

Ling 566
Nov 13, 2012
Raising, Control

Overview

- Intro to topic
- Infinitival *to*
- (Subject) raising verbs
- (Subject) control verbs
- Raising/control in TG
- Object raising and object control
- Reading questions

Where We Are & Where We're Going

- In the last two lectures, we have seen a kind of subject sharing -- that is, cases where one NP served as the SPR for two different verbs.
Examples?
- Last time, we looked at “dummy” NPs -- that is, non-referential NPs. Examples?
- Today, we're going to look at the kind of subject sharing we saw with *be* in more detail.
- Then we'll look at another kind of subject sharing, using dummy NPs in differentiating the two kinds.

What Makes This Topic Different

- The phenomena we have looked at so far (agreement, binding, imperatives, passives, existentials, extraposition) are easy to pick out on the basis of their form alone.
- In this chapter, we look at constructions with the general form NP-V-(NP)-*to*-VP. It turns out that they divide into two kinds, differing in both syntactic and semantic properties.

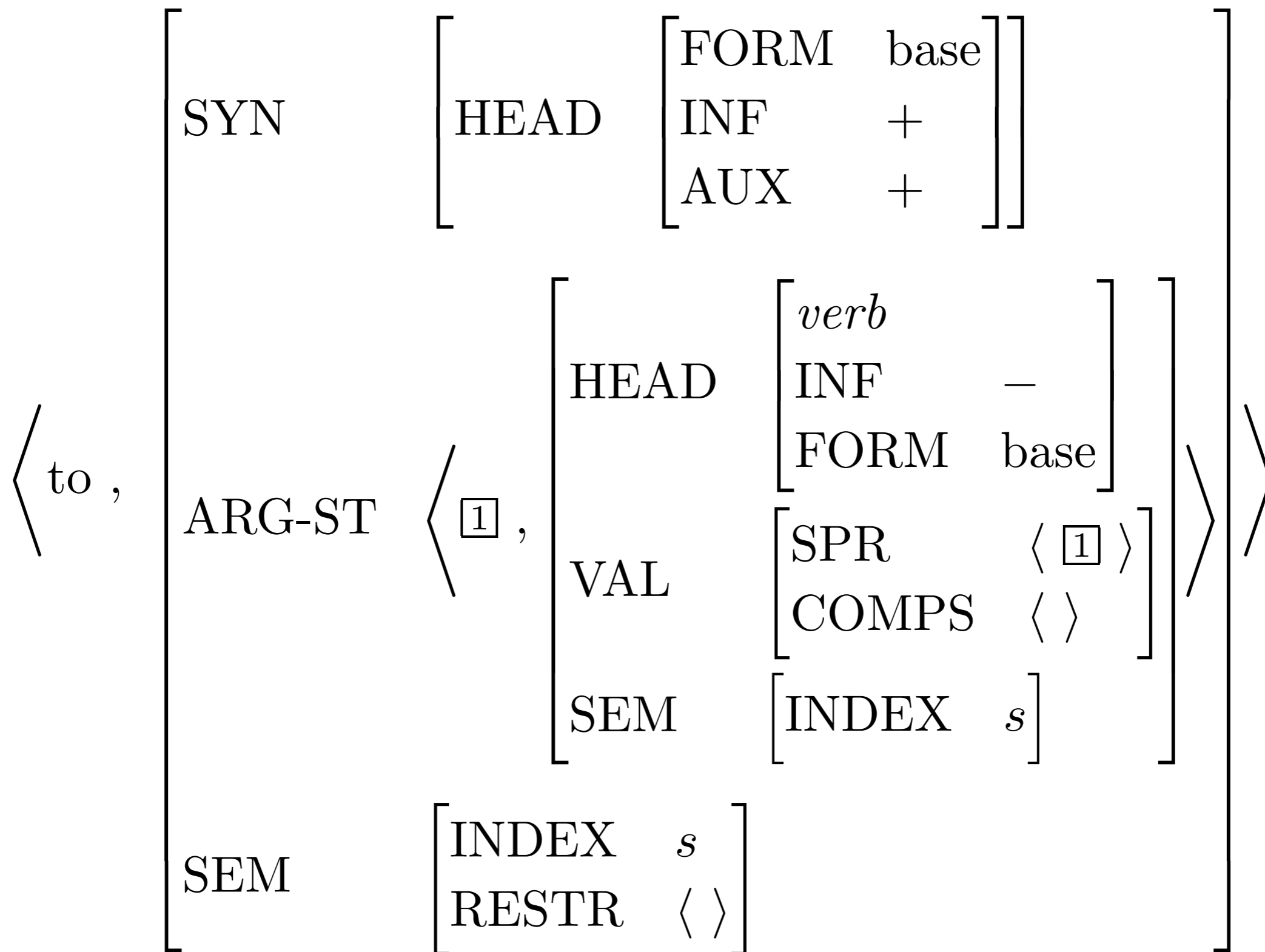
The Central Idea

- *Pat continues to avoid conflict and Pat tries to avoid conflict*
both have the form NP-V-*to*-VP
- But *continues* is semantically a one-place predicate, expressing a property of a situation (namely, that it continues to be the case)
- Whereas *tries* is semantically a two-place predicate, expressing a relation between someone who tries and a situation s/he tries to bring about.
- This semantic difference has syntactic effects.

The Status of Infinitival *to*

- It's not obvious what part of speech to assign to *to*.
- It's not the same as the preposition *to*:
Pat aspires to stardom
Pat aspires to be a good actor
**Pat aspires to stardom and to be a good actor*
- We call it an auxiliary verb, because this will make our analysis of auxiliaries a little simpler.

The Lexical Entry for Infinitival *to*

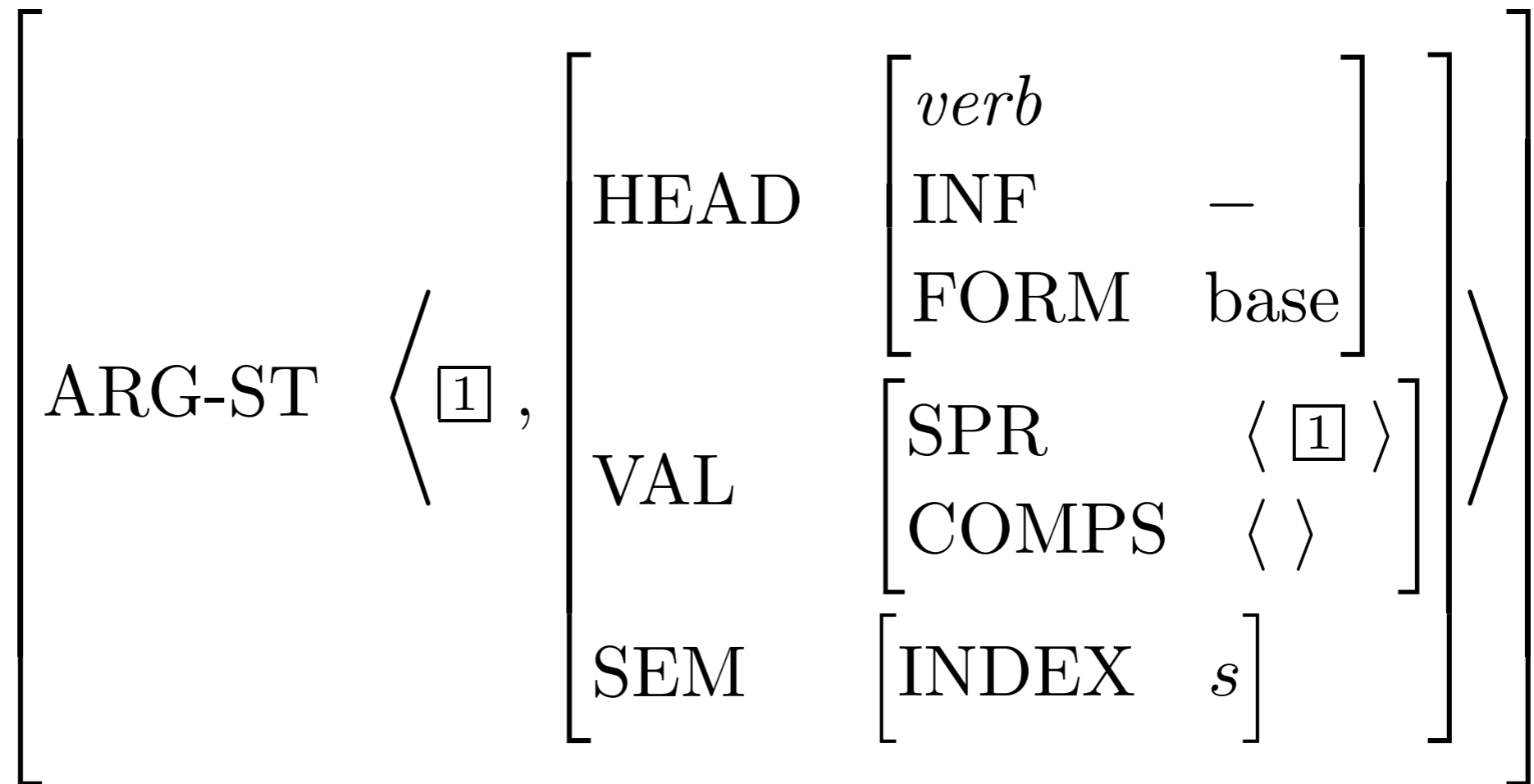


The Syntax of Infinitival *to*

$$\left[\text{SYN} \left[\text{HEAD} \left[\begin{array}{ll} \text{FORM} & \text{base} \\ \text{INF} & + \\ \text{AUX} & + \end{array} \right] \right] \right]$$

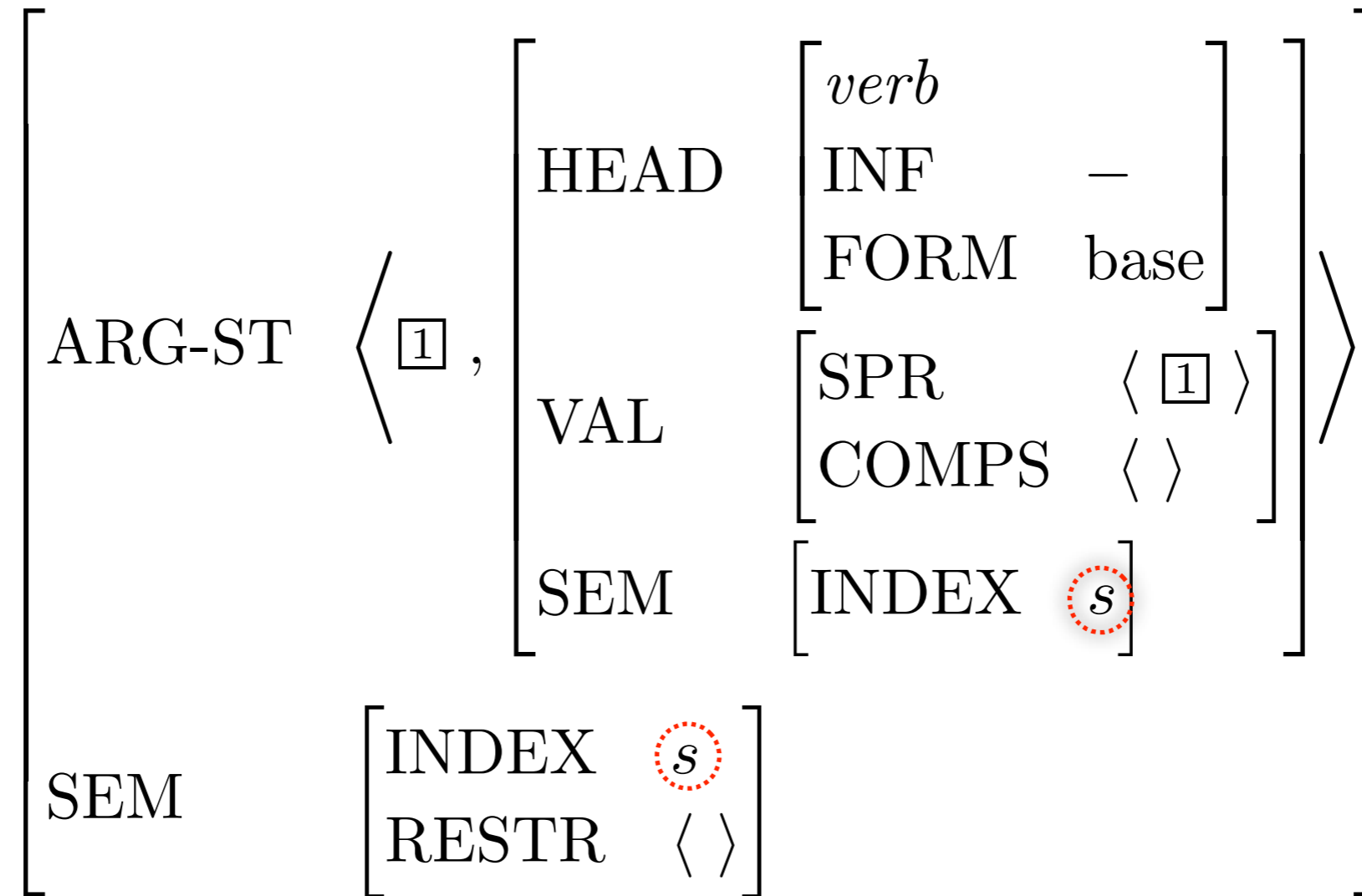
- This makes it a verb, because AUX is declared on *verb*
- [INF +] uniquely identifies the infinitival *to*
- Verbs select complements with different combinations of FORM and INF values, e.g.
 - complements of *condescend* are [FORM base] and [INF +]
 - complements of *should* are [FORM base] and [INF –]
 - complements of *help* are [FORM base]
- The meaning of [AUX +] becomes clear in Chapter 13.

The Argument Structure



- What kind of constituent is the second argument?
- The tagging of the first argument and the SPR of the second argument is exactly like *be*.

The Semantics of Infinitival *to*



- The INDEX value is taken from the SEM of the second argument.
- So what is the semantic contribution of *to*?

Dummies and *continue*

- Some examples:

There continue to be seats available.

It continues to matter that we lost.

Advantage continues to be taken of the innocent.

**It continues to be seats available.*

**There continues to matter that we lost.*

**Advantage continues to be kept of the innocent.*

- Generalization: Non-referential NPs can appear as the subject of *continue* just in case they could be the subject of the complement of *continue*.

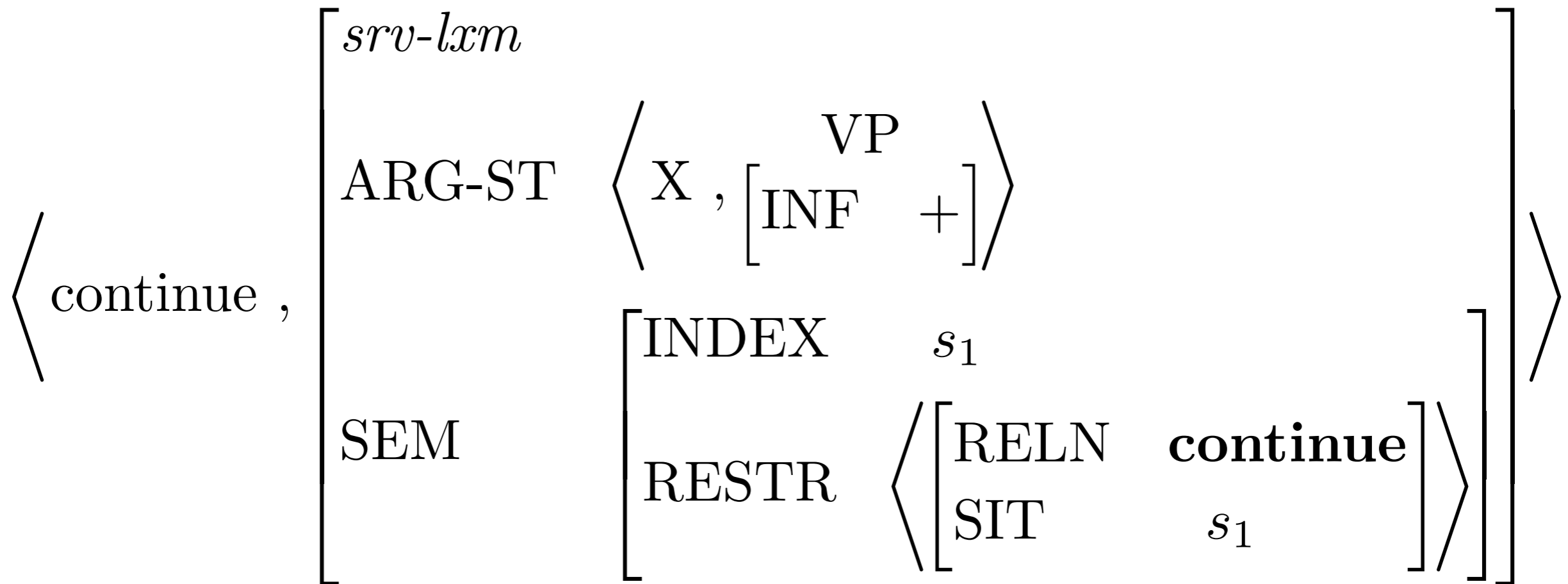
A New Type, for Verbs like *continue*

Subject-Raising Verb Lexeme (srv-lxm):

$$\left[\begin{array}{l} \text{ARG-ST} \left\langle \boxed{1}, \left[\begin{array}{ll} \text{SPR} & \langle \boxed{1} \rangle \\ \text{COMPS} & \langle \rangle \\ \text{INDEX} & s_2 \end{array} \right] \right\rangle \\ \text{SEM} \left[\text{RESTR} \left\langle \left[\text{ARG} \quad s_2 \right] \right\rangle \right] \end{array} \right]$$

- Notes on the ARG-ST constraints
 - The subject sharing is just like for *be* and *to*: the subject of *continue* is also the subject of its complement
 - *continue* imposes no other constraints on its subject
- Note on the SEM constraint
 - The index of the complement must be an argument of the predication introduced by the verb

The Lexical Entry for *continue*

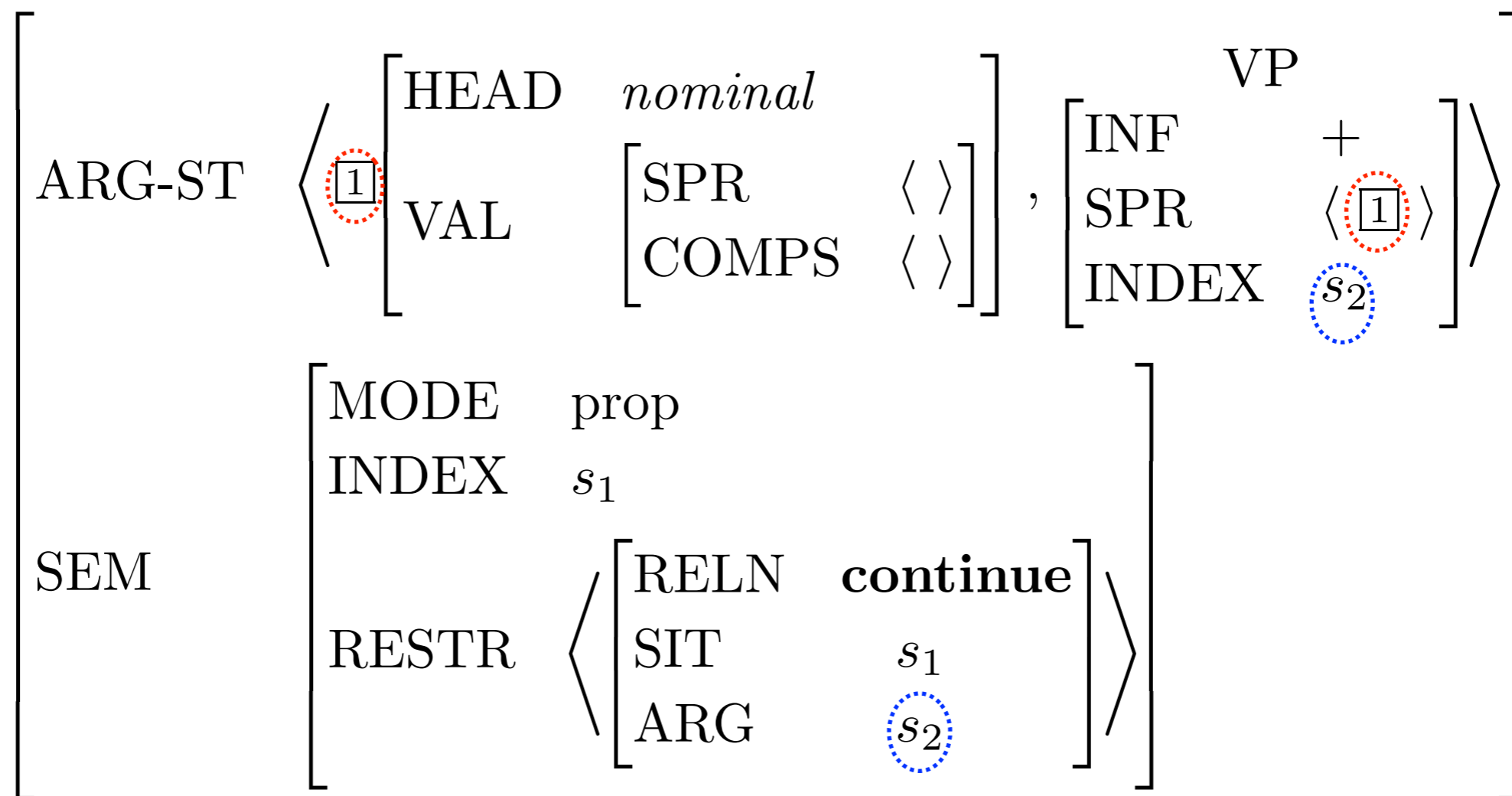


Entry for *continue*, with Inherited Information

		<i>srv-lxm</i>		
SYN			$\left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \text{verb} \\ \text{PRED} \text{ ---} \\ \text{INF} \text{ ---} \\ \text{AGR} \text{ [2]} \end{array} \right] \\ \text{VAL} \left[\text{SPR} \langle [\text{AGR} \text{ [2]}] \rangle \right] \end{array} \right]$	
ARG-ST	$\langle \text{continue} ,$		$\left\langle \left[\begin{array}{l} \text{HEAD} \text{ nominal} \\ \text{VAL} \left[\begin{array}{l} \text{SPR} \langle \rangle \\ \text{COMPS} \langle \rangle \end{array} \right] \end{array} \right] , \left[\begin{array}{l} \text{INF} \text{ VP} \\ \text{SPR} \text{ +} \\ \text{INDEX} \langle \text{[1]} \rangle \\ \text{INDEX} \text{ } s_2 \end{array} \right] \right\rangle$	
SEM			$\left[\begin{array}{l} \text{MODE} \text{ prop} \\ \text{INDEX} \text{ } s_1 \\ \text{RESTR} \left\langle \left[\begin{array}{l} \text{RELN} \text{ continue} \\ \text{SIT} \text{ } s_1 \\ \text{ARG} \text{ } s_2 \end{array} \right] \right\rangle \end{array} \right]$	

Key Property of Subject-Raising Verbs

The subject plays no semantic role in the predication introduced by the SRV itself. Its semantic role (if any) is only in the predication introduced in the complement.



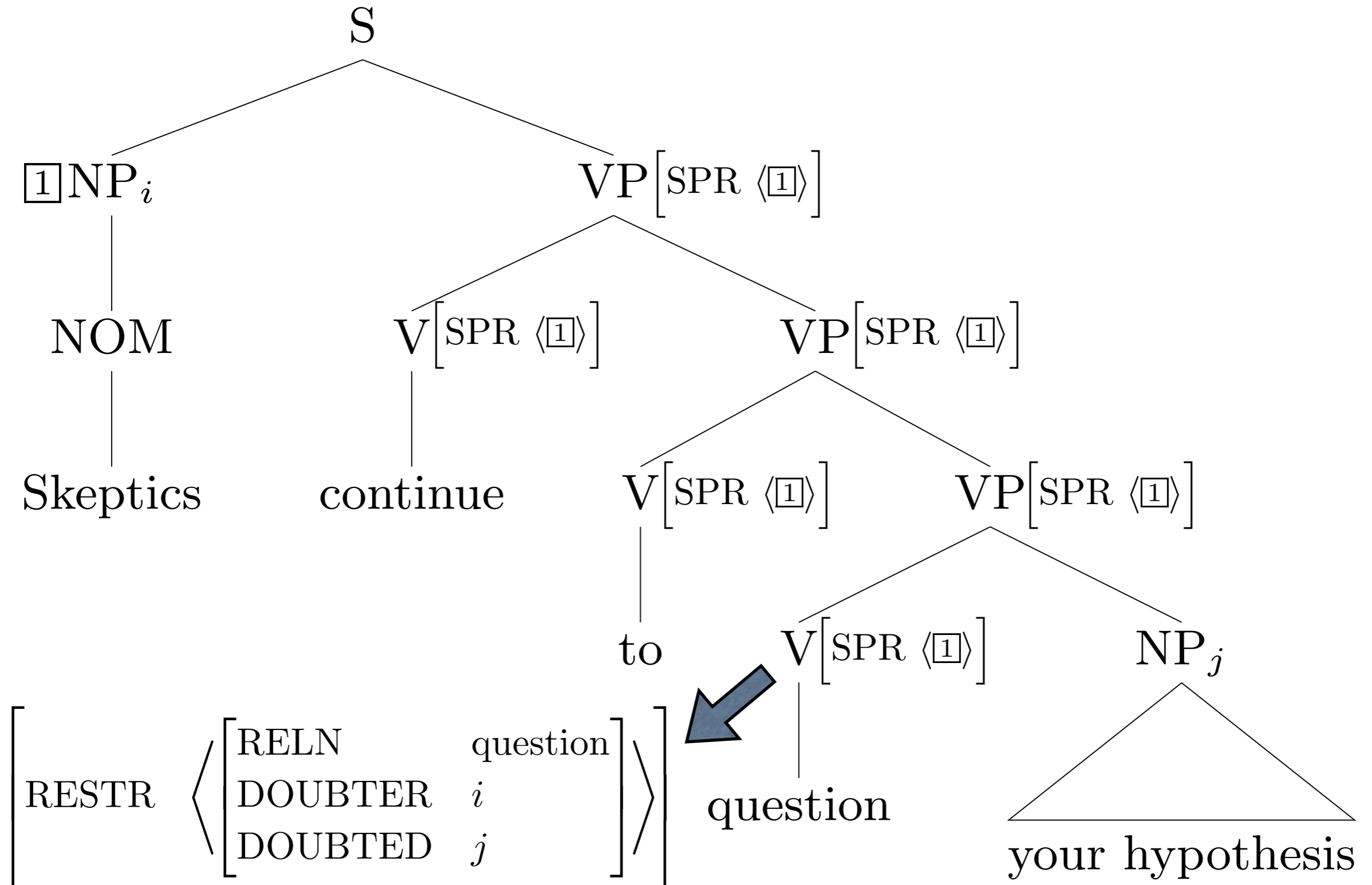
Hence, constraints on the subjects of SRVs are imposed by their complements

- SRVs take dummy subjects when and only when their complements do.
- SRVs take idiom chunk subjects when and only when their complements do.
- Passivizing the complement of an SRV doesn't change the truth conditions of the whole sentence:

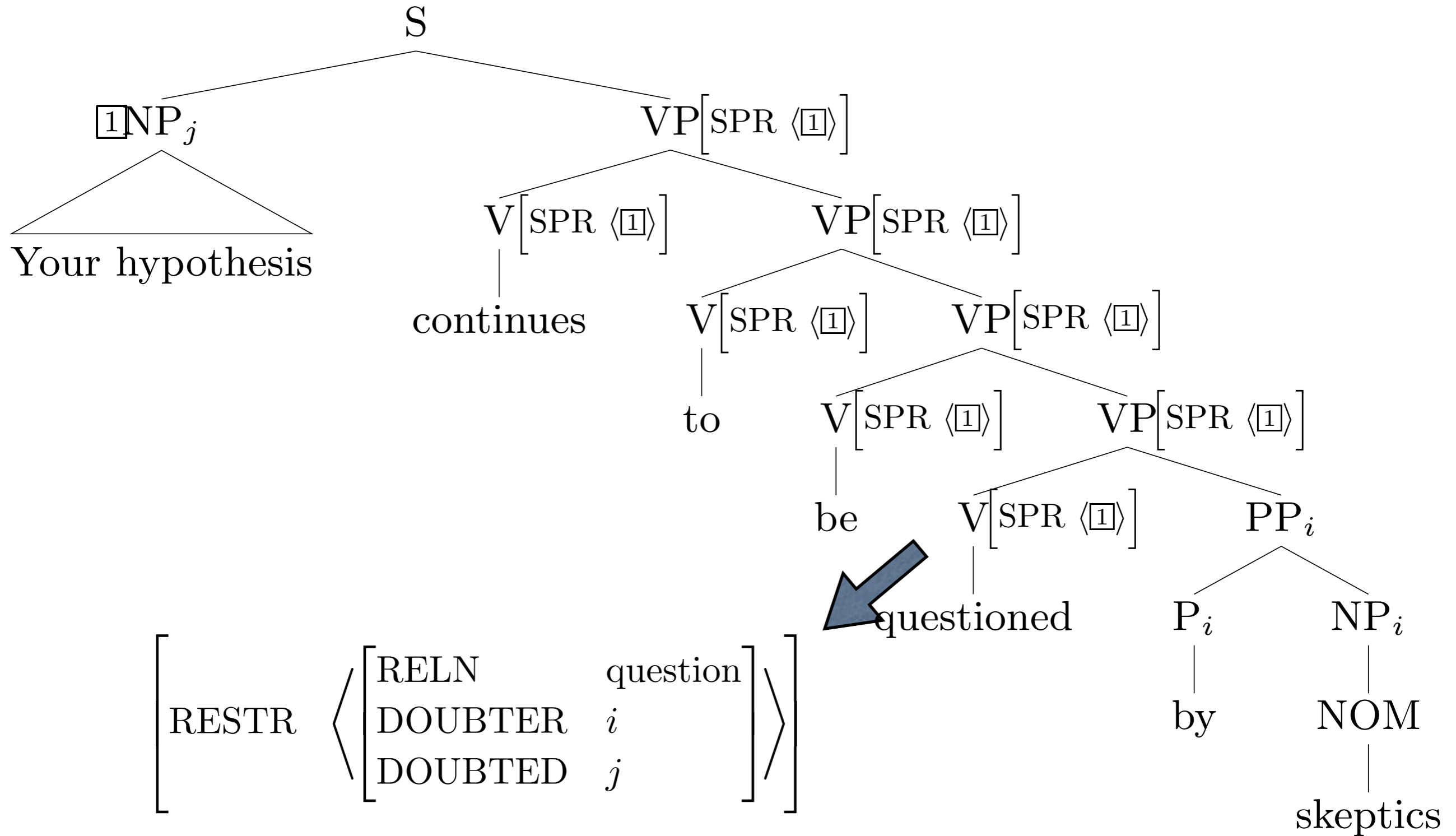
Skeptics continue to question your hypothesis ~

Your hypothesis continues to be questioned by skeptics

Continue with active complement



Continue with passive complement



Control Verbs

- Control verbs, like *try*, appear in contexts that look just like the contexts for raising verbs:
Pat tried to stay calm looks superficially like
Pat continued to stay calm
- Control verbs also share their subjects with their complements, but in a different way.
- A control verb expresses a relation between the referent of its subject and the situation denoted by its complement.

Control Verbs Are Not Transparent

- They never take dummies or idiom chunks as subjects.
 - *There try to be bugs in my program*
 - *It tries to upset me that the Giants lost*
 - *Advantage tries to be taken of tourists*
- Passivizing the complement's verb changes the truth conditions.
 - The police tried to arrest disruptive demonstrators ≠*
Disruptive demonstrators tried to be arrested by the police

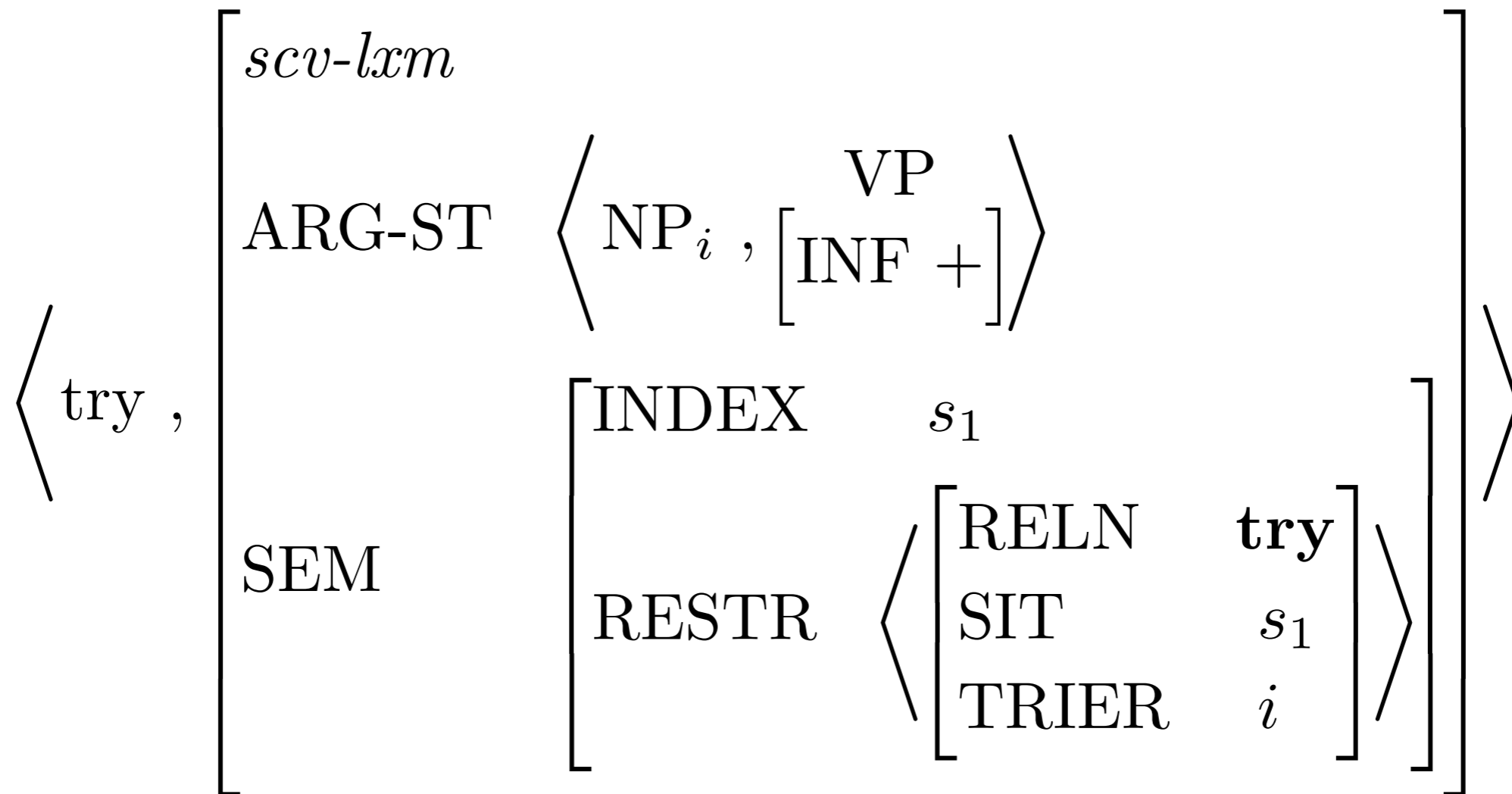
A New Type

Subject-Control Verb Lexeme (scv-lxm):

$$\left[\begin{array}{l} \text{ARG-ST} \left\langle \text{NP}_i, \left[\begin{array}{ll} \text{SPR} & \langle \text{NP}_i \rangle \\ \text{COMPS} & \langle \rangle \\ \text{INDEX} & s_2 \end{array} \right] \right\rangle \\ \text{SEM} \left[\text{RESTR} \left\langle \left[\text{ARG} \quad s_2 \right] \right\rangle \right] \end{array} \right]$$

- This differs from *srv-lxm* in that the first argument and the SPR of the second argument are coindexed, not tagged.
- This means that they only need to share INDEX values, but may differ on other features
- And the first argument -- the subject -- must have an INDEX value, so it cannot be non-referential

The lexical entry for *try*



Note that the subject (NP_i) plays a semantic role with respect to the verb, namely the “TRIER”

Entry for *try*, with Inherited Information

<i>scv-lxm</i>	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;">SYN</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 10px;"> <table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;">HEAD</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 10px;"> <table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;"><i>verb</i></td> <td style="border-left: 1px solid black; border-right: 1px solid black;"></td> </tr> <tr> <td>PRED</td> <td style="border-left: 1px solid black; border-right: 1px solid black;">-</td> </tr> <tr> <td>INF</td> <td style="border-left: 1px solid black; border-right: 1px solid black;">-</td> </tr> <tr> <td>AGR</td> <td style="border-left: 1px solid black; border-right: 1px solid black;">[1]</td> </tr> </table> </td> </tr> <tr> <td>VAL</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 10px;"> <table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;">SPR</td> <td style="border-left: 1px solid black; 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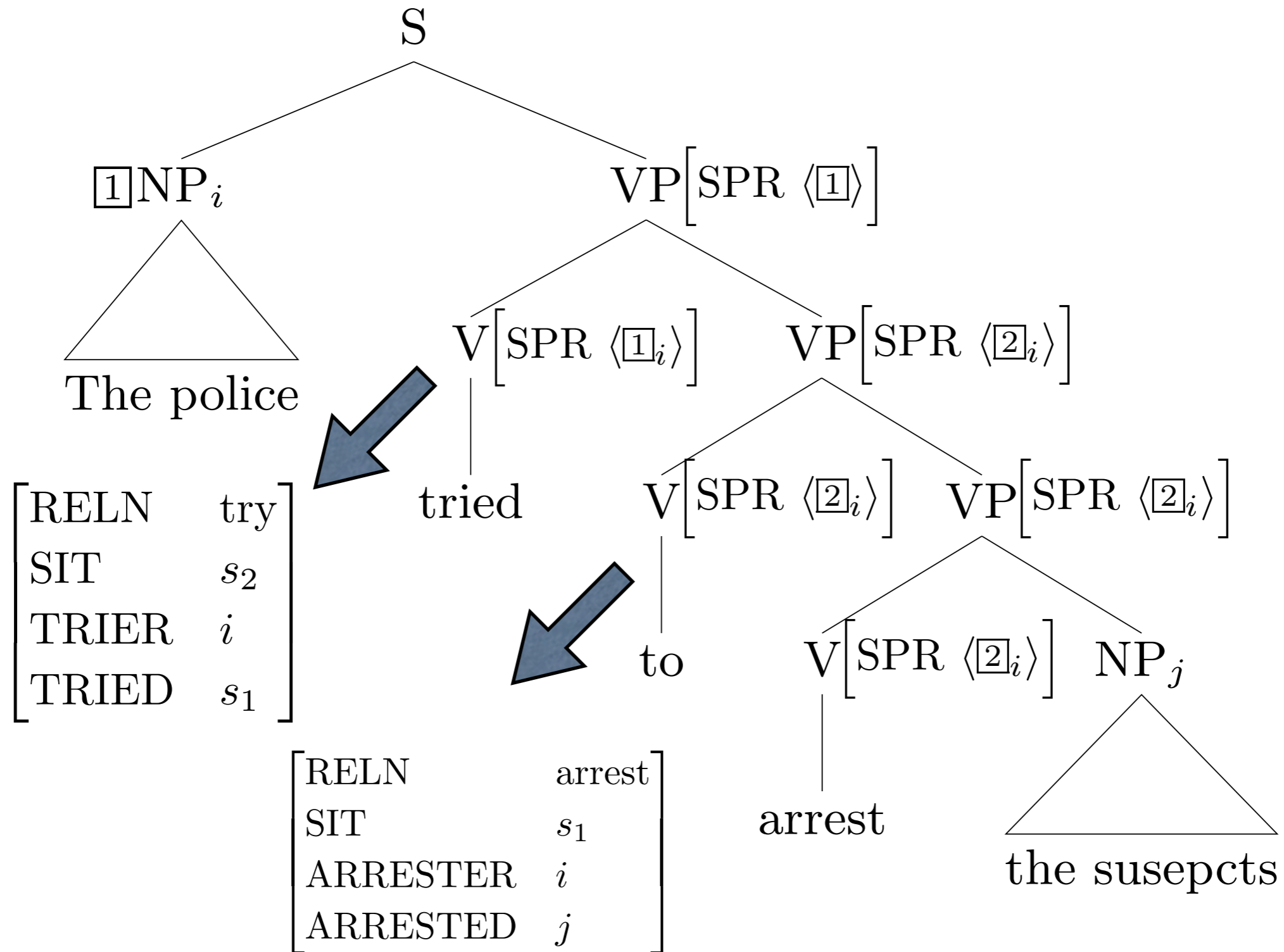
Things to Note:

- The first argument has an index
- The first argument is coindexed with the SPR of the second argument
- Both the first and second arguments play semantic roles in the ‘try’ relation
- Very little had to be stipulated in the entry for *try*

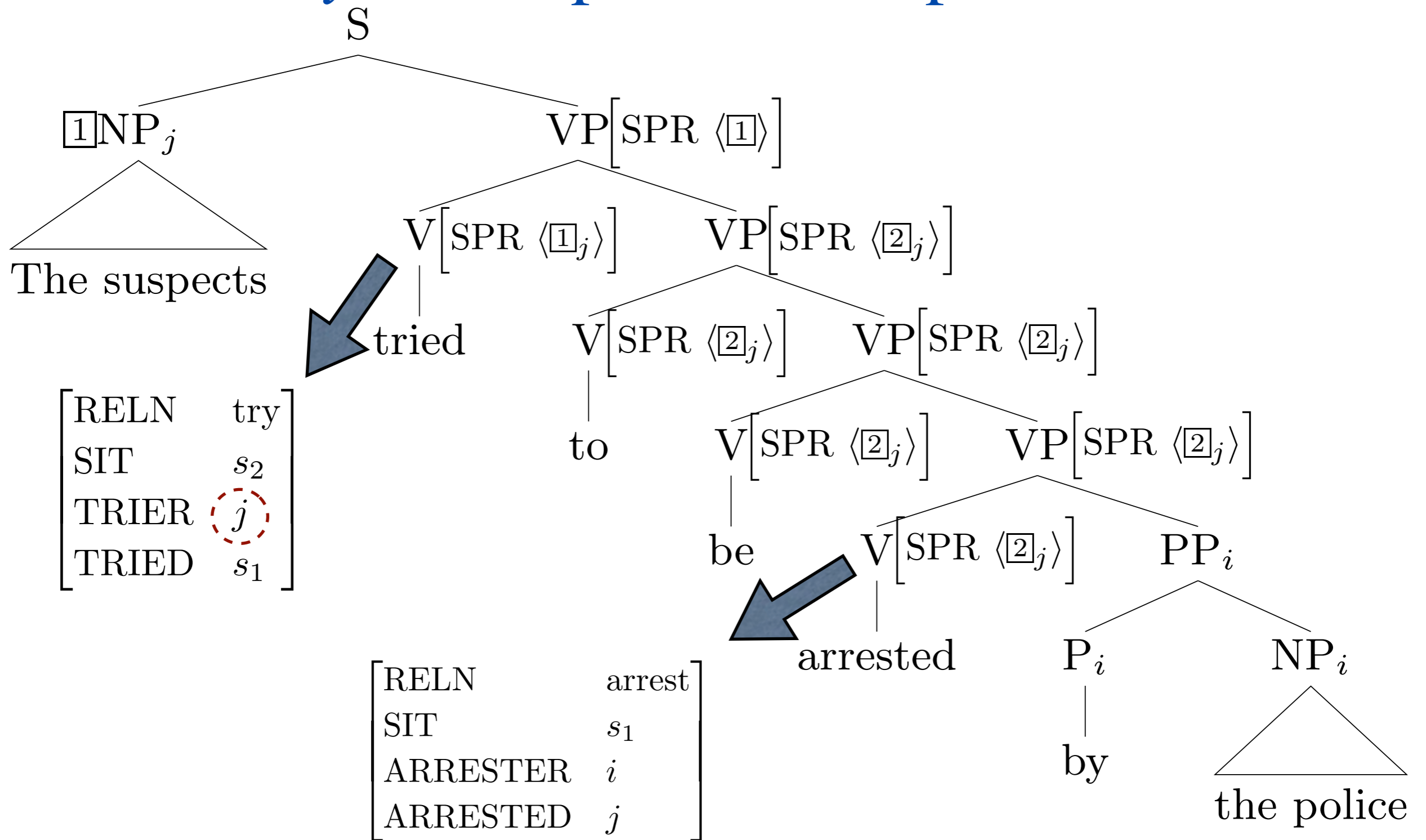
Questions

- What rules out dummies and idiom chunks as subjects of *try*?
- What accounts for the semantic non-equivalence of pairs like the following?
Reporters tried to interview the candidate
The candidate tried to be interviewed by reporters
- Why does *continue* behave differently in these respects?

Try with an active complement



Try with a passive complement



The main formal difference between raising and control verbs is in ARG-ST

$$\left\langle \text{NP}_i, \begin{array}{c} \text{VP} \\ \text{INF} + \\ \text{SPR} \langle \text{NP}_i \rangle \\ \text{SEM} \left[\text{INDEX } s_2 \right] \end{array} \right\rangle \quad \left\langle \boxed{1} \text{ NP}, \begin{array}{c} \text{VP} \\ \text{INF} + \\ \text{SPR} \langle \boxed{1} \rangle \\ \text{SEM} \left[\text{INDEX } s_2 \right] \end{array} \right\rangle$$

CONTROL

RAISING

Which is which?

Why?

Raising & Control in Transformational Grammar

- Raising



- Control

[the dogs]_i try [NP_i to bark]

- In early TG, the NP got deleted.
- In more recent TG, it's a silent pronoun.

Problems with the TG Accounts

- Details never fully worked out (e.g. where does *to* come from?)
- What blocks **The cat continued (for) the dog to bark* or **The cat tried (for) the dog to bark*?
- Failure of experimental attempts to find evidence for psychological reality of these transformations.

We make another raising/control distinction

Object-Raising Verb Lexeme (orv-lxm)

$$\left[\begin{array}{l} \text{ARG-ST} \left\langle \text{NP}, \boxed{1}, \left[\begin{array}{l} \text{SPR} \quad \langle \boxed{1} \rangle \\ \text{COMPS} \quad \langle \rangle \\ \text{INDEX} \quad s_2 \end{array} \right] \right\rangle \\ \text{SEM} \quad \left[\text{RESTR} \left\langle [\text{ARG} \quad s_2] \right\rangle \right] \end{array} \right]$$

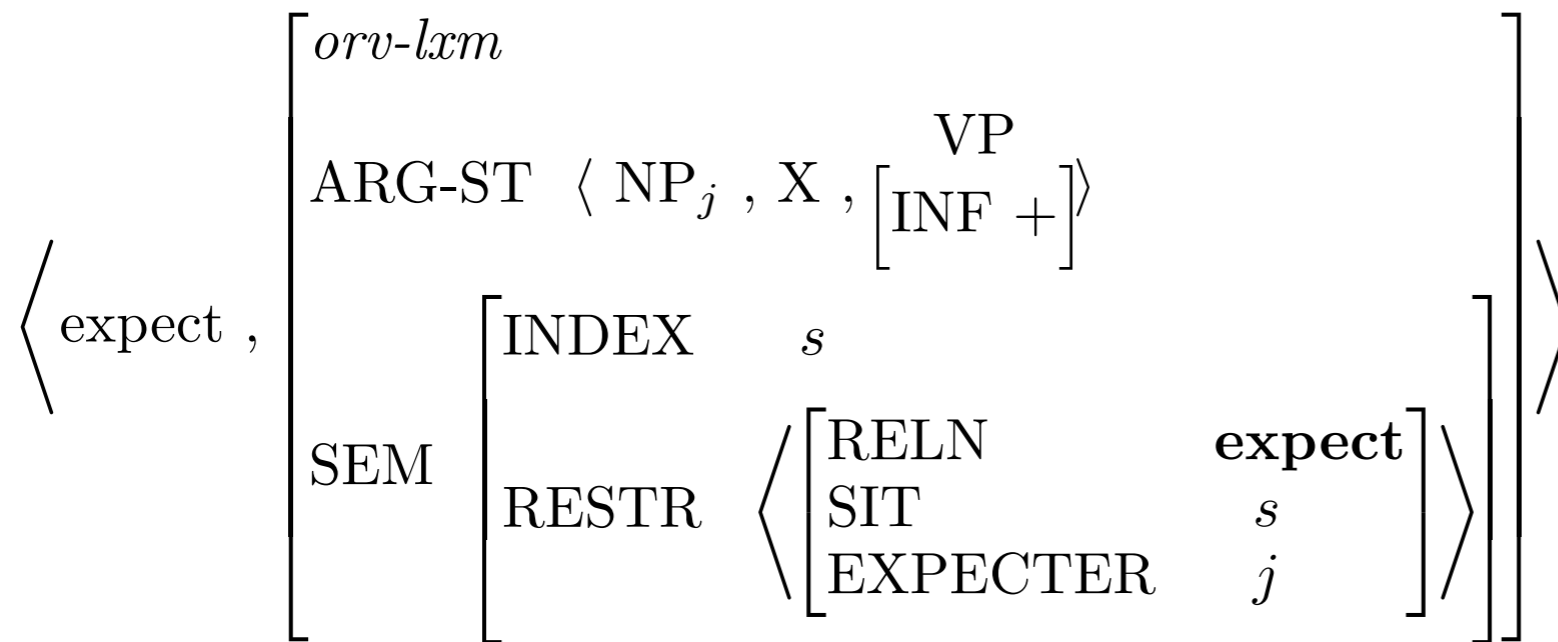
- The formal distinction is again between tagging and coindexing

Object-Control Verb Lexeme (ocv-lxm)

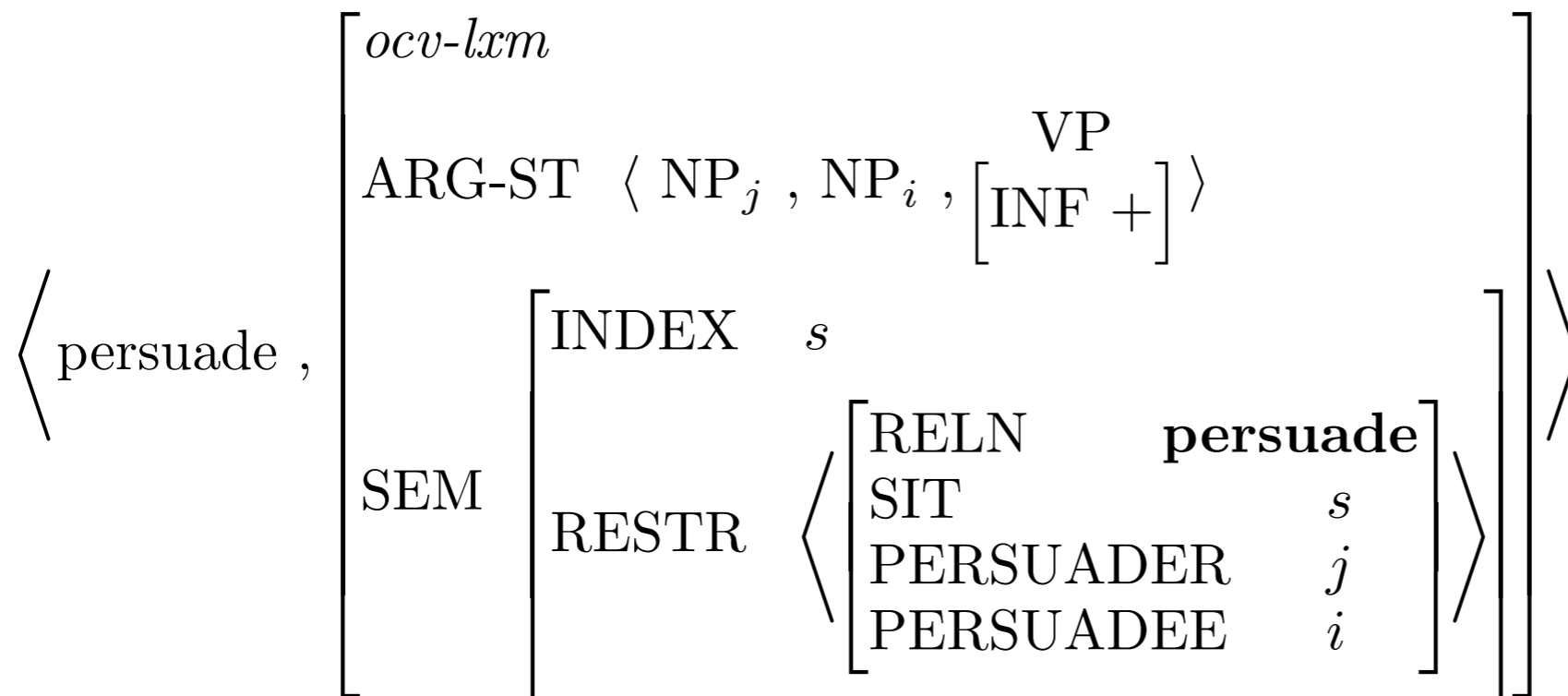
$$\left[\begin{array}{l} \text{ARG-ST} \left\langle \text{NP}, \text{NP}_i, \left[\begin{array}{l} \text{SPR} \quad \langle \text{NP}_i \rangle \\ \text{COMPS} \quad \langle \rangle \\ \text{INDEX} \quad s_2 \end{array} \right] \right\rangle \\ \text{SEM} \quad \left[\text{RESTR} \left\langle [\text{ARG} \quad s_2] \right\rangle \right] \end{array} \right]$$

- This time it's the **second** argument and the SPR of the **third** argument.

Example *orv-lxm* and *ocv-lxm* Entries



- Note that the ‘persuade’ relation has three arguments, but the ‘expect’ relation has only two



- And the object’s INDEX plays a role in the ‘persuade’ relation, but not in the ‘expect’ relation

Reading Questions

- When a change needs to be made to cover a new type of construction, how do you decide which part of the grammar to modify: the lexeme constraints, the lexical entries, or lexical rules? For example, section 11.4.1 adds a constraint on the type *tv-lxm* to allow for *that*-clause complements, then adds additional constraints to the lexical entries of all the verbs of that type for which it does not apply. What is the motivation behind this decision, versus adding constraints to the lexical entries for which *that*-clause complements do apply, or perhaps making a subtype?

Reading Questions

- How do we know when to add a feature (INF) to handle a new word/phenomenon, vs. trying to reuse what we already have?
- Why are we calling *to* an auxiliary verb? Why does it deserve special treatment?
- Can we think of "to" as a conjunction?

Reading Questions

- Is it true that so far the word *to* is the only verb that is form INF?
- In the sentence '*She continues studying arabic*' is '*studying*' form INF? If so will this sentence be able to be generated by our grammar? Or is this a different '*continue*' than the than the *srv-lxm continue*?
- What about "*And so it continues...*"

Reading Questions

- Even though it is loud, she continues reading during lunch.
- She tries a new food every day.
- I expect Anna here soon.
- I'm expecting [a baby].
- I expect perfection.

Reading Questions

- How do we license: *Sandy continues to eat oysters?* Wouldn't the specifier of *eat oysters* need to be *non3sing*? **Sandy eat oysters.*
- What about *wanna, gotta, gonna*: *I wanna go to the library.*

Reading Questions

- The book discusses a supertype for `srv-lxm` like `subject-raising-lxm` that would house both `srv` and `subject-raising` adjectives. Would that put adjectives under verb lexeme? Or is this a hint at multiple inheritance?

Reading Questions

- Looking at the lexical types for `srv-lxm` and `scv-lxm`, I'm having a hard time wrapping my head around how they are meaningfully different. Or maybe phrased differently: is it just that by specifying `NPi` instead of `[1]` we're requiring the NPs to have meaningful (and shared) `INDEX` values?

Reading Questions

- ocv-lxm and ptv-lxm seem similar:

She put the money on the table

She persuaded the owner to leave

- It is clear what the differences are. However, I am interested if there is a reason behind going even further with separation of verbs into additional lxm categories? This is just a question about the criteria that marks division itself reasonable.

Reading Questions

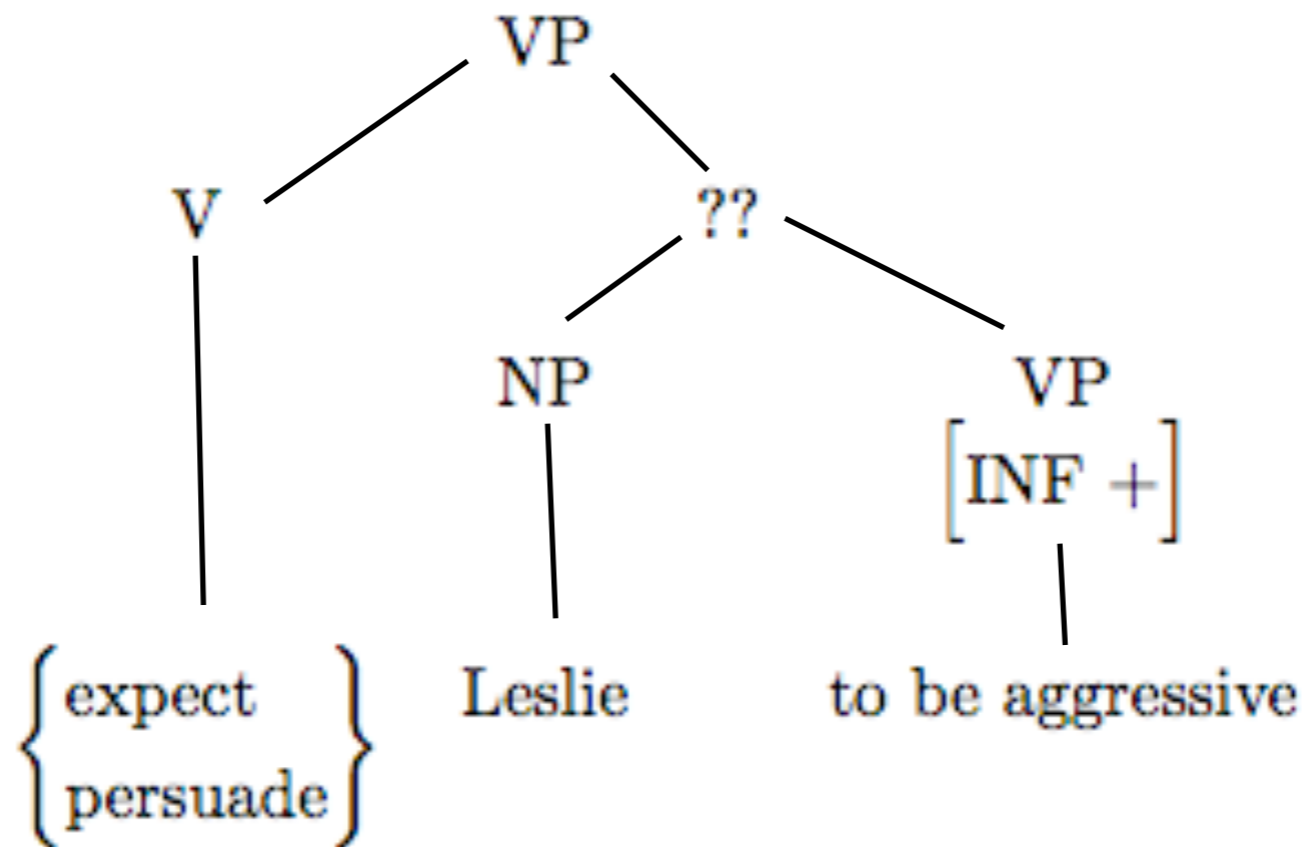
- I wondered why we put `srv-lxm` and `scv-lxm` where we did in our lexeme hierarchy - directly under `verb-lxm` instead of under `tv-lxm`, since we know they require a VP complement.

Reading Questions

- What about:
- "It's trying to rain out there."
- "It managed to rain on our ballgame."
- "It finally decided to rain."

Reading Questions

- Why isn't (35) on p.377 a possible structure given the rest of our grammar?



Reading Questions

- Is there some rule that requires the tense of "try" in the sentence "Sandy tried to eat oysters" such that you can use "tried" or "tries" but not "trying" or "try"?

Reading Questions

- There's an extra 'be' in the passive form of the subject raising sentences. Is the insertion of 'be' part of the passive lexical rule for 'continue'? How does that actually work?
- Pat continues to be followed by the FBI.

Reading Questions

- We got two types of things that complement infinitives, of the raising and control sorts. Are others going to pop up, or can we feel comfortable assuming that a verb specifying an infinitive phrase is going to be one of these two flavors?
- How do we tell which verbs are raising and which are control?

Reading Questions

- Isn't part of the point of lexical rules to reduce redundancy? If so, couldn't we posit some lexical rules (maybe d-rules?) to show the correlation between the 4 different sets of constraints on subject/object raising/control? Rules like these don't seem to exist yet, but could they? It seems like these rules would have to result in a simplification of the type hierarchy for raising and control verbs. These would be weird in that they would map type constraints to type constraints, as opposed to lexemes or words. Has anyone done this before? Does this even make sense?

Reading Questions

- This might be a little bit off topic, but how can we model the semantic differences between 'continue to do something' and 'continue doing something'?

Overview

- Intro to topic
- Infinitival *to*
- (Subject) raising verbs
- (Subject) control verbs
- Raising/control in TG
- Object raising and object control
- Next time: Auxiliaries