

Ling 566  
Nov 13, 2008  
Raising, Control

# Overview

- Intro to topic
- Infinitival *to*
- (Subject) raising verbs
- (Subject) control verbs
- Raising/control in TG
- Object raising and object control
- If time: Problem 12.4

# 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.

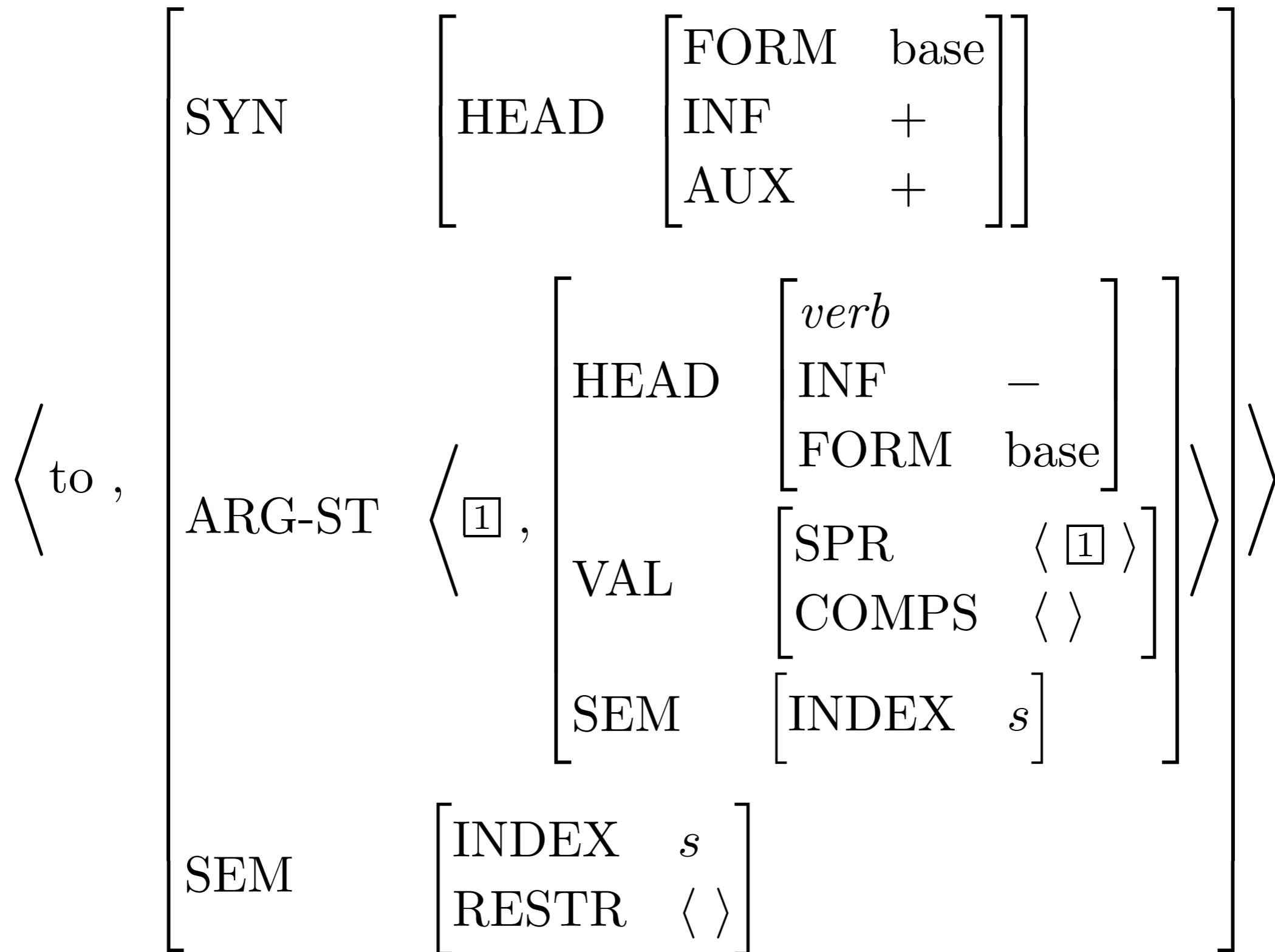
# The Central Idea

- *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 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*



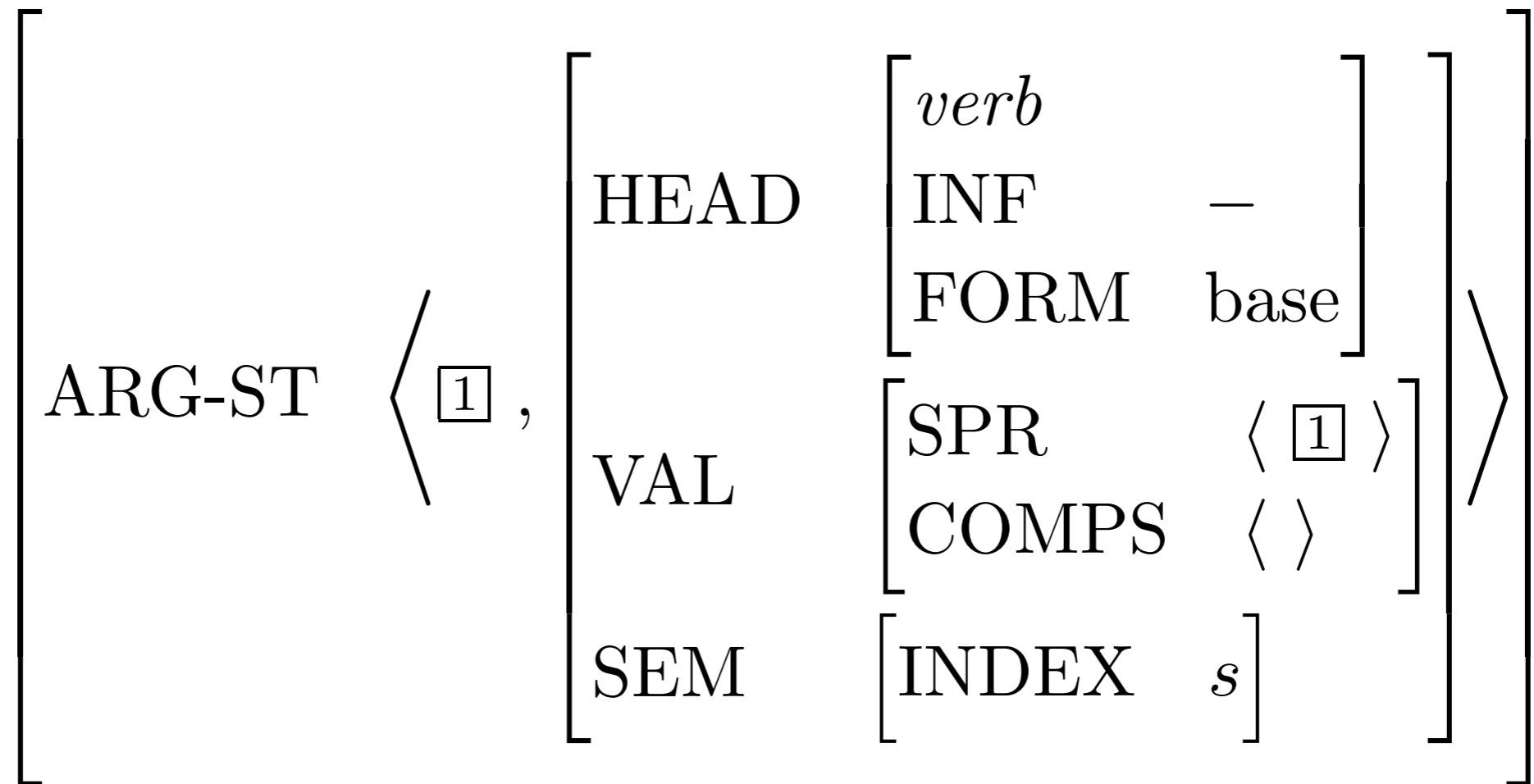
# The Syntax of Infinitival *to*

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

- 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.

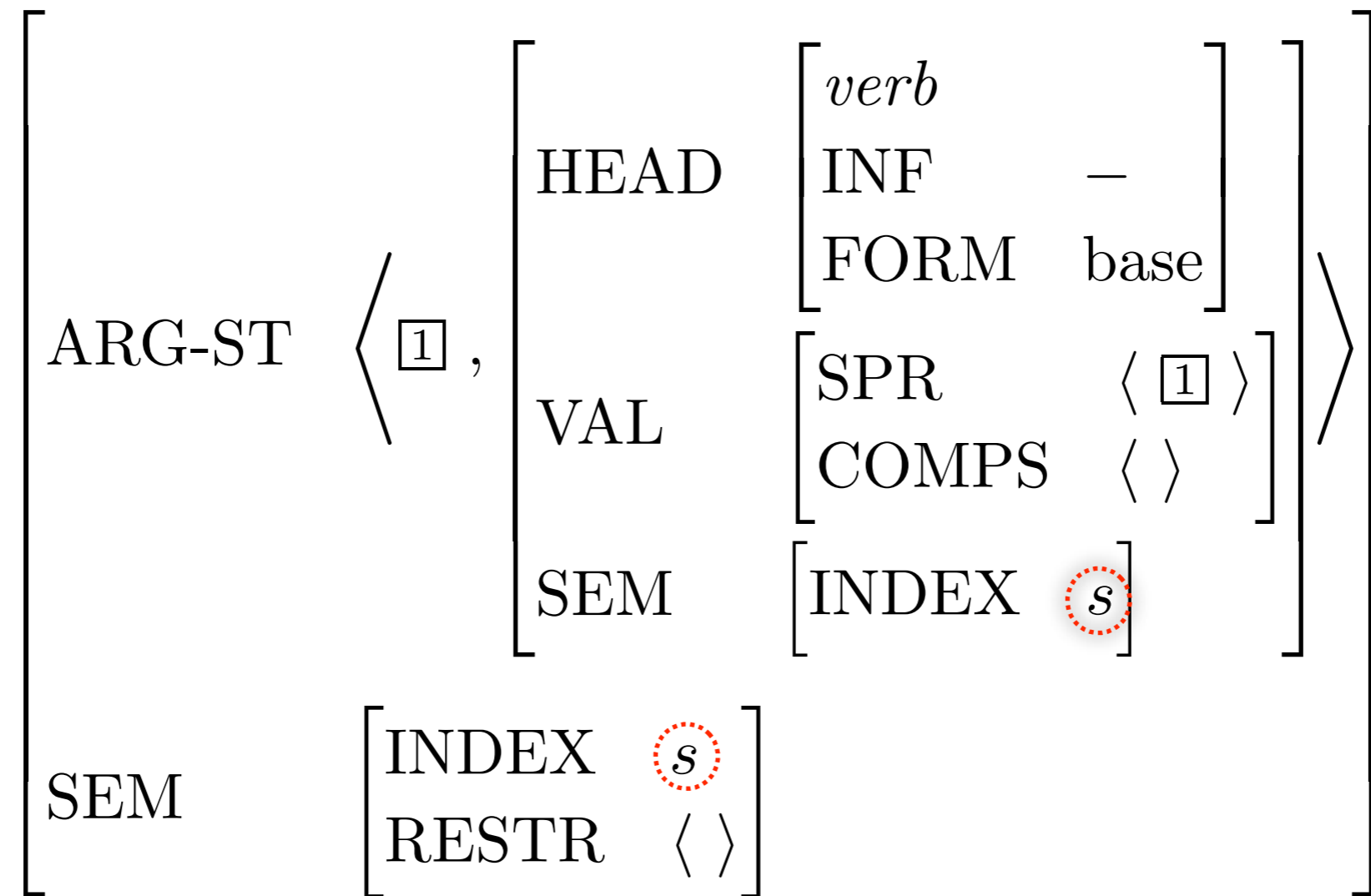


# The Argument Structure



- 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*.

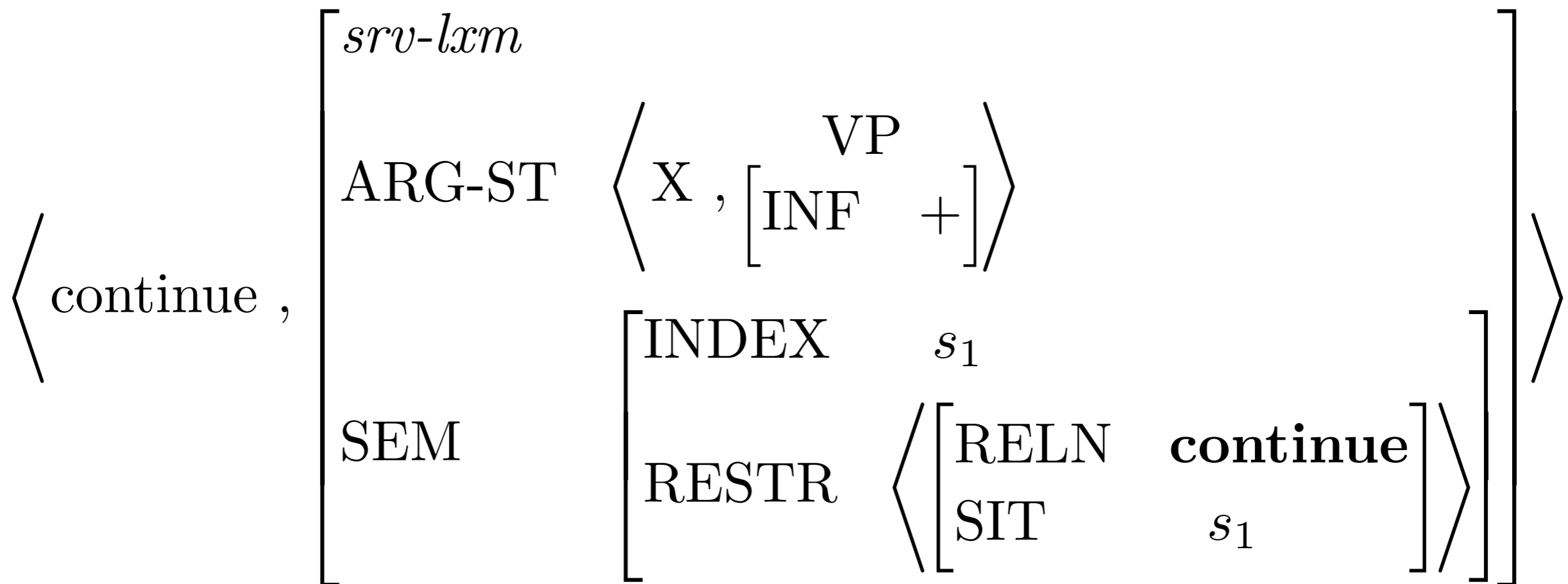
# A New Type, for Verbs like *continue*

*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*

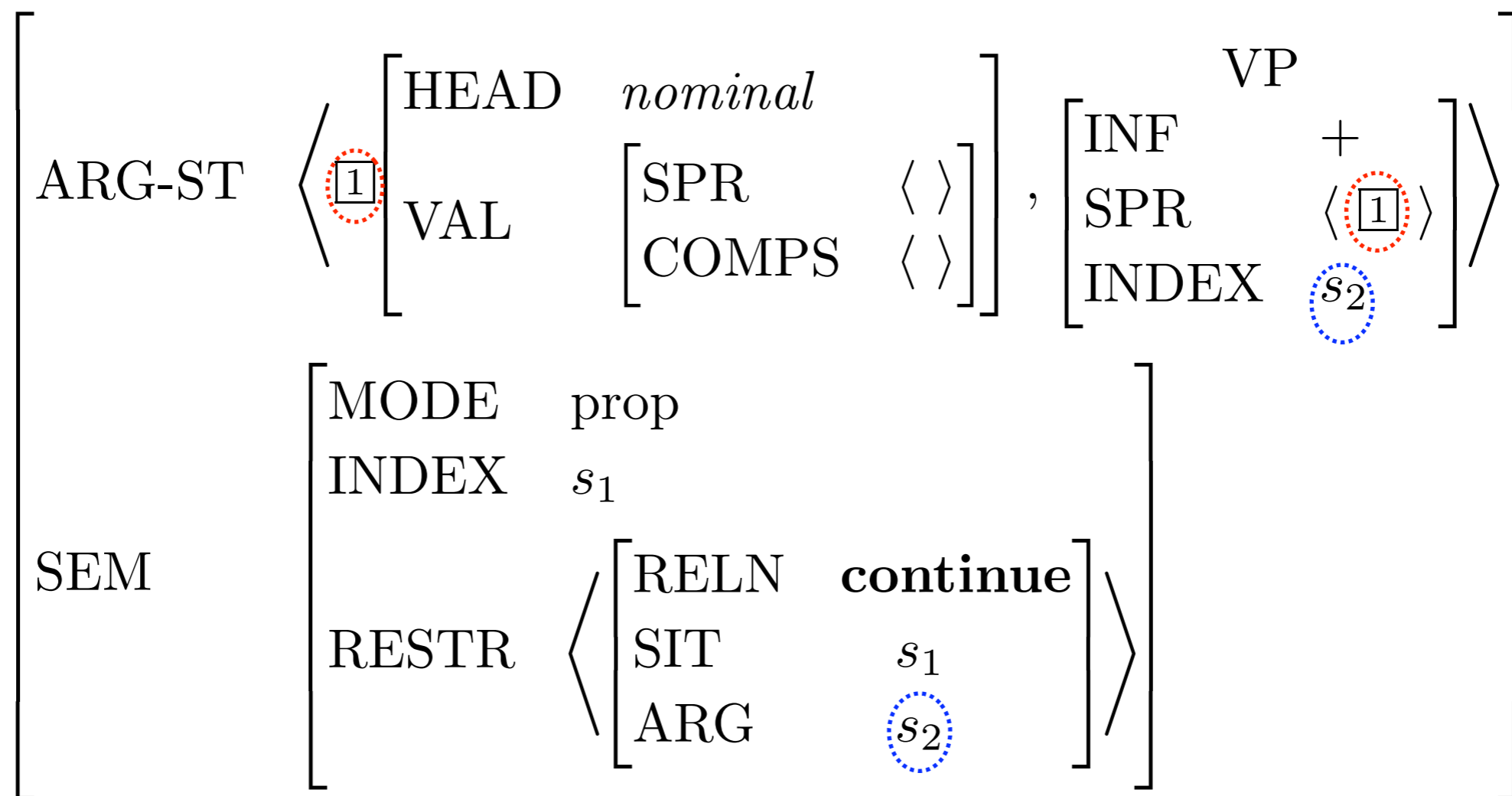


# Entry for *continue*, with Inherited Information

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

# 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

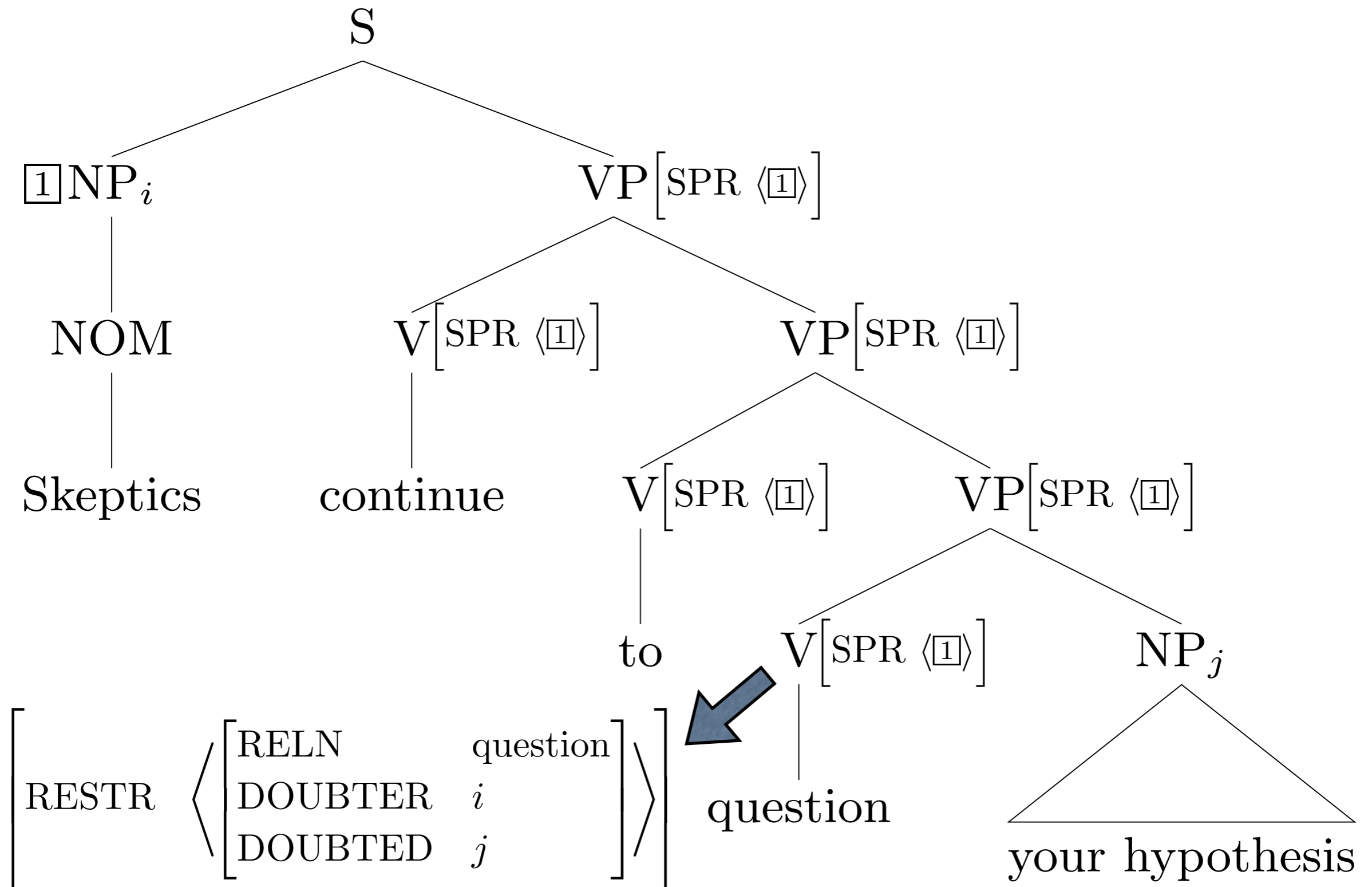
- SRVs take dummy subjects when and only when their complements do.
- SRVs take idiom chunk subjects when and only when their complements do.
- Passivizing the complement of an SRV doesn't change the truth conditions of the whole sentence:

*Skeptics continue to question your hypothesis ~*

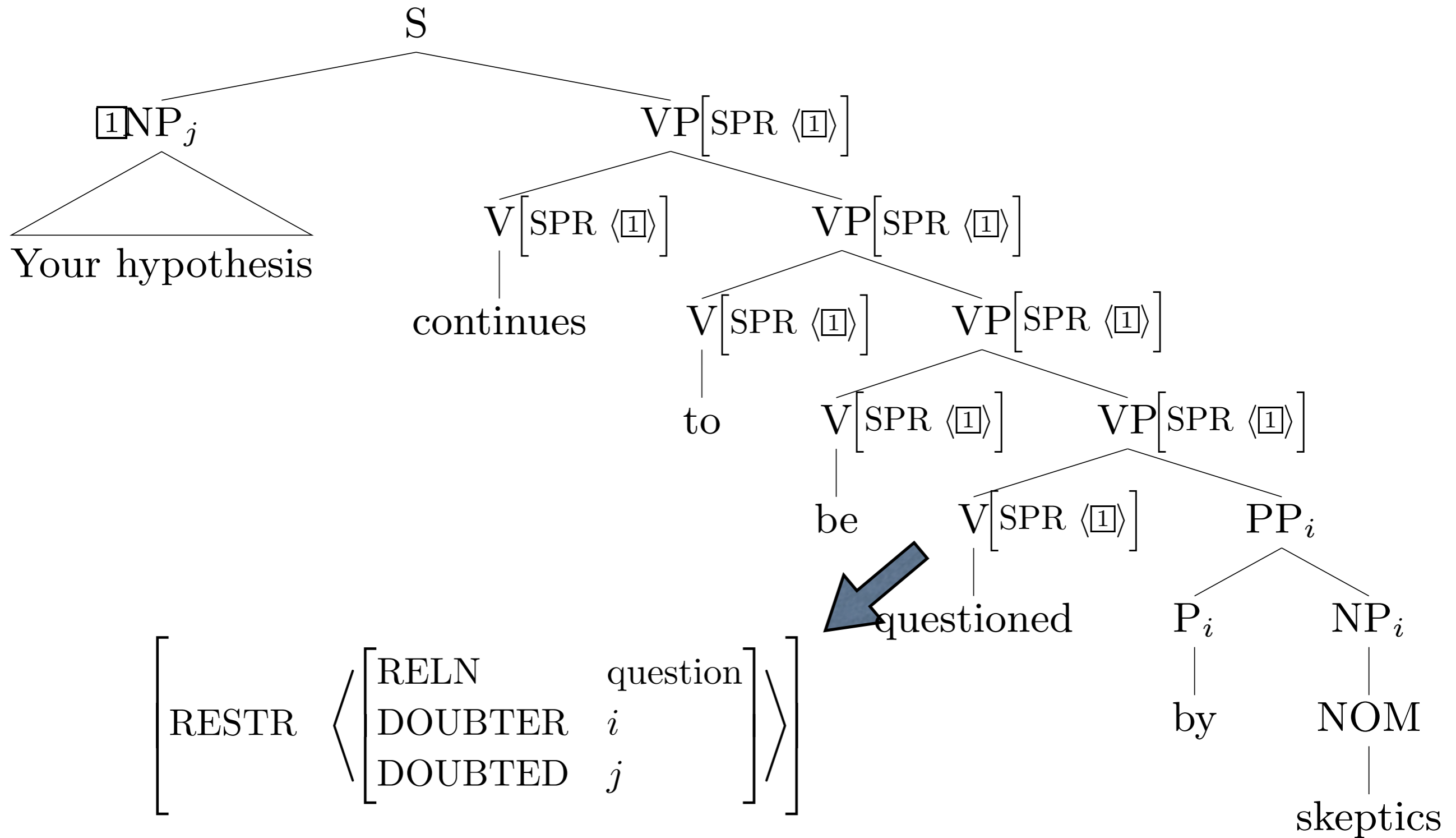
*Your hypothesis continues to be questioned by skeptics*



# 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*

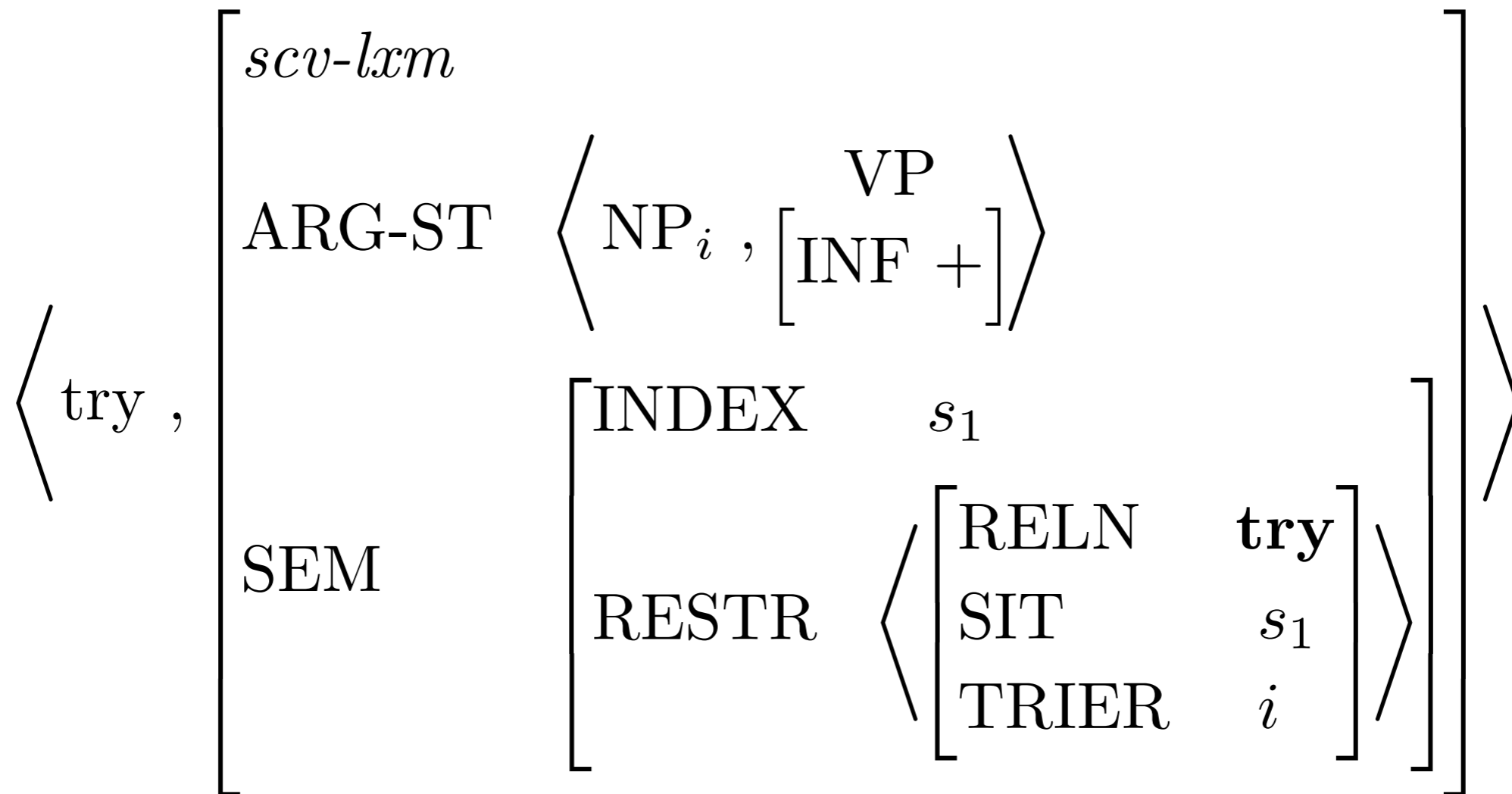
# A New Type

*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 ( $\text{NP}_i$ ) 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:

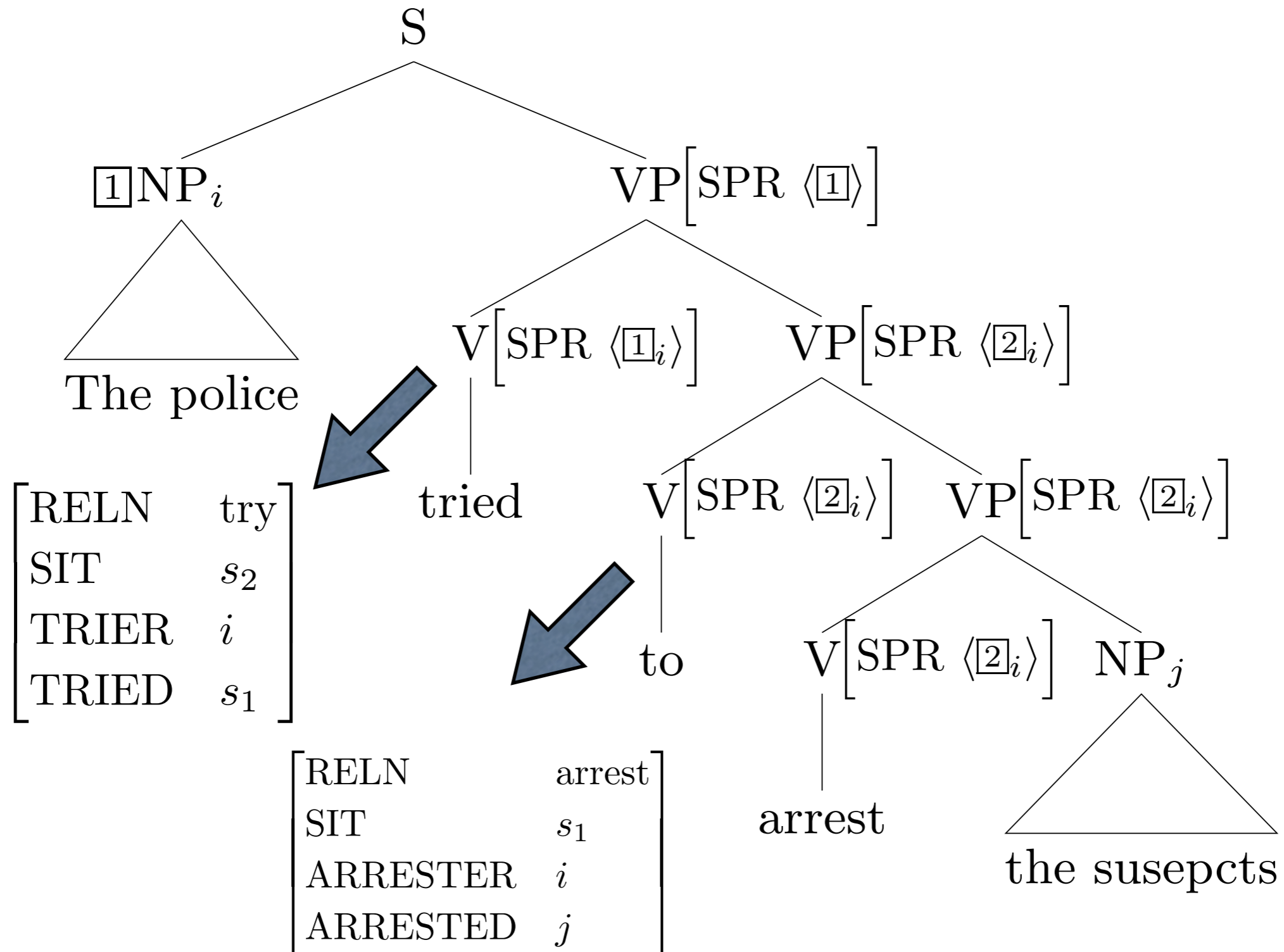
- The first argument has an index
- The first argument is coindexed with the SPR of the second argument
- Both the first and second arguments play semantic roles in the ‘try’ relation
- Very little had to be stipulated in the entry for *try*

# Questions

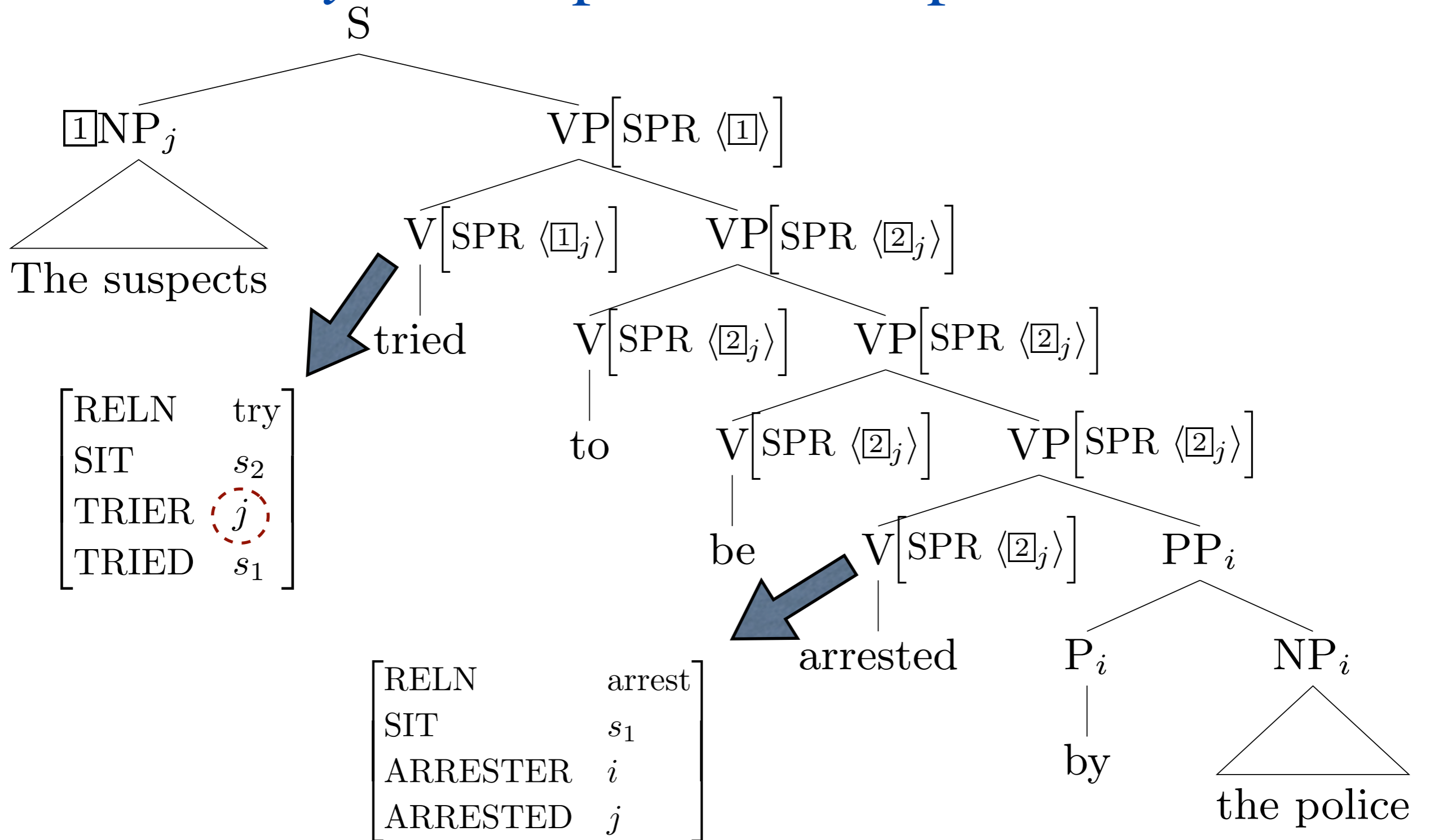
- What rules out dummies and idiom chunks as subjects of *try*?
- What accounts for the semantic non-equivalence of pairs like the following?  
*Reporters tried to interview the candidate*  
*The candidate tried to be interviewed by reporters*
- Why does *continue* behave differently in these respects?



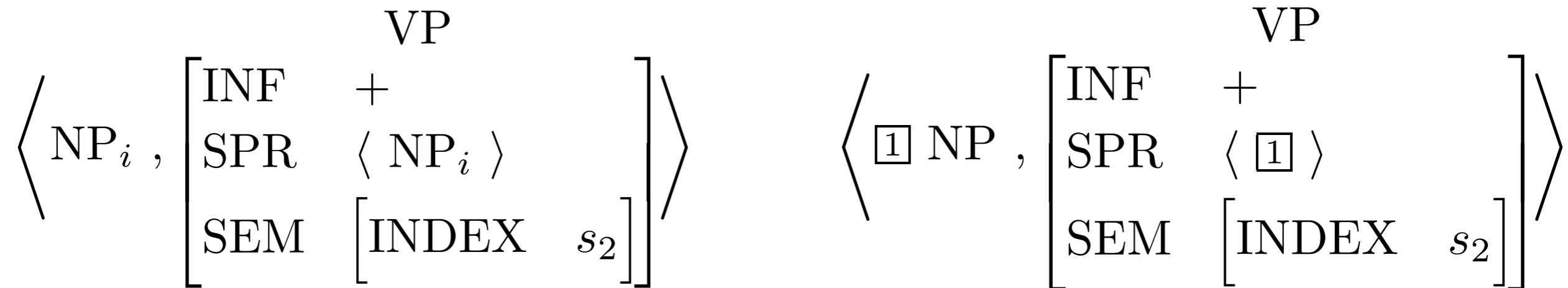
# Try with an active complement



# Try with a passive complement



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



CONTROL

RAISING

Which is which?

Why?

# Raising & Control in Transformational Grammar

- Raising



- Control

[the dogs]<sub>i</sub> try [NP<sub>i</sub> 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)*

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

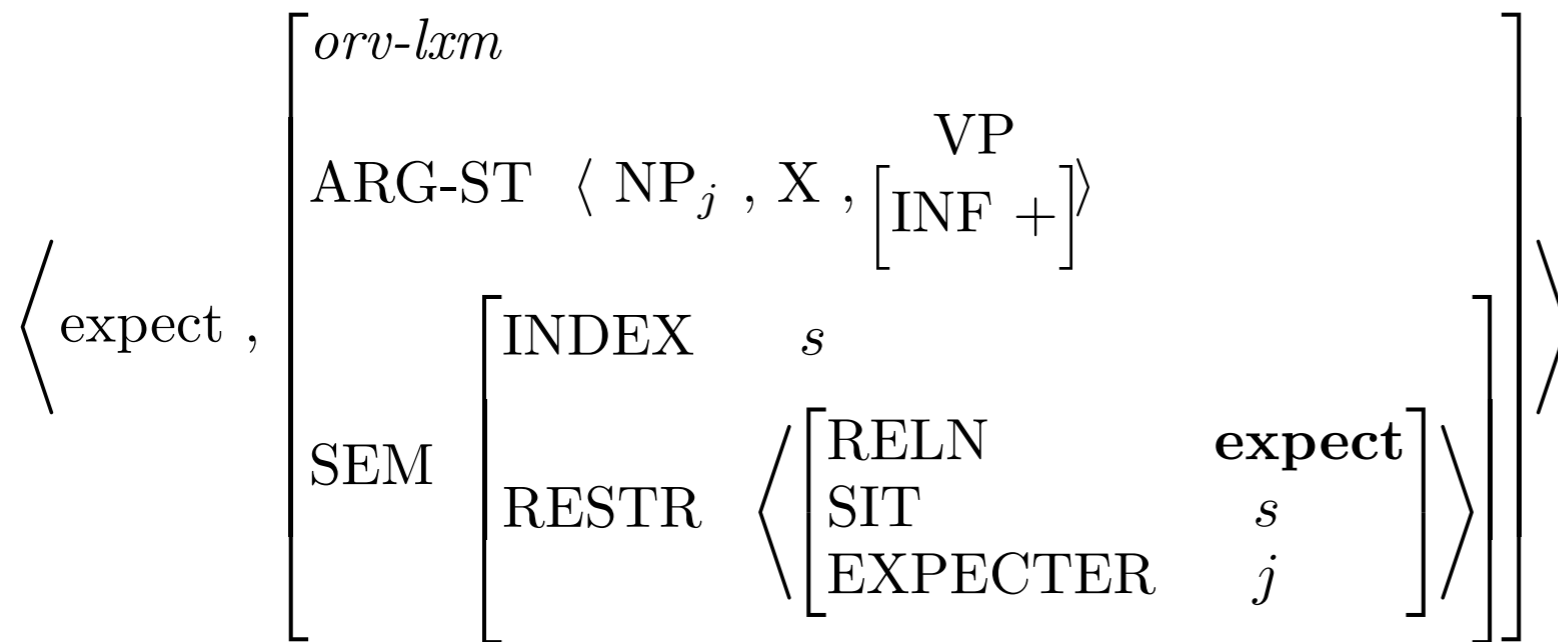
- The formal distinction is again between tagging and coindexing

## *Object-Control Verb Lexeme (ocv-lxm)*

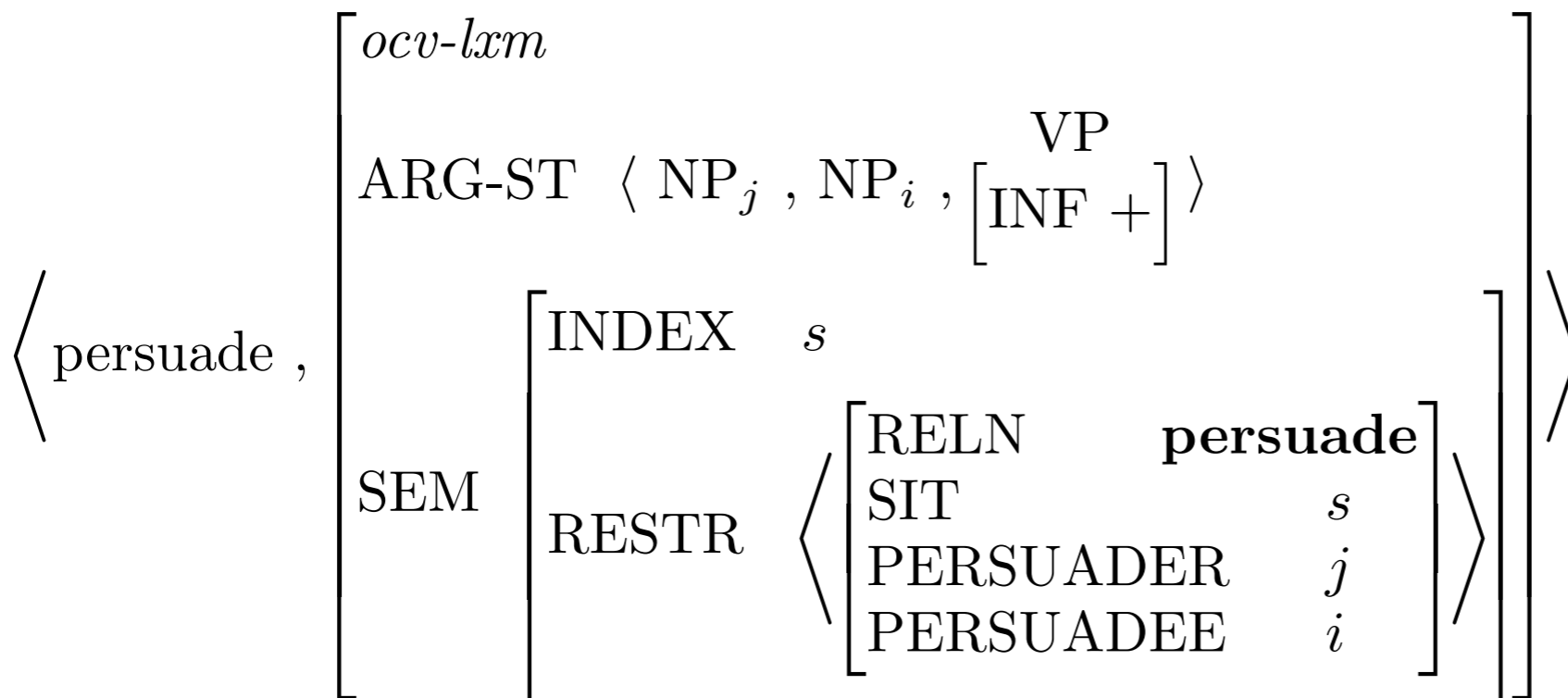
$$\left[ \begin{array}{l} \text{ARG-ST} \left\langle \text{NP}, \text{NP}_i, \left[ \begin{array}{l} \text{SPR} \quad \langle \text{NP}_i \rangle \\ \text{COMPS} \quad \langle \rangle \\ \text{INDEX} \quad s_2 \end{array} \right] \right\rangle \\ \text{SEM} \quad \left[ \text{RESTR} \left\langle [\text{ARG}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

- 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

# Justifying the difference between *expect* and *persuade* (Prob. 12.4)

Construct examples of each of the following four types which show a contrast between *expect* and *persuade*:

- i. Examples with dummy *there*
- ii. Examples with dummy *it*
- iii. Examples with idiom chunks
- iv. Examples of relevant pairs of sentences containing active and passive complements. Indicate whether they are or are not paraphrases of each other.



# Overview

- Intro to topic
- Infinitival *to*
- (Subject) raising verbs
- (Subject) control verbs
- Raising/control in TG
- Object raising and object control
- If time: Problem 12.4
- Next time: Auxiliaries