

Basics of Language Science
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Lecture 36
Noun Phrase Interpretations in Binding Theory

We are going to be talking about another module of principles and parameters framework of linguistic theory which is independently called Binding Theory. Now, just a small note on this terminology the whole approach of principles and parameters in natural language is also known as the approach called Government and binding theory, these are the different names for similar types of explanatory tools of natural language.

So, if someone asks you the differences between the principles and parameters approach of looking at natural language and that of government and binding the answer is none, they are the same thing. However, these terms independently mean different things: principles mean something else; parameters mean something else; government means something else, and binding means something else, that I am going to show you today.


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So far ...

- While looking at linguistic theory in the framework of Principles and Parameters, we have looked at X-bar Theory, Case Theory, Theta Theory, and Displacement/movement.
- We have looked at the evidence and motivations for movement?
- We have looked at the examples of Wh-movement and NP-movement

Questions

- We will discuss Binding Theory?
- We will discuss some aspects of the interpretations of noun phrases.



So, while looking at linguistic theory we have been looking at several things we know. At first, we looked at empirical facts of language in terms of its structure at the level of sounds, words, and sentences, and started looking at that. And then, we started looking at what it is that we call principles of language, parameters of language? And, what is it that the whole approach called principles and parameters in natural language that does in terms of explaining abstract phenomena underlying language?

In other words, abstract rules underlying language. And finally, how does it really work? What do we mean when we say the human mind has a great role to play in learning a language? It is a unique phenomenon, we do not know how we end up speaking so much that we speak, we do not know how everybody speaks the same way in one language, within a language or beyond boundaries of languages.


So, we looked at several things and we barely touched a couple of issues while talking about differences between I-language and E-languages about E-language. Because a larger chunk of what we ought to discuss in this course within the framework of this course was related to I-language therefore we are still sticking with how I-language works? And, what is it that? A particular linguistic theory provides us with understanding natural language and when and continuation of that we are going to be looking at binding theory. What is it that we call a binding theory?

It's like, I have been telling you all the time names are names, names mean anything only in the context like we have discussed about words too that they are arbitrary, they acquire meaning when we provide the meaning they do not mean anything by themselves, there is no reason why something should be called that thing. So, the same thing applies here.

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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.



However, let us look at what we mean by binding theory? We begin with looking at some examples, even before we look at an example just a sentence about binding theory. It is about, interpretation of noun phrases in a sentence that is within a sentence and the reason why we are saying within a sentence is because the minimum unit of discussion, the minimum unit for evaluation of anything or explanation of any sort of syntactic type is coming from a sentence, that is a sentence is a minimal unit of study for understanding I-language, for understanding structure of language.

Therefore, when we say interpretation of noun phrase, we mean interpretation of noun phrases within a sentence. So, we are going to look at them and if now before we look at more of that in detail. Let us look at some of these sentences starts in beginning of these sentences represent their ungrammaticality that means this sentence the start sentences are not grammatical according to the intuitive judgments of native speakers or for that matter this much intuition even we have as non-native speakers of English that these sentences are not good. So, what are these sentences?

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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.



And, I have also put some of the things with colors for us to see. So that we can understand the things that we are referring to in the sense that what are the things that we are talking about when we say interpretation of noun phrases. So, we have a first sentence John saw himself in this sentence there are two parts, one is John, the other is himself assuming that we know about the grammatical relations, where one is the subject, the other is the object if we look at the grammatical category that is the category of a lexical item John is a noun phrase.

And himself, by the way we are talking about this kind of a phrase for the first time in the class. What is the meaning of himself? And if it is a noun phrase, we are giving it a broader term which is called noun phrase. But, what type of thing is this? It is somewhere, very close to a pronoun. Because, we have seen something similar of that sort which is?

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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.



Let us look at the next sentence John saw him. So, do you see any similarity between him and himself, similarity between them, there is some sort of similarity between them. However, there is a difference too and the difference between the two leads the second sentence to ungrammaticality. However, independently the second sentence is not ungrammatical. You see the point independently: the second sentence is not ungrammatical and these things have meanings in terms of me, in terms of grammaticality of or ungrammaticality of a sentence given the interpretations of noun phrases.

So, let us move a little bit slow in order to understand this thing, not that we are trying to understand the sentence we are trying to understand a phenomenon. So, there is a similarity between him and himself, him is a pronoun. Therefore, we can say himself is also something like a pronoun; therefore, it qualifies to be a noun phrase. However, him is a canonical true pronoun and we are not that sure about himself; it looks like a pronominal element. But, I'm not that sure about it.

Now, a word about and grammaticality of the second sentence I said and you agree with that independently the sentence is not ungrammatical. But this sentence is marked ungrammatical here. Can you tell me a little bit why this sentence under which circumstances this sentence sounds ungrammatical and under which circumstances this is alright we know this thing.

So, can somebody quickly tell me in two sentences, the sentence John saw him is ungrammatical if, we mean John by him if, him stands for someone else in the discourse then it is alright this sounds trivial. But, hang on we will come back to that it has something to talk about the interpretations of noun phrases that is to say, in the first sentence there is a relationship between John and himself, in the second sentence there may be or may not be if we try to establish relationship between John and him then the sentence is bad.

And if we leave them independent then there is nothing wrong with the sentence. So, that is the part we need to keep in mind.

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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.



Third one, John thinks that Mary likes him, the sentence is good. Now, it has independent noun phrases like John, Mary and then it has a pronoun him. Who does this pronoun him refer to? John clearly John, clearly. And now, compared with the first sentence, sorry I do not have numbers here. But I am sure you can compare with the previous sentence that John saw him. The third sentence is good, in the second sentence him could not be associated with John therefore, the sentence is ungrammatical.

But, in the third sentence it is ok to associate him with John. Do you see the point? And the sentence is completely alright. So, this must have some, there must be something going on here alright we will come back to that story in a moment.

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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.



In the next sentence, John thinks that Mary likes himself is bad, this sentence is not grammatical not just because of Mary and himself not just because of that.

However, that is true if we say John thinks that Mary likes herself then the sentence is good. But, keep in mind even if we put.

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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.



Let us say, we put Peter in place of Mary in that sentence, this sentence is good, John thinks that Peter likes himself. Now, in that case I do not have that sentence here therefore I am just telling you in that. However, himself has something to do with Peter not with John. See this thing in that context my point is to look at the previous sentence again him can refer back to John in the previous sentence.

But, himself cannot refer back to John in the sentence that we are talking about, get my point then, the last two sentences. John thinks that he is a genius, sentence is good. Now, who does he refer to in this sentence? John, it could be John. Could it be anyone else also? Yes, it can be anyone else also. So, comfortably we can say this sentence could be ambiguous and could have at least two different meanings. Now, how do two different meanings come from? We do not want to go into the details of semantics.

But, just as a note here how does the ambiguity pop-up, ambiguity comes in by the interpretation of the pronoun he if, we interpret it independently then it has a different meaning then the sentence has a different meaning if, we interpret this pronoun with reference to John then it has a different meaning get it.

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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.



Finally, John that himself is a genius, is not a good sentence which is to say that himself in order to refer to John there seems to be some problem. Now, look at the first sentence John saw himself is perfectly alright. But when we say John thinks that himself is genius is not a good sentence. In other words, there is no problem establishing some sort of relationship between John and himself in the first sentence.

However, in the last sentence it is not really possible to establish that connection between John and himself. These are very simple sentences I hope I have given you in simple terms the interpretation of these elements in color which you know as noun phrases and pronouns and nouns and stuff like them.

And, the ambiguity that comes out of them is the reason why these sentences that are marked with the stars may be ungrammatical? However, what do we need to understand? What we mean by interpretation of noun phrases in syntactic terms is the following: what allows reference between John and himself in sentence one and what stops reference between himself and John in the last sentence. What is the problem?

If the pronoun *him* refers to *John* in the second sentence these are the theoretical points that we need to discuss with the apparatus that we have seen so far, which are at least phrases I am sorry, x-bar is key and then we will see if the existing apparatus gives us explanation to these things. And, are those explanations convincing enough? Alright. So, that is the purpose.

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Classification

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



And, that is how we look at binding theory. So, the terms like *himself, herself, itself* are called reflexives, these terms are called reflexives, they are called reflexives or reflexive pronouns. Because, they reflect back to something in a sentence for these kinds of pronominal elements to appear like *himself, herself, itself* themselves they need to co-refer to some other elements in the sentence, they need to co-refer to something else in the sentence. In other words, they need to depend on something else for their interpretations therefore, called reflexives or reflexive pronouns.

Now, here I have put the term anaphors, anaphors is a theoretical terms in government and binding, in principles and parameters which means reflexives and reciprocals together do you understand when I say the term reciprocals sorry back to itself, that is right reciprocal no back to itself is reflexive, reciprocals are terms like each other if, we say something *John and Mary like each other* the term *each other* is called a reciprocal term which refers back to *John and Mary*, when we say *John and Mary like itself* the sentence is not good.

Because, *itself* is a reflexive and it needs something called a reciprocal. So, that the elements like reflexives and reciprocals both together are called anaphors. However, like always I give you this freedom that these terms are not that important, what is important is phenomena? *He, she, her, his, it* these are simple pronouns there is a typo *his* is not italics has got no meaning it is just a typo. The terms like *John, Mary, computer, classroom, students*, these terms which are like nouns are called R-expression. We can still call them nouns. We are not changing anything that I only want you to know they are called R-expression.

Because, they are R-expressions mean referential expressions they also receive their interpretations in sentences when we use a sentence, when we use noun phrases like these, they receive a particular meaning in a sentence and bear with me I will tell you what we mean by that the reference of an reflexive is dependent on

something in the sentence. However, the reference of a referential expression like John is not dependent on anything in the sentence rather it is dependent on something in the entire world which is the following with one more sentence about it. Do you know how many Johns there are in this world? No, nobody knows.

But if we end up talking and I ask you did you know what happened to John yesterday? This conversation between us and this small extraction of this sentence has a reference to John out of all the infinite Johns in the world the speaker and hearer knows about the reference of the John in this sentence. Infinite Johns in the world we know who we are talking about this is why it is called R-expressions.

In other words, it receives its reference from rest of the world in a given discourse which for, which it does not have to depend on any other component of a sentence making sense it is not a very complicated thing that I am discussing it is a very simple idea, it simply means these terms have their independent references, they are not dependent on anything else clear.

Sir, are all nouns R-expressions? All nouns are R-expressions that are right, no one, no noun is a pronoun, no noun is a reflexive yes true absolutely right. Sir, we are talking in general terms and say computers are very smart sir, their computers are not R-expression. It is a R-expression that refers to all the computers of the world.

Sir, it is not we are not trying specifying reference, no definitely not being a specific and providing a specific reference I the example that I gave you was definitely of specific reference and the reason I was giving that example is because I wanted you are right I should have said that also whether we want to go all the way down to one out of infinite or we want to put all infinite together everything is possible with R-expression this that will be the future of an of an R-expression.

So, when we say computers are smart, are we leaving any computers out of this thing? With that sentence the reference of the word computers, all is to definitely all the computers of the world. So, true absolutely right. Now, look just, just look at the specificity and breadth of the references that it is providing and that we are capable of providing in a sentence. And, still it is independent for its reference alright, clear reflexives, pronouns and nouns.

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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



Now, I have already told you about this thing I wanted to talk about a little later. But, it's important to at least refer to this part that a particular module of this theory which regulates noun phrase interpretations is called binding theory. And, when we go again in detail and see this theory has three parts and each part is called, it is given a name like Principle-A, Principle-B.

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Binding Theory

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- Binding Theory has three Principles. They govern distribution of NPs.
- They are called:
 - Principle - A
 - Principle - B
 - Principle - C



And Principle-C, should not be very difficult for you to guess by now, that A, B and C ref would finally end up referring to the three sets that I have shown you. That Principle-A, will be talking about reflexives, Principle-B will be talking about pronouns, and Principle-C will be talking about R-expressions. What is it that they have to talk? Is also very simple. I will show you that.

But still the internal mathematics are not really in the sense of mathematics. But, the internal structure of each one of these principles depends on how we look at structure? And, that we are going to show you that I will show you clear this thing? So, again I repeat this thing that when we try to regulate the interpretation of a noun phrase in a sentence this is the part which is called binding theory. And, we are going to be talking about the governing distributions of noun phrases in a sentence. Are they related? Are they not related? This is part of binding theory.

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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.



So now, let us look at them independently again, before we look at these principles and x-bar theory. So, a reflexive or an or an anaphor noun does not get its meaning from the open world unlike R-expressions that I just give you, it depends on something within the sentence. And, I want to draw your attention in particular when we say, within the sentence we do not mean it in a light sense, we mean in the sense of strict definition of a sentence see my point strict definition of a sentence we do not mean it lightly that anything could be a sentence.

And now, who knows it better than you? What does a sentence mean? Sentence is not an ordinary looking thing in the grammar of natural language, a sentence has its specific meaning.

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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.



So, John saw himself in the mirror. The term himself is a reflexive and John is an R-expression or forget about R-expression right now, John is a noun. So, himself needs to depend on John in this sentence and not on anything else in the entire world.

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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.



This is why it is called reflexive. Mary bought herself a sandwich, the interpretation of the term herself, a reflexive, anaphor has to depend on Mary, whoever that Mary is in the entire world? Given the two sentences the grammaticality of the two sentences tell you that the referential part, referential part is taken care of, this is what is the meaning of a reflexive or anaphor.


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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.

Now, when we talk about pronouns, we have talked about it very briefly. And, we have talked about its description in any grammar whether we are looking at English grammar or Hindi grammar. What have we been told about pronouns? It is a term, which stands for a noun. I am not saying that what we have been told or what we know about it is wrong that is fine.

But we need to look at it in a little bit more detail in the following sense: this is not a complete description of pronouns. But this is at least good enough to begin with which is a pronoun if it is really a little bit fishy, it is not exactly like reflexives, which is reflexives strictly on its interpretation within the sentence we were looking at R-expressions.

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R-expressions (Referential Expressions)

- **R-expressions** are NPs like *John*, *Mary*, or *the professor*, *the student*, or *a pretty girl*, which get their meaning by **referring** to something in the world.
- Most NPs are R-expressions.



And, I am going to show you that also I am coming back to pronoun when we look at R-expressions there is nothing fishy about it the NP's like John, Mary or student, professor, a pretty girl or computers anything as a noun phrase may or may not have a reference outside the sentence. But, within a sentence it receives its interpretation from the whole seps available in the world, get the point?

Another significant point is, it cannot be without a reference in a sentence, that is, a noun phrase must have a reference to something in a sentence, clear. I do not mean to say more than what I am saying now but, I do want you to understand that the things that I am saying some of them may sound pretty obvious. But they have meaning for theoretical explanation. The explanatory capacity of the theory depends on these premises even though they sound intuitive.

For example, I gave you a description of an anaphor or a reflexive that needs to depend on something. You may say it is a trivial point. We see that John likes himself. The interpretation of himself depends on John, you can see it is a pretty simple point. But that is the point, the simplicity of that point lies in the fact that one needs to depend on the other and no matter how obvious it has meaning for the explanatory capacity of the theory, see, understand my point.

So, please bear with this and it is good that these things are, these things may look simple to you and not too complicated. Yes, go ahead.

Student: (O)(30:45)

Professors: No, John still has a reference, think about it, think, see, John thinks he is a genius. In this sentence you are saying there are two possibilities. One where John and he are related, that is when we are talking about the same person. In that case he gets interpretation from John. Stop talking about he for a moment and talk about John. John still gets independent reference from the world, that is to say the interpretation of I prime or one A. In the interpretation of one A, the reference of he depends on John not the other way around.

In one B, the reference of he comes from somewhere else not from John still the reference of John is not dependent on he get the point the common thing between one A and one B is in both the cases John is independent of he, whereas, in one he is dependent on John in B he is not dependent, making sense. And, is this particular to everybody R-expression.

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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.

And, going back to that point, that is the precise thing for which I ended up saying there is no fault with these pronouns. I ended up saying the story of pronouns seem a little bit fishy. And, that is the fishiness which gives us ambiguity. For example, in other words.

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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.

So, a pronoun does not refer to something in the open world that is the first feature of a pronoun, it does not refer to something in the open world that is it, it is strikingly different from R-expressions when we say John thinks he is intelligent, he in interpretation B may not depend on John. But, for its interpretation it depends on something which the speaker and the hearer knows.

It may depend on Peter, it may depend on Bill, it may depend on anybody. But it depends on something that this speaker and hearer knows about therefore, it is not independent world that its reference is limited and known even when it is not referring to the available NP in the sentence for its interpretation we do not have to go too far, not the whole world that is the meaning of the first sentence.

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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.

However, it may be different from somewhere else and does not need to depend on something within the sentence. And, that is the, that is what your example was talking about. And, I gave you it may depend on something in the sentence, it may not depend on something within the sentence and that is what creates a little bit of fishiness.

And, we do not mean it in a sarcastic or a bad way when we say fishiness we simply say, we simply mean that this flexibility gives us ambiguity, ambiguity very loosely speaking is a strength of language, ambiguity is never a problem, or ambiguity is not only the strength of language, ambiguity is allowed within the language never lose the track that we are talking about human mind, ambiguities are allowed in language.

Because, language is one of the finest products of the human mind and the strength of the human mind can still get correct interpretation no matter how ambiguous the sentence is trying to be? I am, I am making sense? And, like I said and that is the reason why I said right in front that we are talking about ambiguity in a very-very non-technical sense.

Because the whole technical description of ambiguity comes in the branch of semantics. It can be mathematically coded or decoded, it can mathematically simulate the ambiguities. And, it is a very fascinating branch of a study of language on its own. So, since we have not been talking about semantics in great detail and I have restricted myself to syntax and then I on the basis of that restrictive description I told you that.

Now, you know what a sentence means and you have seen how long hours we have spent discussing a sentence, we have not discussed meaning in that sense therefore, I am talking about meaning, in meaning and semantics, in a loose sense. However, given the fact that language is a product of the human mind and human mind and the capacity of the human mind, ambiguity no matter how difficult? It is a very simple phenomena of the human mind, it does not mean we need to figure out ambiguity.

But, our mind does not, it figures out very categorically. Look at that sentence also John thinks he is intelligent, we are talking about this as a sample, as an example when someone says this kind of sentence in the context does that person even need to say anything that this time I mean he, by he I do not mean John, we do not need to say these things, we know very clearly whether, it is interpretation A or interpretation B without even getting oblique reference to any one of these things just allow me one more small point.

It is not just about the interpretation of sentences the capacity of human mind is fascinating which you already know I am only referring to them is fascinating in the sense that with sentences, with sentences it reads things that we do not even say, you must have heard things like sometimes people say something they mean something else, have you heard this thing and it happens in day-to-day life.

In other words, such a phenomenon is a very normal pattern in society or within people, among people, human mind has got absolutely no problem figuring those things out you look at political discourse or political context as an example, or a very ordinary context of our day-to-day conversations I may say many things without saying anything of that sort.

And then, you understand exactly what I say that is fascinating capacity and relationship between meaning, language and human mind of which we have not discussed much and when I say we have not discussed much I mean not in a technical sense to simulate how the underlying mathematics of that sort works I conclude by saying that part that we have not discussed here.

But, people have worked on that due to a great deal it a time of computer you are free to google, and look at some of the things that branch is called semantics, and there is another related branch which is called mathematical linguistics, and there are books after books written where, you look at a book of mathematical linguistics it looks like, geometry or algebra it will probably not even give you a single sentence like this that you see here on the screen.

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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.

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- Mary wondered if **she** agreed.

- ...but it doesn't *need* to be something in the sentence.



Mary concluded that **he** was crazy.

And, it talks with the mathematical notations in the entire paper or in the entire book talking about meanings and the interpretation of meaning. In that context we are talking about a very simple small fraction of interpretation. Give me another couple of minutes before we stop.

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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.

So, I am glad that you have already asked this question which I have here. John told Mary that he likes pizza, he is sometimes dependent on John, sometimes independent of John. Mary wondered if she agreed, in this case the story is a little bit different. And, what is the difference in the story? She as the pronoun is categorically someone else given the nature of the world wonder the interpretation of she is not dependent on Mary therefore, this sentence is not ambiguous clear.

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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.

Same thing is clear from the last sentence Mohan concluded that he was crazy I mean, we do not if he refers to Mohan then he needs, he does not need to conclude that.

In other words, nobody needs to conclude that the person himself is crazy; rather, even if you try very hard you will not be able to conclude that. Because, nobody concludes that, nobody reaches that kind of conclusion and anyway I understand I hope you understand what I mean?

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The problem

- There are very specific configurations in which anaphors, pronouns, and R-expressions can/must be used.
- Even though both *he* and *himself* could refer to *John* below, you can't just choose freely between them.
 - 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.



Binding Theory answers: When do you use anaphors, pronouns, and R-expressions?

We have looked at referential expressions. So, what is the problem? In fact, we have been talking about the problem all along. I have not waited for the problems to give you as part as in one place. So, there are very-very specific configurations, in configurations, in a sentence or beyond the sentence in which anaphors, pronouns and R-expressions can or must be used. Do you understand the meaning of configurations, specific configurations? The meaning of a specific configuration is very simple.

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The problem

- There are very specific configurations in which anaphors, pronouns, and R-expressions can/must be used.
- Even though both *he* and *himself* could refer to *John* below, you can't just choose freely between them.
 - 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.



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Did you read something that is in the red? Please read that and then you will understand what I mean by a specific configuration? If a specific configuration is not clear, here it is. The use of *himself* must be within the sentence. If you use this thing across sentences then it is not going to work, this is why and again I am sorry that I do not have numbers. But we can find things. Is this why?

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The problem

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Look at the last sentence, last sentence is not good. Because *himself* is not part of the same IP. Now, I start talking about the sentence in terms of IP even though we say the last sentence has one IP1 and IP2 even though they are related IP2 is the complement of V of IP1 clear? IP2 in the last sentence is the complement of V of the IP1, am I speaking to you, without the structure that is, that should be clear?

So, even if that is true, even if that is true, himself is part of IP2 and that is from IP2 the inter, the reflexive in IP2 and it is the other thing that it refers back to that is called antecedent, that technically called antecedent. So, reflexives in IP2, an antecedent in IP1 is not allowed. That is what we mean by a specific configuration, the specific about this configuration must be within the same IP, two of them must be within the same IP, their interpretations across IP's are not allowed.

There is another problem related to the last sentence, which you can see and you can guess and then I stop there and we will discuss this further tomorrow. Himself if you look at IP in terms of IP1 and IP2 you can see it can never be allowed in the specifier position of an IP, the second. In the second IP, it is in the spec of IP that is a specifier position of the IP2 what is that position for? What is the position for spec of IP?

Subject, subject it can, an expression of that sort can never be part of subject, can never be subject as part of a sentence, and it is not big discovery, it simply means if, something depends on interpretations for its antecedent then it is antecedent, the antecedent by definition means something that precedes it. And, the moment it becomes the first element in the sentence where is the antecedent in the sentence?

Therefore, if there is one position where it can never occur is their spec IP in ordinary sentence also someone, I just gave you that anaphors, reflexives must be within the same sentence antecedent and reflexive must be within the same sentence someone can say, himself likes John both of them are within the same sentence are they ok? No, the only reason for that is the spec of IP is not for reflexives. Because, it needs an antecedent. Clear? More about it tomorrow.

Thank you.