Language and Mind
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Module - 07
Lecture - 34
Sentence
Referential Expressions

In our efforts to understand sentences, today we will look at referential expressions. We will try to understand the term referential expressions, examples, and how they help us understand underlying patterns of sentences. Let us first look at what we mean by these referential expressions and how they work in the construction of sentence and understanding underlying patterns.

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This also forms part of a particular theory of grammar and in such a theory it is known as Binding Theory; and this whole theory is related to interpretations of noun phrase.

Some examples ...

– John saw himself.
– *John saw him.
– John thinks that Mary likes him.
– *John thinks that Mary likes himself.
– John thinks that he is a genius.
– *John thinks that himself is a genius.

So, here are some of the examples that I want to draw your attention to. Look at the color scheme as well and the explanations that follow. We have a sentence – 'John saw himself'. What does this sentence mean? This has a meaning which involves the interpretation of 'himself' as a pronominal element which refers back to the noun phrase 'John'. This is why when we say 'John saw him', this is not a good sentence, particularly in the interpretation where 'him' and 'John' are co-referential. 'John saw him' could be independently a grammatical sentence, but it is not when 'him'…we want this pronoun to refer to 'John'.

Now look at the next one. 'John thinks that Mary likes him'. 'John thinks that Mary likes him'; but the sentence is not grammatical when we say 'John thinks that Mary likes himself'. There is an explanation to the ungrammaticality of this sentence and it is important for us to understand why the sentence is ungrammatical and where it fails in interpretation.

Next set of sentences: 'John thinks that he is a genius'. 'John thinks that he is a genius'; however, sentences like 'John thinks that himself is a genius' is not grammatical; it is not acceptable. The stars in front of sentences on your screen represent ungrammaticality of those sentences, and the two sentences like 'John thinks that Mary likes himself' and 'John thinks that himself is a genius' are ungrammatical in all situations; whereas, the sentence 'John saw him' is ungrammatical only when we want 'John' and 'him' co-

indexed, dependent on each other. Independently, this sentence is good when we mean by 'John' and…; 'John' as a different person and 'him' referring to someone else.

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Classification

- Anaphors: *himself, herself, itself…*
- Pronouns: *she, he, her,* his, *it …*
- R-expressions: *John, the student …*

Now, how does the story build with the help of these examples? You understand these examples now. And here is the story. But before we understand this story, let us understand the terms. Elements in language like English like: himself, herself, itself, myself, themselves - are called anaphors; elements like he, she, her, his, it, I, we - are called pronouns; and things, nouns like John, the student, Himalayas, newspapers - all of them are called R-expressions. R-expressions mean referential expressions. What is the relationship between these elements and the examples that you have seen so far? Please back track momentarily and see why we are trying to understand this. We are trying to understand functioning of sentences. We are trying to understand underlying patterns and some levels of representations in human mind where these sentences are represented at a deep structure, where these elements are actually functioning.

Binding Theory

- Module of grammar/theory regulating NP interpretations is called Binding Theory.

- Binding Theory has three Principles. They govern distribution of NPs.

- They are called:
  - Principle – A
  - Principle – B
  - Principle – C

So to talk about these things, we have given names like binding theory; and what we want to add to that phenomenon of binding theory, that the whole theory is about these types of elements like: anaphors, pronouns and R-expressions. So, now we understand binding theory. And we once again…binding theory simply means a set of principles that govern elements like anaphors, pronouns and R-expressions.

For the purpose of convenience, these things are called Principle - A, Principle - B and Principle - C, where A, B and C are simply numbers, and they mean that Principle - A governs anaphors, Principal - B governs pronouns, and Principal - C talks about R-expressions. So, that is the relationship between the classification of these elements and the theory and its components like: Principle - A and Principle - B and Principle - C.

Anaphors

- An anaphor does *not* get its meaning from the open world – it depends on something within the sentence.

  - John saw himself in the mirror.
  - Mary bought herself a sandwich.

What is an anaphor? We need to understand that part as well before we look at its interpretations in a sentence and the implications of such interpretations for understanding sentences. An anaphor does not get its meaning from outside the world; that is, it has to depend on its interpretation for its meaning from something within the sentence; such as, when we have seen examples of anaphors and in the two sentences that you see on the screen: 'John saw himself in the mirror; 'Mary bought herself a sandwich'. 'John saw himself in the mirror' is a sentence where the element 'himself' is an anaphor, and for its interpretation it depends on another element 'John' which is also the subject of the sentence, for its interpretations. This is how we get the meaning that - what 'John' saw in the mirror is 'John'.

In the same way, in the sentence 'Mary bought herself a sandwich', 'herself' is an example of an anaphor and for its interpretation, it depends on other noun, other noun phrase 'Mary', and this is how we derive the meaning of this sentence: 'Mary bought herself a sandwich' and it means 'Mary bought a sandwich for Mary', where 'herself' and 'Mary' are talking about same people, same person.

Pronouns

- A pronoun doesn't refer to something in the open world too. However, it may get its reference from somewhere else and does not need to depend on something within the sentence.

  – John told Mary that he likes pizza.
  – Mary wondered if she agreed.

- …but it doesn't *need* to be something in the sentence.
  – Mary concluded that he was crazy.

A pronoun on the other hand does not refer to something in the open world too. However, it may get its reference from somewhere else and does not need to depend on something within the sentence. For example, look at the sentence like 'John told Mary that he likes pizza'. 'John told Mary that he likes pizza'. This is an example where… what we mean is, the element 'he' which is a pronoun does not have to go outside for its interpretation; it can depend on something within the sentence for its meaning such as when we say, John told that… 'John told Mary that he likes pizza', by 'he' we mean 'John'; 'Mary wondered if she agreed'. In this example 'she' refers to someone else.

So the point is, it does not need to be something within the sentence for the interpretation of a pronominal element. Therefore, we see an example like 'Mary concluded that he was crazy'; here, 'he' has reference outside the sentence. So these are the things which help us understand pronouns.

R-expressions which is a short form for Referential Expressions means, NPs like John, Mary, or the professor, the student, a pretty girl, and all these things get their meaning by referring to something in the world; that is, not within the same sentence. By world we simply mean, outside the context of the sentence. So, an R-expression does not have to depend on anything within the sentence like anaphors do for their interpretations. And R-expression will receive its interpretation independent of anything else in the sentence.

Then how do we describe the problem? Here is the problem. There are very specific configurations in which anaphors, pronouns and R-expressions must be used. Now we need to look at sentences carefully. We have seen the descriptions of these elements like anaphors, pronouns and R-expressions. We have seen what they mean and we have tried to understand their context also with the help of examples. Now, by the problem we mean, we need to understand the domains in which they occur. So, what is it that the examples on the screen tell us? Even though both 'he' and 'himself' could refer to 'John' below, you can just choose freely between them. For example, 'John saw himself' - it is a good sentence; but John saw…in the sentence 'John saw him', we have just seen the meaning of a pronoun and the meaning says, sometimes it could refer to something within the sentence also; but here it does not.

The moment we make it refer to the other noun within the sentence, the sentence becomes ungrammatical; that is all about the grammaticality of the sentence 'John saw him'; whereas, when we say 'John thinks that Mary likes him' as a good sentence, but 'John thinks that Mary likes himself' is not a good sentence, in the sense that it is ungrammatical, what we find that this 'himself' which refers to 'John', but… and it is still part of the same sentence, but the sentence is not grammatical. So, there is something that is going on here which we need to understand in order to understand their dependence and interpretations.

Look at the next sentence again. 'John thinks that he is a genius' - is a good sentence, but 'John thinks that himself is a genius' is an ungrammatical sentence. Even though 'himself' could potentially refer to 'John' and in a sentence like 'John saw himself', we have just seen that the element 'himself' has to fully depend… has to be fully dependent on the NP 'John' for its interpretation; but this sentence is still grammatical. The answers are clear; that the anaphor 'himself' is not receiving its interpretations from 'John' and the sentence is grammatical.

How do we explain these sentences in the context of the domain of a sentence? The key is, binding theory answers these questions such as, questions like: When do we use anaphors, pronouns, R-expressions? What are the contexts of their uses? When we try and understand binding part of it, it helps us understand the whole theory.

Again we need to pay attention to two more terms, where the terms are: indices and antecedents. So, several times I have used the term like co-indexed and antecedent. So, we just need to understand these two terms like, anaphors and pronouns are referentially dependent; they can or must… depending upon cases, they are co-referential with another NP in the sentence. So, what we are saying here is a pronoun can be co-referential with another NP in a sentence and anaphors must be co-referential with another NP in the sentence. Keep the problem in mind. We have still seen sentences which are not accounted for. So, the way we indicate the two NPs is what we refer to when we say co-referential and this is done with the subscript of a letter 'I' to indicate that the two elements mean the same thing.
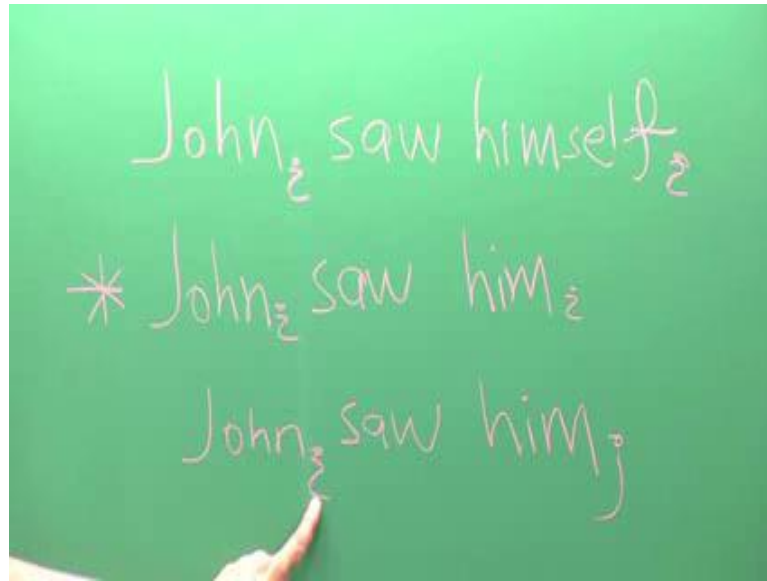
Here is what I mean if you have somehow missed it. So, when we say 'John saw himself', this is the meaning of co-index. So, this 'i' and when we put here 'i', then we say… then the sentences are grammatical. So, if we say 'John saw him' and we want this 'him' to be co-indexed with 'John', then this sentence is not good; this sentence in ungrammatical. However, this sentence becomes grammatical the moment we say 'John saw him' and in this case 'him' is not referring to 'John'. So, the indices like 'i' and 'j' help us understand that they are not referring to each other; whereas here, we mean they are co-referential. That is what we are trying to say. So, NPs that share same index are called co-index. So, we can say 'John' and 'himself' are co-indexed; or 'John' and 'himself' are co-referential.

Antecedents and Co-indexing

- John$_i$ saw himself$_i$ in the mirror.

- The **antecedent** is the NP from which a reflexive or pronoun draws its reference.

- *John* is the antecedent for *himself. John* and *himself* are co-indexed.

At the same time, we can say… if you see the screen, 'John saw himself in the mirror' or 'John saw himself' for the purpose of a short sentence, 'John' is the antecedent of the anaphor, because antecedent is something on which anaphors depend for their interpretations. So, 'John' is the antecedent of 'himself' and they are co-indexed, so that is the difference… that helps us understand things like indices, antecedents and co-indexing.

Constraints

- John$_i$ saw himself$_i$.
- *Himself$_i$ saw John$_i$.
- *John$_i$'s mother saw himself$_i$.

- What is different between grammatical and ungrammatical sentences?
- How can we explain them?

Now we are going to look at constraints. So we see… now let us look at these three sentences on the screen afresh. 'John saw himself' - when we see 'John' and 'himself' being co-indexed with each other, the sentence is all right; but 'himself' and 'John' which are still co-indexed in the second sentence, the sentence is not good. So, what is the story here? The story is… and what we mean by the story is, what is the difference between grammatical and ungrammatical sentences, in the first two at least. How can we explain them? What helps us explain the ungrammaticality of the second one and grammaticality of the first one?

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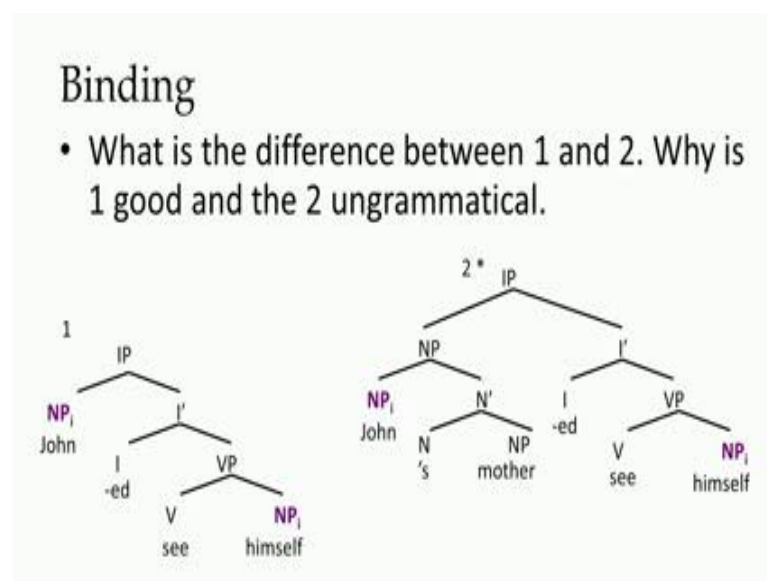
Let us look at the two sentences in terms of their structure and then we will see why one is good and two is not good. So, before we come to this structure part, to understand sentence one – 'John saw himself' and 'Himself saw John' - what we can say about this is the antecedent must precede anaphors, and anaphors cannot be antecedents for… anaphors cannot be antecedents by themselves.

Therefore 'Himself' when precedes the antecedent 'John', the sentence is not good. Why the third one is not grammatical is what we are going to look at with this structure. So, when we say 'John saw himself', we see in the canonical structure of IP where 'John' in the spec position of I which is the head of the sentence, and then 'himself' is in the object position of the verb 'see'. What we can say here is going to follow; but please look at the two examples carefully. 'John' is in the spec position of IP. In the second sentence,

'John's mother saw himself' - and we said this sentence is not grammatical. Please look at the star mark again on the top of the IP. It indicates that this structure is not warranted, this structure is not grammatical.

So, what we are saying is 'John's mother saw himself' is not a good sentence, and when we draw the structure of this sentence, we find 'John' not in the spec position of the IP. Please look at this structure carefully. What is in the spec position of IP is the entire NP 'John's mother' and 'John' is in the spec position of the whole NP that is the subject of the sentence. So, 'John's mother'… in the whole NP 'John's mother', John is in the spec position of the NP which becomes the subject of the sentence as a whole, and 'John' itself is not in the spec position of the sentence.

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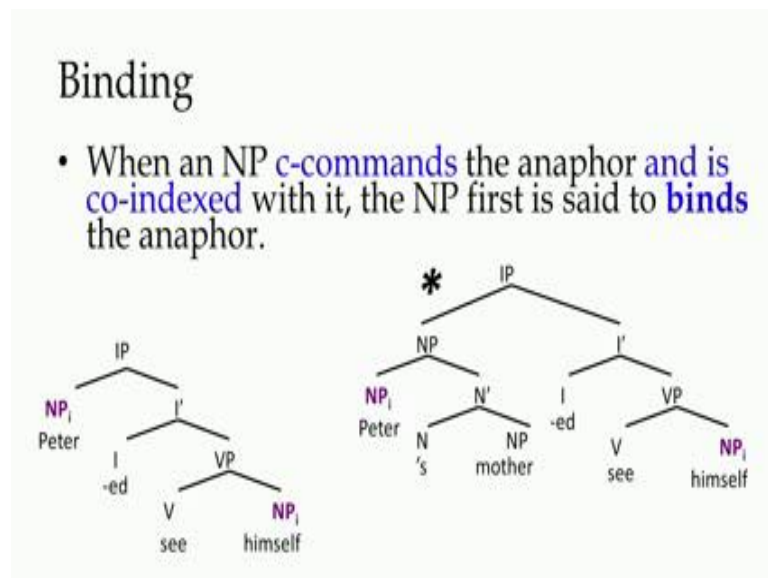
This is an important point for us to understand because what we actually need to say is we want to introduce a term which is called c-command; and what we are saying here is when an NP c-commands the anaphor, then what we see is it binds the anaphor. And in other words, an NP binds the anaphor only when it c-commands the anaphor. In the first structure here, 'John' c-commands anaphors, anaphor 'himself' because it is part of the branch, it is part of the phrase IP which dominates 'John'; at the same time, it dominates NP 'himself'. But 'John' in the second sentence is not directly the part of the IP which 'himself' is also part of in the second structure. Therefore, in the second one, 'John' does not c-command 'himself'.

Please look at the readings associated with this to help you understand these two structures as well. And therefore, we understand the term binding as part of the theoretical construct which helps us understand the underlying operations and underlying patterns of these sentences.

Thank you.