Principles and Parameters in Natural Language
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Lecture - 37
Constraints on Movements

So, we have looked at movement right.

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What does movement mean? Physical displacement of some elements from one place to the other, in the conceptual framework, at a certain, in a framework at a certain conceptual level. I am sure by now you are able to see the underlying abstraction in that conceptual framework, when we say movement. And when we say evidence for movement, then you are you are able to see abstraction at the level of conceptual framework, hardly a microscope can really reveal that kind of abstraction, but not, but.
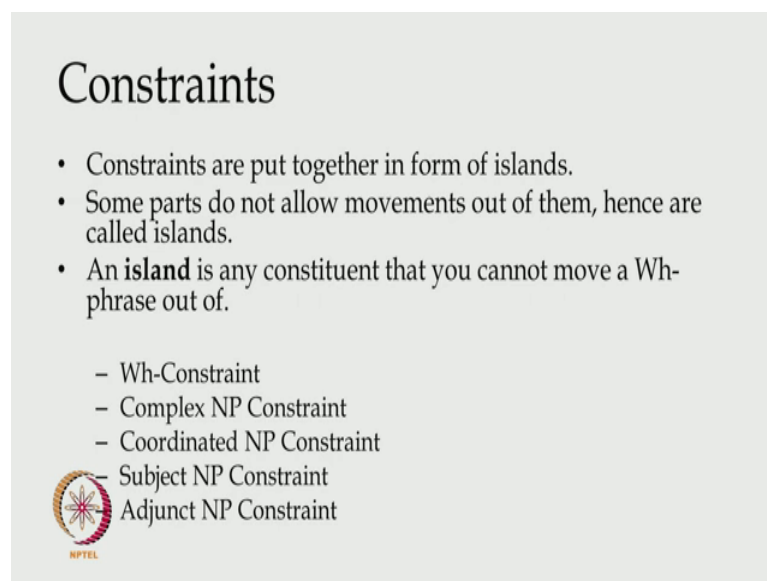
So, I hope you are able to see that abstraction and appreciate that. So, we are. Now we are going to look at, having seen evidence and motivation for movement, I want to show you some of the places where there are restrictions and movement that certain things are not allowed in the whole operation of movement. And I just want to give you four quick examples; I had a plan to talk about some of the elements of cultural significance in the structure of language. You know that we are talking about structure of language a lot right. And we have also said and established that the study of the structure of language.

Meaning a study of the structure of sentence is the primary goal of syntax. And therefore, a sentence is the basic unit for their study right, and then we have devoted large chunk of our theoretical discussions on I language. And therefore, we were able to go all the way back to the levels of abstractions that you have seen.

However, while studying theoretically motivated conceptual framework for their study of language. There are some of the elements of cultural significance, and the moment we say elements of cultural significance, you can immediately relate them to E language they are not going to be related to I language. So, such elements can find space in the structure of language.

And I wanted to show you a couple of examples of that, but we will have to push it for some other day. So, let us go through the restrictions which are called Constraints on movement.

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So, here are some of the things that they want you to see. Constraints are put together in form of islands. So, the moment we are talking about constraints, we have an island in mind. And island you know what we mean by island. Island is a place which is not connected with the rest of the land right. So, that forms a small territory by itself, and some parts do not allow movement out of them; that is within the. Whatever we define as island, within from that island, movement of elements are not allowed.

So, in other words, we are making the islands also, or we are conceptualizing the islands on the basis of what is not allowed out of that. So, its both way, its working both ways. And in short an island is any constituent that you cannot move a Wh phrase out of. So, mostly we will be talking about Wh phrases. We do not have a structures here today, but I invite you to keep the structure in mind, how we get IP CP or CP IP and VP structure. If there is any need of that I will draw it on the board, but we will see, if we need it or not.

So, these are the five things that I have plane for, to show you. They are called Wh constraint, complex NP constraint, coordinated NP constraint, subject NP constraint and adjunct NP constraints. Have you heard these names Wh phrase, subject or adjunct your heard these names. what you have not heard so far, is the term complex NP, and I will show you, then its not very difficult, you will figure out there is, not very difficult. And then coordinated NP; that is two NP is put together, and then I will show you that two and you will see that these are just terms.

So, let us first look at Wh constraints.

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Wh-constraint

- A Wh-phrase cannot be extracted out of a clause that begins with a Wh-phrase itself.

1. I wonder why Rahman composed the song?

2. *[Which song do I wonder [$_{CP}$ why Rahman composed t_a]] ?

What is it that we are saying? A Wh phrase cannot be extracted out of a clause that begins with a Wh phrase itself. Here is what we mean, let me show you the expansion of that. Do you remember when we were talking about some of the lexical properties of verbs we talked about the verb wonder. One of the features of the verb wonder was, this verb takes.

Student: (Refer Time: 06:09).

A Wh clause as a compliment, as an interrogative sentence as a compliment right. So, in this sentence number one, why Rahman composed the song, is the compliment of the verb wonder. I wonder why Rahman composed the song, see this thing.

Now, this class begins with a Wh element itself. See this thing. Therefore, are extraction of another element out of this clause is not allowed. And here specifically we are talking about English. These constraints are derived by looking at English data alone. So, please keep that in mind; however, the claim is that these constraints to a great extent are universals, which means we need to verify these things with the data from other languages; however, what has happened so far, is the research on these constraints have made these constraints parametric. Therefore, they did not remain universals. To great extent it works, but they have, people have found examples, empirical evidence from different languages, where some of these constraints are universal and some of this.

Some of these constraints retain their universal nature; however, some of them become parametric; that making sense to you; that clear. That the argument was these constraints are universal, but data argument was simply based on some languages that are of English type and English in particular.

Since we are only talking about the introduction to these constraints. Therefore, I am giving you only English examples all right. Now, so, is this first sentence clear. So, the sentence 2 is ungrammatical, because we end up extracting something from that Wh clause. So, which song do I wonder, why Rahman composed, is not a good sentence.

Now I invited your attention again to some of the points that I made way too early. When I told you, you give this sentence to a native speaker of English, and ask them is this sentence good in your English. Anybody will tell you, any native speaker of English will tell you this is not the right sentence.

Now, it is not the second question that may come in your mind, why is this not good, what is wrong with this, and further question will be, what is wrong with this sentence, that these two questions are not for native speakers. You cannot expect a native speaker to tell you an answer, why is this sentence wrong, what is wrong with this sentence; get the point, because native is speakers intuitive judgment, only a. Native a speakers

intuitive judgment is only responsible for grammaticality or ungrammaticality. Any speaker will tell you within no time that the sentence two is not good.

Why, is not the valid question for native speakers? Do remember these things still; great. And that part is universal; natives intuition is the strongest tool for eliciting linguistic data, checking data, but explanation of the data is the job of the people who are looking at this structure, not. We cannot expect this answer from speakers of the language.

Now,. So, we can say, why this sentence is not good. The reason this sentence is not good, is they are seems to be certain islands, certain elements appear to be working like islands in languages. And when we try to extract anything out of that island, the sentences result in ungrammaticality, and in this case we are trying to extract it from an island, which is called Wh island we can call that Wh Island.

Therefore any extraction out of this clause why Rahman composed the song is not good. Get the point. If you just had a sentence why Rahman composed the song; that is a questions by itself; that is a different story, but in the context of the sentence, I wonder why Rahman composed the song. In that bigger sentence why Rahman composed the song is a complement clause, and that acts as an island. This is what is stated in the first statement. A Wh phrase cannot be. A Wh element cannot be extracted out of a clause that begins with a Wh phrase itself. Clear. The second one should be simple, can we move, making sense. Now look at a complex NP.

So, we will look at. Example one is giving you a complex NP, and the idea here is also.

Complex NP Constraint

- You cannot move a Wh-phrase from such a clause to a position outside the Noun Phrase.

1. He likes [$_{NP}$ the idea [$_{CP}$ that space travelers will reach Mars]]

2. *[Which planet]$_a$ does he like [$_{NP}$ the idea [$_{CP}$ that space travelers will reach t_a]]?

We cannot move a Wh phrase from a clause to a position outside the noun phrase; that is from the complex NP. There is an error in presenting the constraint itself. So, here is, here is the complex NP. He likes the idea; that is space travelers will reach mars. What is the verb in this sentence, in the main sentence?

Student: Like.

Like transitive verb, and the complement of transitive verb is.

Student: (Refer Time: 12:25).

The whole thing, after that is the compliment right. The idea that is space travelers will reach mars; that is the whole thing as a complement.

Now, what is it what is the status of this thing?

Student: (Refer Time: 12:43).

That is an NP, but its not an ordinary type of NP, its an NP, and it has a clause following it, which is in a generic term, this kind of clause is called a relative clause. The purpose of that clause, is to modify the NP. And all the relative clauses are technically like adjectives, because. What do adjectives do in a language, in a sentence? What do adjectives do?

Student: (Refer Time: 13:18).

Objectives qualify what.

Student: (Refer Time: 13:22).

Nouns, and what do we mean by qualify.

Student: Describe.

Describe; that is adjectives give us some additional information about noun right. When we say, a tall boy, we are putting some qualification on the noun boy, meaning we are talking about the height. In that sense a relative clause is like an adjective, because the whole clause modifies the noun.

So, this NP, the idea with the clause is called complex NP; that is the meaning of complex NP. And the idea is, extraction out of this complex NP is not going to be possible. So, if you say. Look at the second sentence, and why the second sentence is not good, is because we are trying extraction out of complex NP. Can you see that? Do you agree that second sentence is not good? What planet does he like the idea that a space traveler will reach right. I do not look like a good type of sentence right. Its maybe a little bit difficult for us to process, because we are not native is speakers of English, but with little bit difficulty, once we start looking at it carefully, we reach the conclusion very fast that there seems to be some problem with the sentence. even out of the context if I gave you this sentence, in a minute or less than a minute you will be able to say this sentence is not really very good; that agreeable thing.

So, if we are told to explain this sentence, why this sentence not good. Then we can say the sentence is not good, because we are trying to extract from the NP, complex NP. The idea that the stress space traveler will reach mars from that we are trying to question the planet. So, we are saying, which planet does he likes the idea that a space travelers will reach; get it. Can you see the point with the bracketing, is that clear right. You can see the same thing in the structure two, but I hope you are the structure in mind, and then you can see the extraction is not working out clearly; clear, any issue, questions all right.

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Let us look at the second one. Next one. This is coordinated constraint; that is, we cannot move out of a coordinated clause. So, what do we mean by coordinated clause, let us look at this first, first example in one John gave a flower to Mary, and Bill a chocolate to Nancy. What is the coordinated clause in this sentence, what is the verb in the in the sentence.

Student: (Refer Time: 16:52).

Gave right. And then what is the coordinated clause; a flower to Mary, and a chocolate to Nancy. Basically its like, its two sentences coordinated with end. The sentence is, John gave a flower to Mary, and Bill gave a chocolate to Nancy; that is that, these are the two sentences, when we coordinate the two, because the verb is the same in both the sentences. So, we take the verb, and put the coordinated sentences without the verb.

So, the sentence becomes John gave, this the verb, this far we have the verb; a flower to Mary, and Bill a chocolate to Nancy. So, we do not need to repeat the verb give in the second sentence and the sentence is. There is another name for this in earlier versions of phrase structure grammar and things like that, but that is not important for us to discuss.

So, you understand the coordinated structure. Now the point is, we cannot question, we cannot extracted Wh phrase out of It, meaning we cannot question another element in this coordinated structure, which is if we try to question what did John give to Mary and

Bill a chocolate to Nancy. The sentence does not look good, because we are extracting out of coordinated a structure. Therefore, the generalization says; extraction out of coordinated is structure is not possible, and therefore, we say coordinated the structures are like islands. Get the point. I just put the point below for generic reference. We are done with our point, but we can say.

And this is called across the word movement, that movement out of both coordinated clauses at once is allowed. So, we can say something like what did John give to Mary and peter to Nancy. The sentence is all right; that is the extraction is, out of the two at a time. Just like we extracted verb, and left the two coordinated clause, we can question from both at a time and that we will fine, but cannot question one and leave the other, that results in ungrammaticality. We use these kinds of sentences in day to day life, is just that somebody put, somebody has looked at it more carefully. We use these kinds of sentences all the time. Can I move?

Student: What is (Refer Time: 19:59) John give (Refer Time: 20:02).

Ok I am sorry, I should have mentioned, I should have talked about that. Its not a very complicated thing. See first of all a, these are two different things, a is working like index what we used yesterday with i. So, that is the index, t is trace. So, t is showing you that from here something has been extracted. So, once we extract something then we leave the trace. So, earlier I have been showing you this trace with a dot dot dot, or the blank space this time I just put the t, as putting it as trace all right.

Now, what I want. So, the this thing was available in the other slides too. So, in other places also t means trace, and then what the. The reason why we are using index is, we are trying to say look at. For example, look at sentence number three. John gave t and index, we are trying to say that this is the trace, from here something has moved out. And therefore, the question word what, is co indexed with this trace and question word what is also co index with the trace in the other sentence, is what we are trying to show with this trace and index all right. I am really sorry; I should have talked about that notation. Another point subject NP constraint, we cannot move out of a subject NP. So, if we have something like reading science fiction irritates me, this is not a real sentence. Reading science fiction irritates me, what is the subject of the sentence.

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Subject NP Constraint

- We cannot move a Wh-phrase out of a subject.

1. [subject Reading science fictions] irritates me.

2. *[What kind of books]$_a$ does [$_{IP}$ [reading t_a] [$_{VP}$ irritate you]]?

(Movement out of a subject is bad.)

Student: Reading science.

Reading science fiction; that is a subject NP. If we have just an NP ad John or Mary, then that is one singular lexical item. So, there is no question of extracting anything out of that. So, when we say extracting out of subject NP, we mean only when the subject NP is bigger. So, for, to test that we have to make the subject NP bigger, and here is the subject NP reading science fiction.

So, if I try to question anything out of that, what kind of books does reading irritate you or irritate me. The sentence is not good. What kind of books. So, I am trying to question science fiction, I am not reading. So, is I am saying, what kind of books does reading irritate you. Its not giving us a good sentence, because we cannot question part of the np; that is part of the subject NP. Therefore, the sentence is not good. You can question the whole thing what irritates you, reading science fiction irritates me.

So, if you question the whole thing; fine, but cant question this, and if you want to use this tool, to show it to someone that reading science fiction is one NP. We can use this diagnostic tool of Wh question also, to show that this whole thing is one NP. You can say look you can question the whole NP with what. Get the point. So, in a variety of ways these tools are designed and used in natural languages to talk about different points. So, the generalization is, movement out of a subject is bad, results in ungrammaticality. Just one more point before we stop ah.

Adjunct NP Constraint

You cannot move a Wh-phrase out of an adjunct.
1. I laugh [while reading science fiction Adjunct].
2. *[What kind of books]ₐ do [IP you [VP laugh [PP while reading tₐ]]]?

(Movement out of an adjunct is bad.)

Adjunct NP constraint, again moving out of adjunct NP is not allowed. We can question just like we have seen subject NP. We can question the entire adjunct, but we cannot question this part of adjunct. So, we have a sentence, I laugh while reading science fiction, while reading science, science fiction is an adjunct. Why is an adjunct, how do we know it is an adjunct.

Student: (Refer Time: 24:29).

Because the verb is intransitive very nice. Well verb laugh is intransitive, and anything that comes after this is going to be adjunct. So, I laugh while reading science fiction. now if I want to question science fiction again out of this NP, then this is going to result in ungrammaticality, what kind of books do you laugh while reading, its not good; however, we can question the whole phrase again, why do you laugh right, or when do you laugh. I am sorry when do you laugh, I can say I laugh while reading science fiction. There could be many reasons for me laughing, but we can say I laugh while reading science fiction.

So, movement out of an adjunct is bad. Is this clear? So, there are these 5 6 types of constraints, that we observed, that people working on English observed, when they were looking at these types of NP, and movements together. And therefore, these are called. You can use these names as the adjunct NP, subject NP, or Wh Island, or complex NP, or as a whole together sometimes these are called island constraints. Point is very simple, form certain kinds of elements extraction is not allowed. Extraction meaning extraction

is used only when we have Wh phrases. So, this is not the story of NP movement. This is the story of Wh movement. We stop here.

Thank you.