our earlier discussions I have told you there are two parts of a sentence. One is subject, the other is predicate, remember? And when we said everything else in a sentence, by everything else we meant everything other than the subject is predicate, which we essentially mean VP. Everything else in the VP because you see even when we are talking about adjuncts and we are making a distinction between an adjunct and a complement, it is still part of VP. Understand this thing?

It is still part of VP. Why is it part of a VP? We are not doing any charity by saying that the adjuncts are part of VP. These poor things do not have any place anywhere so let us accommodate them in VP. That is not what we are doing. We are putting it in the proper place that, in the evening, is talking about the action captured by VP, by V.

What is happening in the evening? What happens in the evening? Liking pizza takes place in the evening, right? Therefore, we are keeping it in the VP. It is part of VP by its right. It is just that it does not have the same status as the complement. Is this

conceptually clear to you? Any doubt, anything that comes to your mind, please feel free to ask.

Student: Adjunct is, is it like a phrase of an adverb or?

Professor: Exactly. Everything that is not subcategorized by verbs. By subcategorized I mean everything that is not required, desired and guaranteed by the verb is adjunct. What you see being guaranteed by the verb is its complement, that is, what do you mean by guaranteed and subcategorized? What we mean is the reason, the fact that this verb is a transitive verb it needs an object which is its complement that is what we mean. This complement is subcategorized, required by the verb, desired by the verb.

Now, this thing is not desired by the verb, that is, this thing, the verb does not need essentially. We want to say more things about that, like pizza, is fine. Students like pizza, as far as formation of the sentence is concerned, that is, essential elements of a sentence are concerned we are done. Remember, let us not lose focus that we are talking about required elements of a sentence, we are done. Information that comes through adjunct is additional information. Therefore, we have to keep it where it belongs and it belongs to the VP. It talks about the verb that is like in the evening.

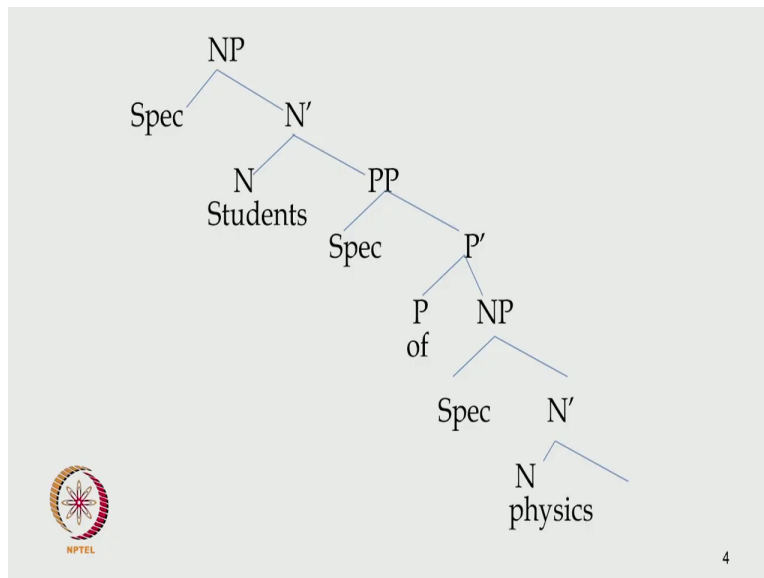
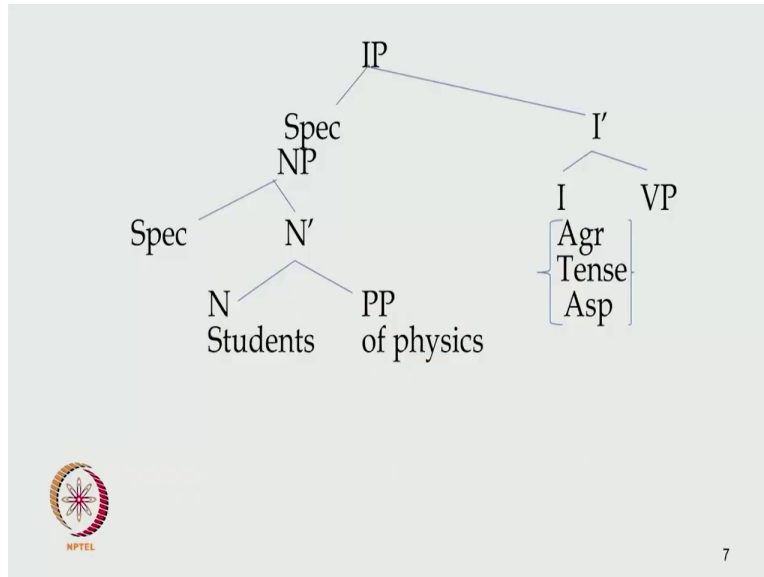
Student: But is it compulsory that it should sort of explain the verb or can it explain the, add more to the boundary?

Professor: It can add, it can add, it can say something to the noun phrase also. In that case, it will be contained within noun phrase, that is, just like a complement belongs to head in a subcategorized way, in a required way, an adjunct also belongs to the phrase not in a subcategorized way, but as long as the adjunct is or adverb is talking about the head it will be projected in the same head. Since this adjunct is talking about the verb, it is being projected inside the verb. How it is projected inside a noun phrase, I am going to show you that in a moment.

So, everything here is part of the VP and then we have a subject. Now, in the scheme of a subject and predicate what is not visible is the elements represented by, I, which essentially binds these two things. Please bear with me and help me understand that you

follow this. Do you see what I am trying to show you, that in the scheme of a subject and predicate what is not clearly visible is, I.

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The elements that bind the two things together, namely, what is being projected in, I, and these are not the things that we are hearing for the first time, am I right? Do we understand the, I, thing? I do want to move a little faster but by looking at you sometimes I get lost and then I do not get a clear idea that whether these things are making sense or

not, whether I can go little with a normal speed or not or I need to go with the speed breakers and reduce the speed.

So, if you can help me a little bit, then I will understand. I do not know face reading. Do you see what is coming in the, I? All of them are part of, I, which is not clear here. So, this is another advantage of X-bar theory that things that were not possible to project with the phrase structure rules are being projected in the X-bar theory and it has a space for projecting all such things, clear? I, in totality contains all agreement, tense, aspect, it may contain more stuff, whatever you think is invisible in a sentence, they all belong to, I, and therefore, I, is the head of the sentence and IP is the projection of a sentence.

VP is the complement of this, I, and therefore it has a direct relationship with the functional elements. By it, I mean, VP, has a direct relationship with functional elements in a sentence. It is directly combined or bound with the functional elements. Now, talking about the subject, it is projected in the specifier position of the IP which captures the notion where we started with that the subject is outside the predicate, subject is outside the predicate. It gets projected in the specifier position of the IP. Now before, I think you have already seen the structure of this NP which is in the specifier position of the VP, so not every time we need to put a specifier.

We know that that is in a specifier position. We simply put an NP there. We know this position is for a specifier and in the specifier what we have seen in the specifier position of an NP what have we seen? In the specifier position of an NP what have we seen so far?

Student: Articles.

Professor: Articles, determiners and things like that. In the specifier position of a sentence what we see is an NP. Now, this NP is going to represent the subject. Now, depending upon what a subject is in a sentence will come in this place and you have already seen the structure of this NP. Is it the structure of the NP, students of physics? Now before I go and talk to you about other stuff, there is one more thing that I want to tell you right here.

You see, which we will not discuss at length right now because that comes much later and if I at all we get time in this class, I will talk to you. Look at this, do you see anything in the Spec position of VP? Like every other phrase, VP is also going to have a specifier, it has a Spec position. There are two positions about subjects.

There are two things that have been argued about the subject. In one notion people have tried to put the subject as a Spec of IP maintaining this notion that the subject is outside the predicate. In the other position, some people have argued that the subject actually originates inside VP which is the Spec position of VP and then later on it gets projected outside.

Now, it is not going to make much sense right now or maybe I am underestimating you but I am only trying to say that there are two positions for the representation of the subject. A discussion into that is not relevant at this point. Those are just two theoretical positions and both positions have their own arguments. Why inside VP, why outside VP. They have their own arguments.

At one level both can be combined together and one can see how they are actually represented but that is not relevant right now. You may ask a question if it is not relevant why are you talking about it then. The reason why I am talking about it is when, did I talk to you about the notion of deep structure and surface structure? Not yet, whatever I am discussing so far either with this phrase structure rules or with the structure, these are representation of sentence, projection of lexical and functional categories, both, at deep structure.

We have talked about I language and E language, remember, I language and E language. Is that distinction clear to you? Within I language, now forget E language for the time being, within I language there could be two layers. One is deep structure which is called D structure and the other is called surface structure which is written as S structure. Both are parts of I language. Now, what happens is we are still talking about deep structure.

We are still talking about deep structure. When the sentence gets a complete projection, that stage is called S structure. When you see the complete projection, that is, projection

of every single element in a sentence is done, then we call that S structure. So, the argument, the reason why I talked about inside VP and outside VP is, the people who argue it is inside VP, for them, it originates inside VP at D structure and then it gets projected at S structure outside VP.

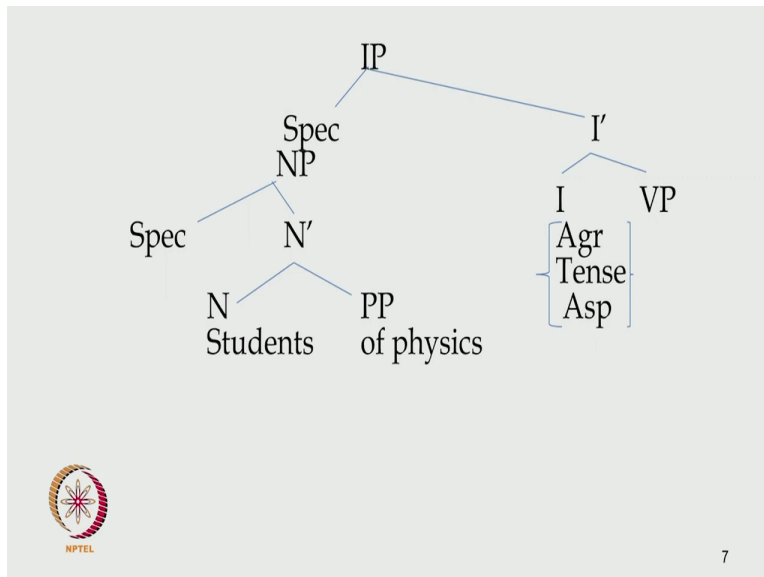
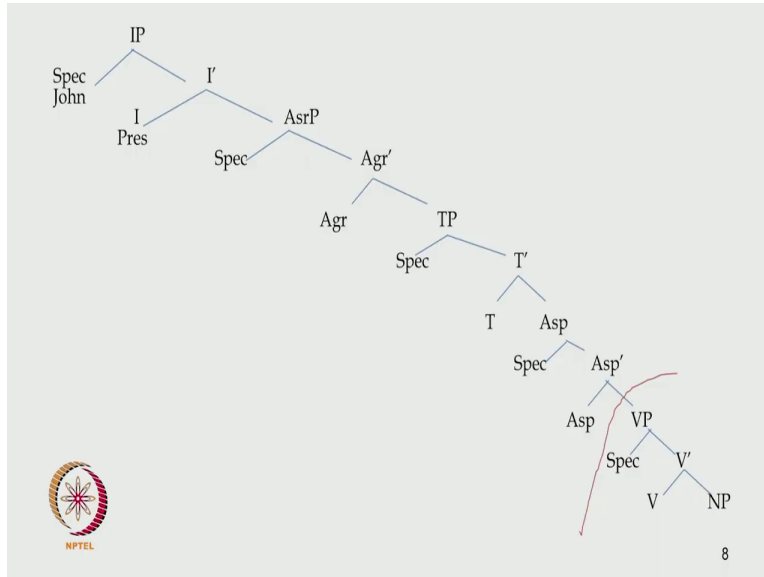
Now, do not pay much attention to this thing right now. I just wanted to talk about deep structure and S structure. I just wanted to bring in these two notions. I am going to show you more to connect these two things and then probably it will make a little bit more sense. So, let us go stepwise.

Student: Sir, previous slide. Since we see that PP is not following the blueprint of phrase structure, if we want to be pedantic, we can actually reduce the V bar and the specifier and then P prime explicit. Will that be correct?

Professor: Yes, no, no no. That is definitely correct and that is correct not because it is not following the phrase structure. The moment we say PP is the adjunct, that phrase is going to follow exactly the original phrase structure rules. What we are saying is it does not belong to the VP. That is all we are saying. To accommodate it in VP we need some extra layer that is all we are saying when we say it does not belong.

Once it is a PP it is going to take, it is going to be projected like PP you see here and again because I have shown you this thing so I have put that in short, that is, shortcut, clear? Sure, is this thing clear?

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Now I want you to look at this thing a little carefully. Do not be scared of this thing. It is exactly what you have seen so far. I give you 20 seconds to look at it and if there is anything that is not making sense, let me know. My apologies to you for the smaller font. I did not put a smaller font; you know how it becomes small. When you try to project too many things, it is small. Now tell me if you see anything so far, anything here that you have not heard so far?

Student: AsrP.

Professor: Where is AsrP?

Student: ((??)) (37:23).

Student: Should it be Agr or not?

Professor: Oh, I am sorry, sorry, that should be AgrP.

Student: Agreement phrase.

Professor: Agreement phrase, yes. That is not Asr, that is Agr, sorry. That you see below Agr bar and then Agr, right, that is a small typo, good. So, we start with IP then we go to AgrP then we go to TP and then we go to Asp.

Student: Aspect.

Professor: And then we go to VP. You see this thing? Now even by making it a small, that is, smaller font, I am trying to connect them in phrasal fashion. When they are actually represented, you are going to see that only head positions of these things are important. So, when people actually draw them, they do not draw Spec positions for these things, but for you to see I have tried to draw Spec positions just so that you see and you see how they are combined.

Now, remember, again, when I say they are not drawn, I am not saying they are not there. We just do not draw that space that is a Spec. If we want to draw, nobody wants to stop us, it is just going to be longer and if you are okay with that then it is fine. So, we start with IP, we have the Spec position of IP, we start with the head, I, and then AgrP. We have again a Spec position of that and head of that. In the complement position of AgrP what do you see? In the complement position of AgrP?

Student: TP.

Professor: TP, right? It has again its own head and specifier and what is in the complement position of TP?

Student: Aspect.

Professor: Aspect and then again it has its own Spec and head and in the complement position of a TP what do we see?

Student: ((??)) (39:27)

Professor: In the complement position of Asp what do you see?

Student: VP.

Professor: VP. Now this is where you see the red line, so far it is just the expansion of this IP, this I. Do you see this thing? What you see in the next slide before the red line is simply expansion of this, I. Am I making sense? Are these things making sense to you? You want me to take a pause, I can wait and talk to you.

Student: Sir, this presentation ((??)) (40:11) of I.

Professor: Exactly.

Student: ((??)) (40:14)

Professor: Exactly. It has just been expanded. So, here we are saying whatever is the agreement, let us take the sentence, again the same sentence, students of physics like pizza in the evening. What do you see in the I position here?

Student: Tense.

Professor: We are just putting present tense. We are putting one thing. I can put again here present tense, indefinite aspect and singular agreement. That is all, all three of them I can put in the I position and I am still saying the same thing. To expand this, I, that is to put more things, I have tried to tell you that all of three of them are here.

In the next one, all I am saying is in the I position where you see present tense, that is not going to be there, I am sorry, that is another error. Do you understand what I am saying? In the, I, position here the present that you see that is not going to be here. It is going to be here.

So, you are going to have singular agreement here, present tense here, and indefinite aspect here. Get this thing? Now, there are still a couple of anomalies in this structure. Once you try to follow this thing someone can ask you then what is the need of I? You are already projecting everything. Do you understand my question? If I am already projecting everything separately, that is, Agr, T, and aspect then what is the need of this, I? Understand this thing? So, people say, look, just get rid of this thing. There is no need for that.

You can start with AgrP, because, I, eventually, is the bundle of all these things. So, we can either put, I, or these things. There is no need to put everything. And when we bundle them together, we put, I, when we do not bundle them together, we expand them, we do not need to put, I. Am I drawing your attention to the anomaly in this structure, you see that? And please ignore that present tense in, I. While making this thing I just left it there.

Now, there are more questions which are again not relevant at this level. Questions are how do you know that the agreement precedes tense? Or if you say, okay, you do not agree with this, you think tense precedes agreement, let us put tense first. Then the question is how do you decide that? You cannot be arbitrarily deciding these things. In any scientific projection one cannot be arbitrarily deciding these things that which one precedes what. Understand this thing?

Now, I am just raising this question and leaving this question here; however, there is an answer to this question. There is a way in the syntactic investigation of a sentence or syntactic investigation of language, people have identified which inflection category precedes first and then which one comes later and which one comes later. This has been done. But at this stage, for our understanding, the question exists. Do you understand the question?

So, leaving these questions aside, what I want you to see is that all that you see above this red line, do you see something above the red line? All of them are called functional layers, functional layers of a sentence. Functional layer of a sentence and beyond this below the red line where you see VP starting, when you see VP starting, that is called lexical layer of sentence.

So, all along what we have been talking about functional categories and lexical categories, that is the distinction. And if you can see this distinction between functional layer and lexical layer, do you see this thing, then probably you will be able to appreciate why someone would be tempted to put the hypothesis forth that the subject originates inside VP.

Let me say it again. If you see the distinction between functional layer and lexical layer, then probably you can appreciate why someone will put forth the hypothesis that the subject originates inside VP. Because the subject eventually is an NP. It is a lexical category. How does it belong to the functional layer? Understand this thing?

So, that is the genesis of someone's position on why it should originate inside VP, number one, then the question is if it does not originate inside VP, if it originates inside VP, how does it go up? These questions are answered phase by phase later. But I want you to see the relevance of these questions with the help of this understanding.