

Appreciating Linguistics: A typological approach
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Lecture - 37
Introduction to PS rules

Hi, hello everyone. Welcome to this session of our course Appreciating Linguistics: A typological approach. We were talking about what is grammar, what is descriptive grammar, what is prescriptive grammar, how they are different from each other and what is the core property of any given language in the world?

Structurally languages follow the same theory, or they are going to be different? These are the questions that generally should come to your mind when you are thinking about syntax in linguistics.

I told you the discussions that we have already had that will help you to understand syntax a little better. Considering, we already understood what is a word, what is a morpheme, what is morphology, what is phonology.

And now it is time to put things together. So all the words and morphemes that we have studied so far, the studies about the words, morphemes, sounds, so far they are going to be put together, when you are trying to understand what syntax is.

Before going to the theoretical discussions; I will just give you a very brief idea what syntax is in the simplest terms. And then what should you expect from this unit as far as our understanding of linguistics is concerned. As many other words from linguistics, syntax is also a word that has been derived from Greek, and what is the meaning of syntax? Literal meaning if you ask me literally it means putting together. When you are putting together certain things you might call it syntax.

That is why in linguistics what are you putting together? You are putting together the words, to get a meaningful utterance or meaningful occurrence. This arrangement of things or the putting together of things would be known as syntax.

In the earlier approaches the analysis of syntax we will talk about it in more detail later, but primarily if you remember I focused a lot on the descriptive approach of language or the descriptive approach of learning grammar. Our concern was that when you are going to do some grammatical analysis of certain constructions in any given language, there would be few rules in hand.

But those rules might be appropriate for that particular language that you are studying, but it is not necessary that it will also be applicable to other languages. For example, all this split infinitive discussion that we had before, we also talked about the sentences ending with prepositions, all of them they may not be treated in the same way for a language other than English.

So, the concern here is that the rules which can explain an English sentence correctly may not be sufficient to explain similar constructions in other languages in the world. That is the reason why we would need a descriptive system where the theory would be inclusive enough to find out an analysis or an explanation for the possible constructions available in a given language.

With this notion of descriptive grammar; we would see now how the arrangement of certain elements is going to play a vital role when you are trying to understand linguistics as a discipline.

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The image shows a digital whiteboard with handwritten notes and a diagram. The notes include 'Syntax', 'All and only criterion', 'Putting together arrangement generate', 'D-structure Transformation S-structure', 'PF (Phonetic form)', 'LF (Logical form)', and a boxed sentence 'Child market crying a is the in a for toy'. An NPTEL logo is in the top right corner. A woman is visible in the bottom right corner of the frame.

I am writing here three words; one is putting together, the second word is arrangement and the third word is generation or we can write generative, or simply we can write generate.

These are the three words which would be important to understand syntax. In syntax, you are not only putting the elements together or putting different phrasal items together, you are also arranging it in a certain manner. After you arrange them in the right way; you are trying to generate similar constructions or derived constructions. You are going to generate similar or derived constructions from the given set of information that you have in hand.

Let us take an example; let us say I have a few words in my hand. I am drawing a box here. In this box I am going to keep a few words. If I want to keep a few words; let us say I am writing child, I am writing market, I am writing cry, then I can write here another word is, then I will write in, then I will write the.

These are 1, 2, 3, 4, 5, 6, 7; there are 7 words given in this box. I will draw a bigger box here. So, here I am writing child, here I am writing market, here I am writing crying, then I am writing is, I am writing the, I am writing in, then I am writing another a, then I am writing for, then I am writing toy.

These are different units or these are different elements which are at your disposal and you have been asked to form a meaningful sentence out of this. Let us see how many words we

need to use to frame a sentence and how many words we do not need and it is just lying around. Let us try to use the construction here; if I write child, market, crying, a, is, the, in, a, for, toy. They do not make sense.

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The screenshot shows a Notepad window with the following handwritten content:

- Syntax
- 'All and only criterion'
- Putting together arrangement generate
- 'all and only' important
- D-structure
- Transformation
- S-structure
 - PF (Phonetic form)
 - LF (Logical form)
- The child is crying for a toy in the market.
- Child market crying the is the in a for toy

An NPTEL logo is located in the top right corner of the Notepad window.

Then maybe I can instead of this, I am going to write another the here. In this case, these available words that you have in hand, you are not only going to put it together in this box also they have been put together. But does it make any sense? Do you think this is going to be a sentence? Not really, if you read it from left to right; it is going to be child, crying, the, is, the, in, of, a, toy. So, it does not really make any sense. You cannot call it a sentence. Then what are you supposed to do? You are not only going to put it together, you are also going to arrange it in such a manner that it will be a meaningful construction.

The other thing that you need to have in mind, with these many words, you should be able to generate different kinds of constructions at the same time, either similar ones or the derived ones. So, what should be the sentence here? If you check all the phrases given over here, you will find out that the sentence which I think we can form is the child is crying for a toy in the market.

That is the grammatically correct construction: the child is crying for a toy in the market. The child is in the market, she wants a toy and that is why she is crying. So here, not only did I

put the phrases together, I also arranged it in such a way that the construction would be meaningful.

If I am going to keep them randomly without really any arrangement, that is not going to help me to get a meaningful construction out of it. So, that is a reason not only putting together is important in syntax, arrangement is also equally important.

Then the third term that we have is generate. When you say generate, that means, with a handful of grammatical items that you have any hand, you can actually generate many sentences and you can produce many sentences out of these constructions that you have in hand. When you say the child is crying for a toy in the market, you can keep on adding more adjuncts or you can keep on adding more something like in the market.

I can say the child is crying for a toy in the market when I saw her. When you add the term like when I saw her, that means, you generated another sentence. So, the existing elements are there, plus you added a few more phrases or a few more units to make the sentence even bigger. And if you want you can even make it longer; you can say the child is crying for a toy or you can say the child is crying loudly for a toy in the market; when I saw her.

You can also say the child is crying loudly for a toy in the market when her parents were busy buying something. Keeping all this existing information intact, you can always create many other derived constructions. This is the result of the generative property of any natural language.

The most fundamental thing that you need to remember is that syntax not only takes care of how to put the things together, but also how to arrange it properly plus how you can generate new constructions with the given set of information that you have in hand. So, this is what syntax is all about.

If you look at it carefully or if you try to understand what else you can say about a sentence or about syntax as a domain of linguistics, there is a particular criterion that would be very important, and what is that criterion? The criterion is all and only. This is an important criterion in syntax and why it is important; we are going to check that.

This sounds interesting; isn't it? What do we achieve through syntax? We are going to provide an analysis of the syntax of a language of any given language in the world. And through syntax what we are going to do? We can provide an analysis. So, analyzing work is done by this part of the discipline which is syntax.

And then while analyzing the sentences in any given language, we cannot do it randomly. Though language is not always rule-bound, it is dynamic, it is random, but then as far as the rules are concerned, it does follow a certain style or certain rules and regulations.

So now, when you are trying to understand syntax, you have to follow a very important criterion and we call it all and only criterion. What do you think, what is all and what is only and what are they doing in syntax? The concern here is that you should be very careful when you are thinking about these two words. The first word all; that means, the kind of analysis that we are proposing or the syntactic analysis we would propose later; this must account for all the grammatically correct phrases and sentences.

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The image shows a Notepad window with handwritten notes. The notes are as follows:

- All** → The analysis must account for all grammatically correct phrases and sentences.
- Only** → Only those which are grammatically correct phrases and sentences can be accounted for by using our analysis.
- Examples: near London, near a dog
- Syntactic rules: $S \rightarrow NP + VP$, $PP \rightarrow P + NP$
- Syntax** → How similar looking sentences might be different, How different looking sentences could be related.

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In syntax, when you say all; that means the analysis must account for all grammatically correct phrases and sentences. This is the all criterion. Focus on the words grammatically correct. That means, our analysis can only explain the grammatically correct sentences. The first all criterion means this analysis must account for all grammatically correct phrases and

sentences, and if you approach it from the only perspective, then only those which are grammatically correct phrases and sentences can be accounted for by using our analysis.

That means, if you give me a grammatically incorrect statement and you say that your analysis should be able to account for it, then the situation would be a little tricky. This analysis can tell you why it is incorrect, but how an incorrect sentence would be treated correctly, that is not going to work through this analysis.

So, the first thing, the all criterion is that this analysis must account for all the grammatically correct sentences and phrases and only those which are grammatically correct can be accounted for by these constructions. That means only those grammatically correct phrases and sentences of whatever language we are analyzing.

Be it English, be it French, German, Latin, Hindi or Tamil, Telugu; we can analyze only the correct constructions. In other words, if we write rules for the creation of well-formed structures; we have to check that these rules when applied logically, would not lead to ill-formed structures; that means, when we are trying to frame certain rules, these rules should be able to a like should have the ability to check that in case of logical applying, it will not create any ill-formed structures.

My suggestion would be in a sentence there must be a noun phrase and there must be a verb phrase. That means, this is a rule; this is how we write. We write S is NP plus VP; this is called phrase structure rule.

All sentences must have an NP and a VP. That is the rule the all criterion will suggest. This S goes to NP VP rule should account for only those constructions which have an NP and a VP. If you add something else then our analysis is not going to work; and it is not limited to any particular language; rather it can be extended or it can accommodate a lot of data or a lot of languages like most of the languages from the world.

So, that means, if you apply it logically, there lies the key. When you apply them logically, these analyses would also lead to only grammatical structures, no ill-formed structures should be the result of such analyses.

If this analysis results in an ill-formed structure, then there must be some problem with the construction. So, that is what we call the all and only criterion. I will give you a simple example apart from S NP VP; I will just say think about a preposition and the phrase which has a preposition we call it a prepositional phrase or we call it PP. Something like a phrase which has a noun as the headword we would call it NP.

The phrase which has a verb as the headword, we are going to call it a VP. Here I am going to give you an example; this is again from Yule's Study of Language. The concern here is that there is a word London which is the name of a place and there is another word dog.

So, when you say London and when you say dog, both are nouns, no doubt about it. Though both are nouns, you cannot really apply only the preposition to make it a prepositional phrase. The preposition which will go with London, may not go with the second noun dog because London is a proper noun, dog is a common noun; so, these are different things.

But here we need to check how you are going to create or generate a grammatically correct prepositional phrase. What are we going to do? Let us say I am going to add a preposition near, where I say I stay near London that is absolutely fine. But if I say the stick is lying near dog, then do you think it is grammatically correct? Near London and near dog.

The first sentence I am saying my uncle is staying somewhere near London. That is fine. Near London could be a prepositional phrase, but you cannot say the stick is lying near dog. Something is missing. What is that? Like to get a grammatically correct sentence, you should be aware about the fact that with this kind of a noun; we would need an article and what article? Either a, or an, or the. So, I am writing here near the dog.

The rule here is that the prepositional phrase must have a preposition as the headword. So, when you say near London; obviously, near is the preposition which is also working as the headword, but when you look at near dog, there is something missing. What is missing here? You require an article or you can call it a definiteness marker.

Our concern here is that when we frame a rule for a prepositional phrase, we must be very careful in such a way that whatever rule we propose it should be able to explain all the grammatically correct constructions in the same category. So, if our prepositional phrase

means there would be a headword as the preposition, that is fine, but we have to fine-tune it or we have to narrow it down in such a way that no matter whatever data we get for any given language, our theory should be able to explain it.

That means, while forming the rules we need to be very careful. If we just say a PP which is a prepositional phrase; could be a PP could be P plus NP. That is it can be P plus NP, but what is that NP you have to explain it. Whether this NP which is a noun phrase in the second example that I have given here, near the dog; so in near the dog, the dog is also is also an NP. Sometimes people call it a DP also, like determiner, that is a different thing, but the dog is generally considered as a NP with the determiner.

When you say PP goes to P and NP, you should be aware about the fact that this N the form of this NP could be different. Sometimes it could occur with the definiteness marker or with the article or with the determiner; sometimes it may occur without the determiner. So, when you are trying to explain or when you are trying to propose an analysis for any kind of a

Considering your grammar has the generative ability, your rules must be so inclusive that you should be able to analyze grammatically correct constructions from languages from across the world. Only then you are going to call it generative grammar.

Then the concern here is that generative grammar has been following descriptive approach and then it should the rules are flexible, the rules are exhaustive enough or the rules must have that kind of ability which would be able to explain all kinds of grammatically correct constructions in any given language.

You cannot propose a prepositional phrase rule 1 for English, 2 for Tamil or 3 for Hindi; that does not work then. So, the base rule remains the same; then you are going to tweak it and you are going to go for the parametric variations. There would be parametric differences. Maybe in case of South Asian languages like Hindi, it is not a preposition, rather it is a postposition. But for sure there would be a noun and there would be either a preposition or in generic terms we call it adposition.

Considering we have so much diversity in the world's languages, our rule should be so accommodating, our rule should be so flexible and so inclusive that the variations or the

differences that we encounter while drafting a prescriptive grammar rule, we should be able to take care of those. Our rule should have the ability to account for these things. Then only you are going to call it generative grammar.

So, what is the basic function of generative grammar or why is it named so? It is named so because it can be used to generate or produce sentence structures and just not describe them. You are just not going to describe it, rather you can actually produce new sentences or you can generate new sentences from a handful of grammatical items that you have in hand. So, description is one thing and generating new sentences would be the other thing or producing new sentences or new structures would be the different thing.

Syntax has both the qualities and the most important thing about syntax is that it helps you to generate or produce sentences, besides describing them. Description is a different story altogether. Once you know which grammatical item is what category; you can describe them without knowing syntax; you can surely describe the grammatical categories in a particular construction.

But without knowing syntax you would not understand how this limitless, unlimited constructions can be produced or unlimited structures can be produced; just by using a handful of rules. That is why generative grammar has the capability of revealing the basis of two other phenomena. And what are the two other phenomena? One what is the sentence; what are the sentences closely related, and second, what are the similar sentences which are different?

Why syntax seems to be very interesting is because it not only helps you to generate constructions, but also it helps you in two other phenomena. What are the two other phenomena? I repeat, one how some superficially different sentences are actually closely related. They might be looking different on the surface, but they are actually closely related when you do the analysis and that is what syntax does. And sometimes some sentences which look so similar superficially are in fact, different. So, that is what syntax does or that is the way by which syntax helps us. It does two different other kinds of phenomena first.

It helps us to understand how similar looking sentences might be different; the other way how different looking sentences could actually be related. So, what are these sentences? We are going to check it in a while.

So, what is the learning that you should have from this discussion? The concern here is that the sentence; the surface word order is not the deciding factor to identify similarity and differences among sentences, rather we should be able to do a proper analysis in fact, syntactic analysis to identify which sentences share a pattern and which sentences are different quite a lot.

In this regard, we need to understand how and why we should; we will not really ask the question why, but rather we are going to ask the question how syntax as a tool is going to help us to understand these abstract concepts or this theory underlying structures related to language.

Keywords: theory, phrase structure rule, arrangement, generative grammar, derived constructions, phrase, all and only criterion, headword, parametric variation, postposition, adposition, syntactic analysis