Basic of Language Science

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Lecture 26

Thematic Relations

Last time we started looking at thematic relations among constituents of a sentence. And then we were looking at what are those constituents which have got thematic relations among one another. In order to look at thematic relations we started talking about categorical selections and semantic selections. Remember categorical selections and semantic selections?

The idea of categorical selection, the idea behind that discussion was there are two types of things in a sentence. Rather there are two types of two aspects through which we can look at a sentence. So far, we have been looking at a sentence from the perspective of grammatical relations such as subjects and objects right. Subjects and objects are grammatical relations. No NP is inherently a subject or no NP is inherently an object.

Depending upon a sentence an NP could be in a subject position or it could be in an object position, ok. And then we know about the rest of the constituents of a sentence. So like subjects and objects are thematic relations in a sentence we started looking at like subjects and objects are grammatical relations in a sentence, we started looking at thematic relationships. And then today I will talk to you about the whole how to summarize the whole thing.

And the way we look at thematic relationship in a sentence is called theta theory, ok. There are several, not several at least some of the things which are needed to connect both structural relations and thematic relations, grammatical relations and thematic relations give it a couple of days and you will see the connection between the two.

And also shortly we are going to look at, in a way you understand this but as a practical demonstration I will let, we will see how a sentence, in fact we looked at it a little bit. How a sentence is bigger than an IP, right. Remember when we were talking about, when we started talking about a CP how a sentence is bigger than an IP.

And also how the subject position of a sentence can be, what have you seen so far in the subject position of a sentence, mostly an NP right. You will see how in a subject position of a sentence we can have things which are bigger than an NP that is sometimes an IP and maybe bigger elements as well. And all these things put together give us a recursive, give us recursiveness for which languages are famous. So we can come to that and then these things will make a little bit more sense.

So, let us look at the relationship between, first two perspectives. And then the unified statement about a theta theory. We have looked at endocentricity. I am only going through these things just to refresh your memory. Then we started looking at categorical selections.

And we were simply meant to put the point forth that certain elements, certain categories take specific objects or sub-categorizes for specific elements and this is called categorical selection. For example nouns like know, ask and wonder. How these, sorry verbs like know, ask and wonder, how these verbs can have only certain things as it is object in and such a restriction is called categorical selection and we call that this noun, this verb know sub-categorizes for an NP.

It can sub-categorize for a CP and it can also sub-categorize for a question sentence. This is what we meant. And again I want to underline when we are talking about know, ask and wonder, we are not talking about all the verbs. We are only talking about these words. This is what is important about categorical selections.

Similarly, we looked at some adjectives, nouns and prepositions how they require certain types of complements. In other words, how they sub-categorize for only certain types of elements, ok. And when we started looking at semantic selection that is S-selection and we were talking about differences between categorical selection and semantic selection that is C-selection and S-selection.

We looked at different ways of saying things so that things will be clearer. The same thing that a verb know sub-categorizes for an NP or an IP or a CP or a question sentence we say with respect to semantic selection. For the verb know complement must be a question or a proposition, that is it is just that we do not use grammatical terminology for this thing.

Keep in mind, a short discussion that we have gone through about autonomy of syntax. We have discussed that there is evidence available in natural language which shows us with the help of that we can argue that syntax is independent of semantics. That is, the meaning of a sentence has very little to do with grammatical composition of a sentence. A sentence can be totally meaningless and still be grammatical.

That is the baseline argument for autonomy of syntax or independence of syntax. However, that is not enough. There is a way, we do have evidence in natural language which also suggests that not necessarily it is independent all the time all right fine. It is, it looks independent to a great extent but not all the way.

And that is, this is what selectional restriction tells us that for a sentence to be more meaningful not in the semantic terms first for a sentence, sentences, the point is sentences do care about semantic relations as well. Otherwise we do not really get a grammatical sentence and a lot of times grammaticality of sentence may depend on semantic selections as well that is all is the point there.

There is something called lexical selection and in this category you will see that the verbs or different elements select for a particular lexical item, why? How? We do not know much about that but I just want to show you a list of some of the things. For example, if we are talking about a verb like rely or depend it can only allow a post position on. It does not allow other post positions. We never say rely for or rely in or depend in stuff like that.

Remember we are not talking about categorical selection at this time. The difference between lexical selection and a categorical selection is the following. For a categorical selection we were talking about the full phrase and how a verb is selecting an NP or CP or IP. In semantic selection we were talking about how a verb selects a question sentence or a proposition or a sentence itself.

In lexical selection we are talking about pure lexical elements like preposition namely preposition that you see on the screen. Are you with me so far? Are these things making sense? If there is a doubt, please let me know we are only talking about the terms so far and then I want to go to thematic relations in a moment. Making sense? Ok and then you see further more verbs like hope and toy and the list goes on.

The point here is and the reason why I have given only three examples is very simple. We never say a word any other post position with a word hope, ok. It sounds too strong a statement just check it, ok, listen to people or try to make a sentence with anything else. And this forces someone to look at it in terms of lexical selection. We do not know I mean this is not a, this is not an explanation that I am giving you.

I am categorically telling you we do not know why but it is in a statement of fact that it does not seem to be taking any other element. What is the relationship between hope and for relying on we do not know. And like I have been telling you and trying to connect once one point that we have made way too early in the class.

And it will be a contribution of this class if you can take or if you can really internalize only a few points even a few points at the end of it, if not a huge success that will be a partial success of the things that we have been discussing with. Again remember knowledge of language where we know that we know a lot of things about language. We do a lot of things about language. It is just that we do not know how to explain them.

Some of the things we know, some of the things people have studied and then things have become clearer and still there are lots of things that we just do not know. Invariably irrespective of dialectal variations or language variation speakers of English will only say only take on with rely, what kind of restriction operates in human mind this definitely seems to be part of knowledge of language more so because we do not know why and has not been explained so far.

And then the list goes on and on nouns like love and desire. Remember these two words are not verbs here. They, when they are used as nouns then they take these things. The noun desire does not seem to take off and it takes fall. I am only, I am knowing very well, I am only showing you the list without giving you an explanation for this thing. And I am not giving you an explanation because we do not know the reason for that.

So again and these three sentences make the point that I have just a minute ago discussed with you that we do need to look at semantic selection or selectional restrictions like categorical selection, semantic selections and lexical selection in order to make sentences grammatical. And these sentences are not preceded by star marks because they are not in grammatical sentences.

We have only put a hash mark because they are not, they are semantically not, I do not know how to say, semantically not appropriate sentences. It does not mean much, that is all we can say

about these sentences. Am I right? I do not mean to get into the arguments like in a certain context buildings walk slowly might be true, ok, might be, I mean I am not talking about true and false values of these sentences.

What I am saying may be contextually allowed if you are looking at a computer game then this sentence may be perfectly all right in a given context. But you know what I mean and I am only talking about selectional restrictions and in the larger context these sentences are grammatical but do not seem to be working quite well, alright.

So, with these things we have only tried to make a single point which is keeping autonomy of syntax in mind. We do feel or we do happen to need to look at selectional restrictions as well for sentences to make sense which in turn eventually means to say that we cannot really say fully all the way that syntax is independent, ok and this is where we stop.

Now look at these statements. Are we clear about sub-categorized elements now? Sub-categorized elements in a sentence, the sentences that are, the elements that are required in a sentence, ok. So, this is the story about those sub-categorized elements that just like grammatically they are going to be either a noun or an object, I am sorry either a subject or an object.

Semantically speaking they are also, they are, they also get names semantic names, so thematic relations talks about semantic roles, semantic relations. Is this making sense? Let me repeat this thing again. We are talking at two different levels. We are talking about grammatical level and we are talking about semantic level. At a grammatical level we have seen a relationship between elements, sub-categorized elements in a sentence in terms of subjects, objects right.

Among objects we have seen some of the things are direct objects, some of the things could be indirect objects, right. Semantically speaking, looking at the same sentence from semantic perspectives we find that they also seem to have some sort of semantic roles which are partly governed by syntactic rules.

Keep this in mind, which is partly governed by syntactic rules this is why I wanted to make the point first that syntax does not seem to be independent of semantics all the way. That is there is no complete autonomy between syntax and semantics. To a great extent semantics-syntax do look independent but not all the way because there seems to be some overlap between them.

And therefore I want you to see a description of semantic roles and how those sub-categorized elements are described semantically in a sentence. Is this ok? And then what we are going to discuss is going to make sense. Is the distinction between syntactic level and semantic level clear to everybody?

Are we ok with the syntactic relations? Do we understand what we mean by syntactic relations? Then we can look at semantic relations among those elements from the semantic perspective and then we can see how grammatical relations kind of force. I do not want to use the word govern because that is coming soon. It is a technical term for how grammatical relations kind of force semantic relations, ok.

So, and we start with this statement that every argument that is every sub-categorized argument must have one and only one thematic role assigned in a sentence. So, for example, if you have a sentence like this Brad hit Andrew. How many sub-categories? How many arguments do you see here one or two? And this at this point we will need to make this thing clear. Grammatically speaking subjects are out of predicate, everybody with me?

Subjects are out of predicate, right. So, we can say as far as verbs are concerned it has only one object. It helps you decide only one NP that is within the predicate and it has no control over the subject. In other words we mean that we end up saying that subjects are always there anyway right without a subject we do not have a sentence at all. Therefore, we do not talk about subjects with relation to verbs.

Semantically speaking, this is going to have two different arguments. One is Brad and the other is Andrew. And for a moment please do not look at it in terms of subjects and objects, ok. It has two arguments Brad and Andrew. These two arguments have two different roles in a sentence, ok, two different roles in a sentence. And at this point I want to take you back all the way back where I asked you a question for the first time about the subject.

What is a subject? And so several of you or at least some of you talked about the subject is someone who does something right. When I was talking about verbs I do remember some people talking about something that the action is acted upon so some of the description of those types. At this point I want to bring in that such descriptions are semantic descriptions where what you actually mean to say is that we are not defining subjects.

We are defining agents. When we say a subject does something, we are talking about agents. So in this sentence, the one of the arguments that is Brad is the agent of what? Agent of the action carried on, carried on, ok and is this and this should be with the smallest sentence it should be pretty clear to you that only bread Brad is carrying this, carrying out this action right. We are not using the verb fight.

If we had the word fight then the story would have been different because in a fight several other people could be agents but when we are talking about hitting only one could hit the other. The person who is getting hit may have no role at all in being hit. See this thing, so look at the semantics of this verb or semantic description of its argument that one is the agent and then we will see what the other is. So there are two arguments.

What the first statement simply means is one and only one role has to be assigned to arguments in a sentence. If there are two arguments both of them will have one and only one rule. Both of them will not have the same role that Brad and Andrew both cannot be agents, ok. Brad can be assigned one role and Andrew can be assigned one role, confusions? Problems?

They are coming up but at this stage any confusion? Any problem? No, all right. The second statement X-bar theory generates sentences and theta theory is a checking condition. Is this making sense to you? And if the second part does not just take it as a value, take it for the value of the first part that X-bar theory helps us generate sentences. That is X-bar theory helps us describe how sentences are generated.

And then we will talk about the second part later, how it, how thematic relations, how the way to look at thematic relations which is called theta theory is a checking condition on them, ok. In fact it is not too difficult theta theory here simply means about selectional restriction and then selectional restriction becomes a checking condition for grammaticality of a sentence. No no no no what I qualified that how it (gene) what we mean by how it generates sentences is it helps us describe and understand a sentence.

Student: Yeah parts of sentence but how do we generate like how did how does it explain generation?

Professor: No no no no that is not what it means. What I am telling you what it means is not just how to parse a sentence it helps us understand how different elements in a sentence are related and how the human mind, how sentences work in the human mind, ok, that is all it does. It is not really a physical tool right, it is not really a candy machine in which you put something and it gets you candy. This make sense?

It is a tool, an artificial tool, a hypothetical tool for us to understand if we are speaking a sentence how it is, how did that happen that several elements are connected and then what makes a sentence grammatical. For us to understand underlying patterns of X-bar theory is just a tool to understand that. It is not a, like I gave you the example it is not a machine you put raw elements in it and it gives you candy candies. So, in that sense it does not generate sentences all right ok.

These are just the names and which describes elements in a sentence. Now look at the, there is a whole list of names of thematic relations given in one of the chapters in your book. I have only taken a few of them for us to go through. I do suggest you look at that chapter carefully to understand these things.

And here I want you to understand a very simple point, when we say sentences like Bob saw the car, ok. Bob saw the car or ok this just let us look at the first sentence. Bob saw the car. Do you see that with respect to two verbs that you have seen so far, hit and see right. With respect to two verbs hit and see do you see the difference between, do you see the difference between the kinds of role Brad and Bob are playing in these two sentences? No? Yes or no?

You see what is the difference? With respect to hit and see when we say Brad hit Andrew and Bob saw the car what is the difference?

Student: Brad sort of with hit the action himself and Bob saw the car is not necessarily something that he (())(29:37)

Professor: Everybody understands this? It is not as subtle either, right. It is quite obvious when we talk about hit, it requires some physical activity, action right. And with respect to that seeing is less eventful, see this thing? Therefore, the difference, there is a difference between the roles of Brad and Bob. In the first sentence Brad clearly seems to be an agent of the action. In this one Bob is different ok and one can argue that it is still an agent of seeing which is ok and this is why I said it is going to, things are going to get complicated little further.

But it still does not contradict what we said earlier that argument will have only one and only one theta row. You can assign it to an agent depending on how you perceive it. If you see, if you

think seeing requires some action in that case it is an agent for you. If you think there is a difference, not subtle obvious difference between hit and see then you can assign a different theta role to this all right, see this thing?

And a larger point is the difference between Brad hit Andrew and Bob saw the car is not only captured through it is grammatical relations. For the difference between the two sentences and the nature of the two predicates, looking at semantic relations is also important. Therefore, semantics does not seem to be completely independent. I am sorry, sentence syntax does not seem to be completely autonomous of semantic relations alright.

We have more sentences we can go through, but I want to leave them for you to look at. When we say syntax frightens Jim right. Jim the subject of this sentence, no grammatically speaking Jim is not the subject of the sentence what is Jim? Grammatically speaking, object of the sentence right but semantically speaking you can realize that Jim becomes the experiencer, right.

An experience of what, fear right. So, when we say experiencer or see agent is getting an agency can category can very clearly be mapped on to subject, right. But other theta roles cannot be directly mapped onto their grammatical counterparts like subjects and objects. This is also not really not a contradiction but not a direct overlap either understand this point? There is, the mapping between semantic roles and grammatical relations are not one to one. It is not that subjects are the only one see look at the next sentence.

Susan loves cookies, right. Cookies are not the experiencer. What, who, the argument which is the experiencer of love is not cookies but Susan. And once the role is assigned it is done, one and again here one can argue no no no no no, I do not think it is a, it is really an experiencer, it is an agent. The fight is not whether it is an agent or experiencer.

The point is once it is once you think it is, it for (by you) when I say once you think what I mean is once a native speaker decides that for me, for my English it seems to me as experiencer done. For the other native speaker if it looks like agent done but for the same speaker it cannot be two, both experiencer and agent ok. That is the point all right. There are, there is one or two more that I want you to see.

The next one is called theme, ok and it has its description. You can read that but more importantly look at the examples. Mary loves cookies right compared to both the thematic relations that you have seen so far agent and experiencer. Is cookies and agent here? Definitely not, right. If at all we can classify this agency to something that is going to be Mary right.

If at all and if we do not want to call Mary an agent in that case we can call it experiencer. But Mary is definitely not the theme. Theme is you see the description and the argument cookies seem to be qualifying for this role of being theme, any difficulty? Problems? No? Alright.

And likewise we have few more like goal, recipient, source, location, instrument and there is a huge list of these things. I once again ask you to look at it in the chapter carefully. And if there are questions based on that please let me know. And with each one of them the reason why I am not going through each one of them with you is because it is just a list.

Important thing to keep in mind is what I, what we saw as the first sentence and what I have been telling you. And let me repeat this thing before we look at theta criterion once again. At one level there seems to be a total disconnect between syntax and semantics which is called autonomy of syntax.

You have seen one example, researchers with lots of more examples vigorously argue for that sometimes. For us this is not a religion. We are only trying to understand how people have looked at language. So we need to look at several perspectives. We are not going to commit ourselves to one view or the other. So, my job here is not to show you only one part of the story that no no no syntax is independent of semantics, understand this?

There appears to be evidence in natural language which shows that syntax may not totally be independent of semantics. And a lot of semantic components have to play some role or the other if not everything, some role or the other on constraining syntax, ok. For that we looked at C-selection that is categorical selection, S-selection semantic selection and lexical selection.

Putting all these things together we call them some sort of semantic criteria as semantic selection in terms of the fact that sentences do care about these things too. Otherwise they may be ok in a given context but do not seem to be appropriate right away. Then we have looked at with the help of that we are able to see two different levels that are grammatical level in a sentence and a semantic level in a sentence.

Grammatically speaking, the different terms subjects and objects are grammatical relations. Similarly, several elements that are arguments in a sentence have different roles to play and these are the names of those roles. These names are not mapped one to one with grammatical relations ok. And what happens though is once, to a great extent it seems like agents are all the time subjects or subjects are getting agent theta role to a great extent.

However, other examples show that not necessarily there is one to one mapping between grammatical relations and thematic relations. However what we observe categorically is once an argument is assigned a theta, thematic role it keeps that thematic role. And one argument cannot be assigned more than one thematic role in a sentence at a time. Just like any NP can potentially be the subject in one sentence and the same NP can be an object in another sentence.

Similarly outside the sentence the NPs will change their semantic role but in a sentence one NP one argument must be assigned one and only one thematic role and this is called thematic criterion or theta criterion. And therefore, with the list I have only suggested that you take a look at that list on your own with the thing in mind that the, whether you call something an experiencer or an agent is depending upon native speakers intuition.

However, for people studying language, people look at natural language in these terms and particularly when we are not the native speaker of let us say language like English. We can only say that whether a word, whether in an argument is agent or patient or experiencer can only depend on the nature of the verb. For example, for a verb like hit, the agent, the argument which is in the subject position cannot be experiencer, cannot be patient, it has to be an agent.

Only when we look at other verbs like love. In a sentence like John loves Mary, how do you say, how do I say that John is an agent, it could be an experiencer then the complication begins. My

point is for a non-native speaker to look at these things we need to look at the nature of the verb and the answer is located there, that is in the verb. For a native speaker these things are categorically clear.

In our languages too we have these things clarified and again I have already given you one example of a knowledge of language. This will be another one of all these restrictions that you have seen and both the semantic level or grammatical level whether they are independent or not they are all here.

We all know these things rather than in other words we do not need to know these things obviously when we are speaking in the language which helps us understand that these things are part of knowledge of language. And on the basis of these things the term knowledge of language is a technical term alright, ok, clear about theta criterion? It is just a nice play of the words that you put in a particular way to restrict or present it in the way that I have been describing to you.

Again, I do want you to look at the examples carefully in the book adjuncts are not included in the thematic grid that is in the theta grid. So, only sub-categorized arguments are part of thematic relations not adjuncts. Remember the distinction between adjuncts and complement? So adjuncts are not part of thematic grid.

So, verbs are not responsible for giving thematic roles to agents. This is another example for us to understand that agents are really not part of sentences from both syntactic perspectives and semantic perspectives, ok. They are optionals and all kinds of things that you have seen.

John put the book on the table on Friday. On the table is a sub-categorized element if that is missing the sentence is going to be ungrammatical. We cannot say John put the book on Friday, ok. So, that tells you however John put the book on the table is a perfectly grammatical sentence. Even if we do not say on Friday, it does not have any bearing on grammaticality of the sentence.

Therefore, in this sentence on the table will have a thematic relation, will have a thematic role. And when you look at the list carefully you will see that this has a thematic role location. But on Friday will not have a thematic rule because that is an adjective.

That is another way, another distinction between complement and adjuncts that complements get thematic roles, adjuncts do not get thematic roles. When we were discussing the distinction between complement and adjunct we had not discussed thematic relations. Therefore we did not talk about this distinction, clear?

Give me another two minutes and I will wind it up. So, this is the grid that I want you to see carefully just two grids in the next two minutes. So, in this kind of a sentence these are the thematic relations ok and these are theta rules.

Now I want you to look at the grid, see for a predicate verb like love has two grids, one is experiencer the other is theme. So when we say John loves Mary at a semantic level if both the grids are filled right that is both the arguments are present John and Mary, do you see the co-indices there?

For this verb then the sentence is grammatical. Semantically speaking the sentence is ok. However, the reason why we just cannot say John loves and the sentence becomes not acceptable or ungrammatical is because the other theta, other element, other argument in the thematic grid is empty, it is not filled. Therefore, this sentence is not acceptable. See this thing?

Now one more, John loves Mary Megan, ok. Here pay attention to the sentence, we are not saying John loves Mary and Megan and do not get into extra semantic meanings, ok. I mean one person may love ten different people, those are not the things that we are talking about here. The moment we say John loves Mary and Megan, Mary and Megan began to become one element and they fulfilled the requirement of the theme. And therefore, the sentence is grammatical.

If we are saying John loves Mary Megan. The problem here is Megan becomes an additional argument for which there is no place in the thematic grid of the verb love. Therefore, the sentence is ungrammatical. See again with these grids I am only trying to tell you that these relations and semantic level do have something to do with grammaticality of a sentence. Therefore, not complete autonomy all right.

Anyway, I mean these are the same things that I want, that you can look at the book. I did want to talk about one particular sentence, sentences like it rained. And I am not going to discuss this thing, we will discuss this tomorrow before we begin. Have you heard this kind of sentence: it rains, right, can we say only rains? Ok. No, we have to say it rains, why? We will discuss that tomorrow, ok. Please look at this chapter, this is not part of that chapter, ok, just the earlier part which we have discussed please look at that and then we'll talk more about it tomorrow.