

Ling 566  
Nov 6, 2014  
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*:

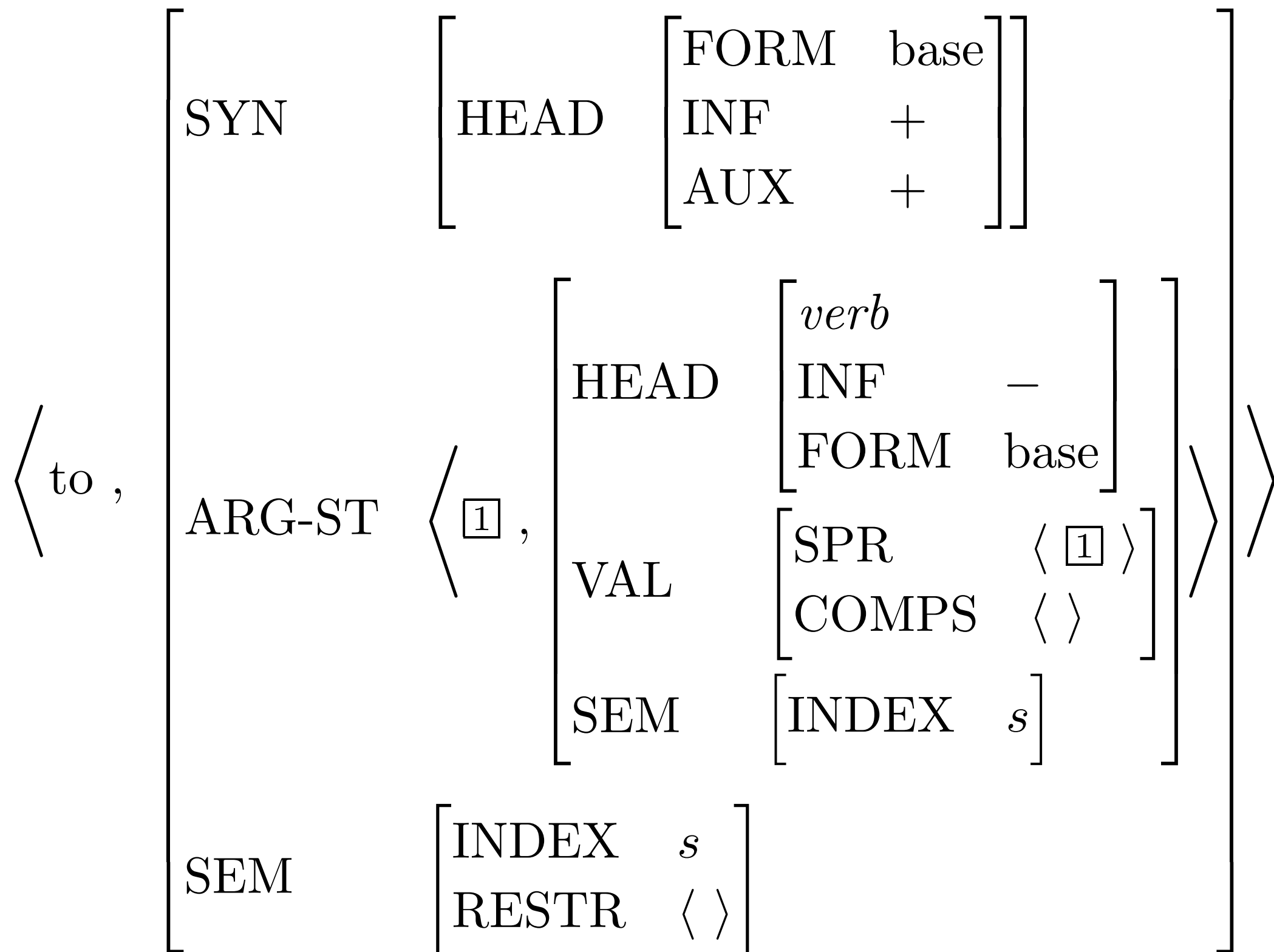
*Pat aspires to stardom*

*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*



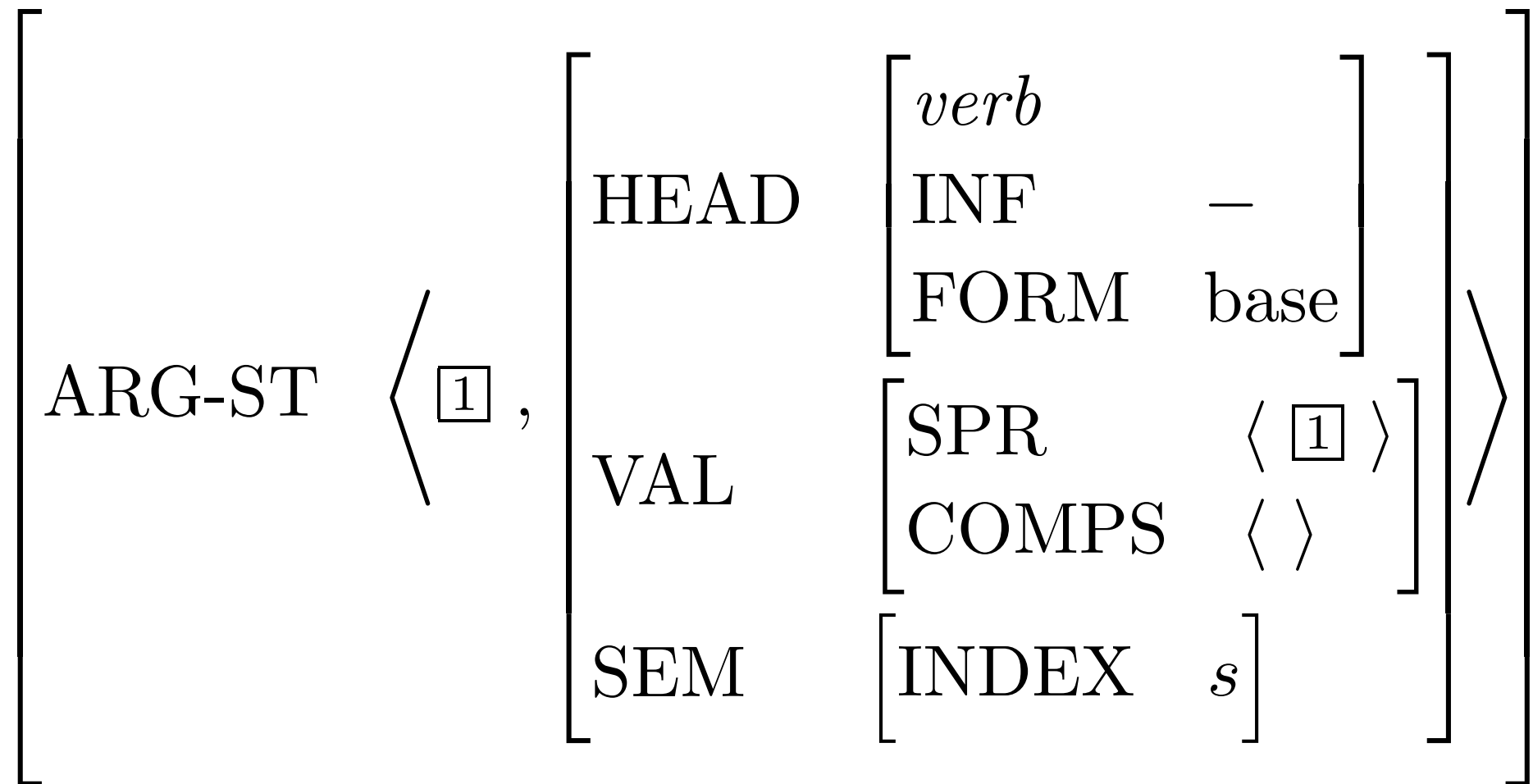
# The Syntax of Infinitival *to*

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

- 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.

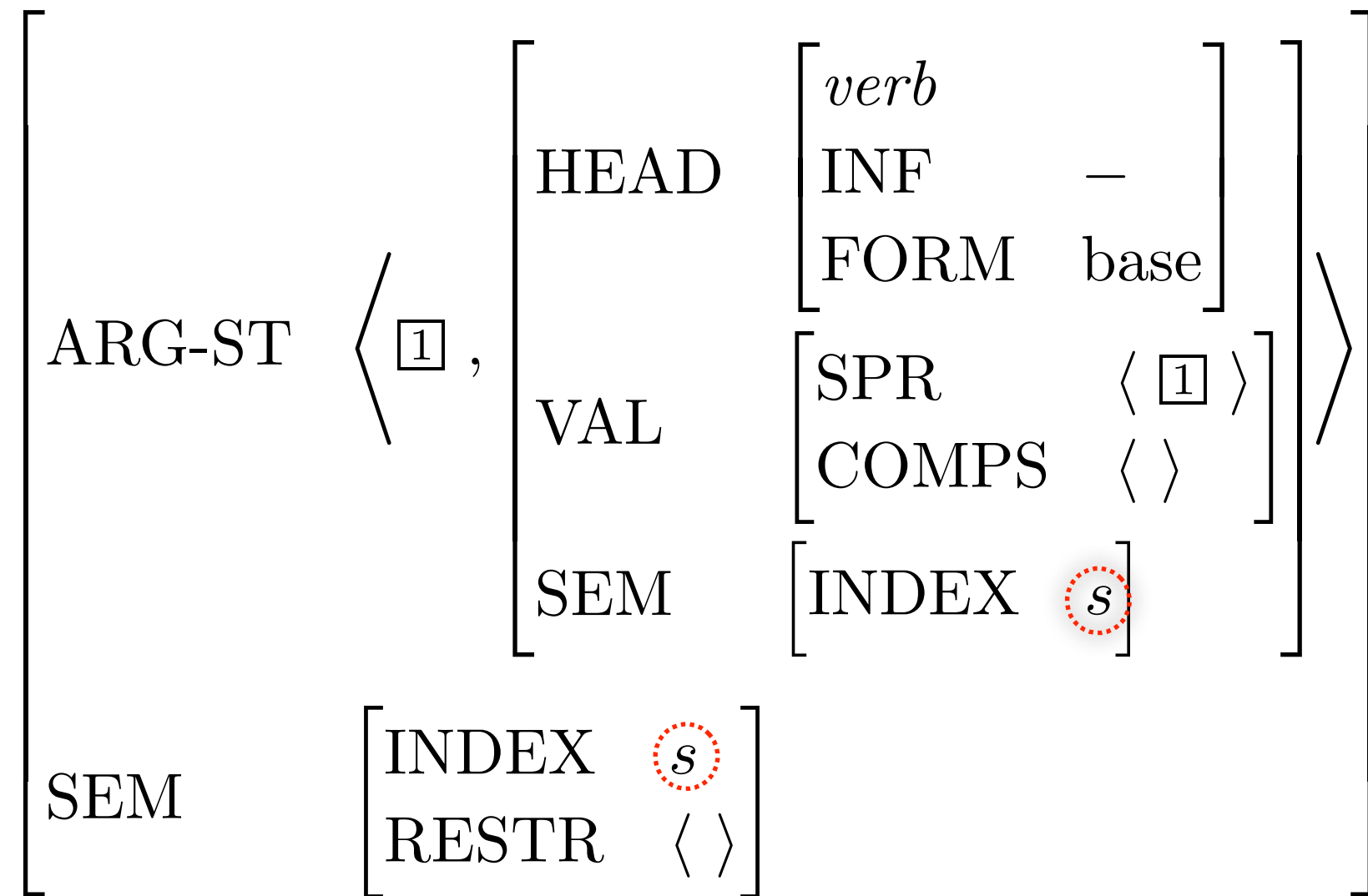


# The Argument Structure



- 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*

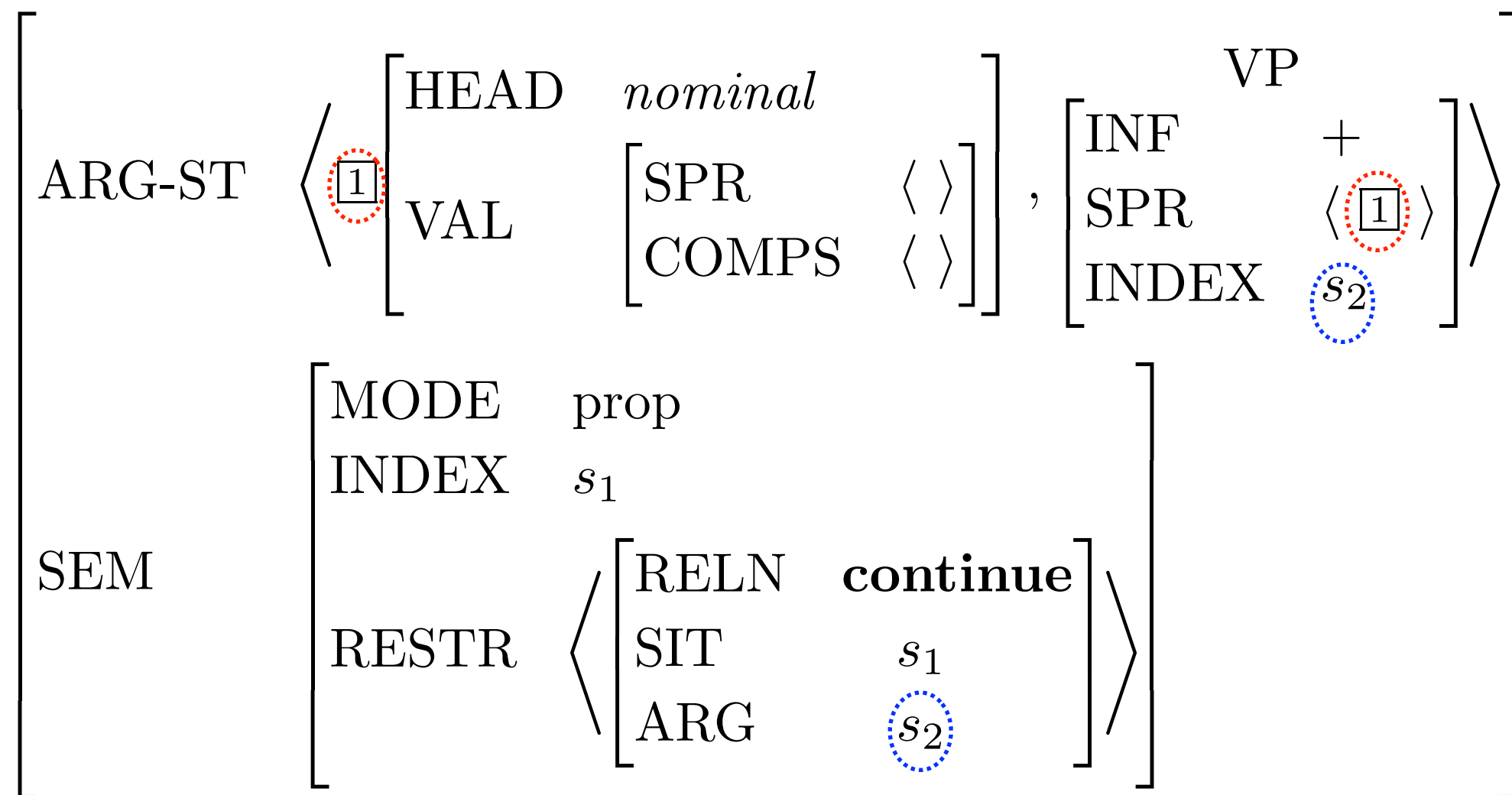
$$\left\langle \text{continue} , \left[ \begin{array}{l} \text{srv-lxm} \\ \text{ARG-ST} \left\langle \text{X} , \left[ \text{INF}^{\text{VP}} + \right] \right\rangle \\ \text{SEM} \left[ \begin{array}{l} \text{INDEX} \quad s_1 \\ \text{RESTR} \left\langle \left[ \begin{array}{l} \text{RELN} \quad \text{continue} \\ \text{SIT} \quad s_1 \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

# Entry for *continue*, with Inherited Information

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

# 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

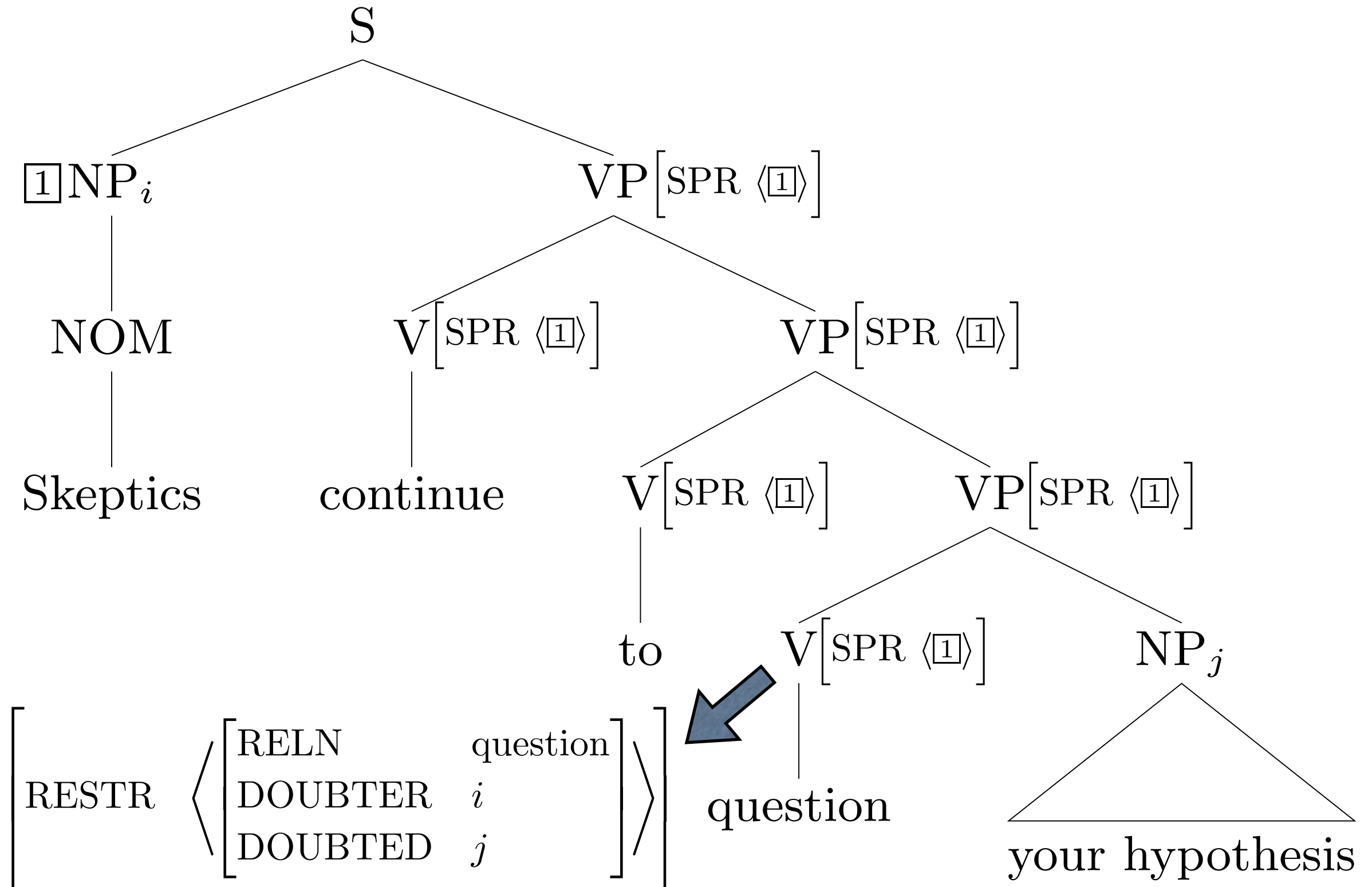
- SRVs take dummy subjects when and only when their complements do.
- SRVs take idiom chunk subjects when and only when their complements do.
- Passivizing the verb in the VP complement of an SRV doesn't change the truth conditions of the whole sentence:

*Skeptics continue to question your hypothesis ~*

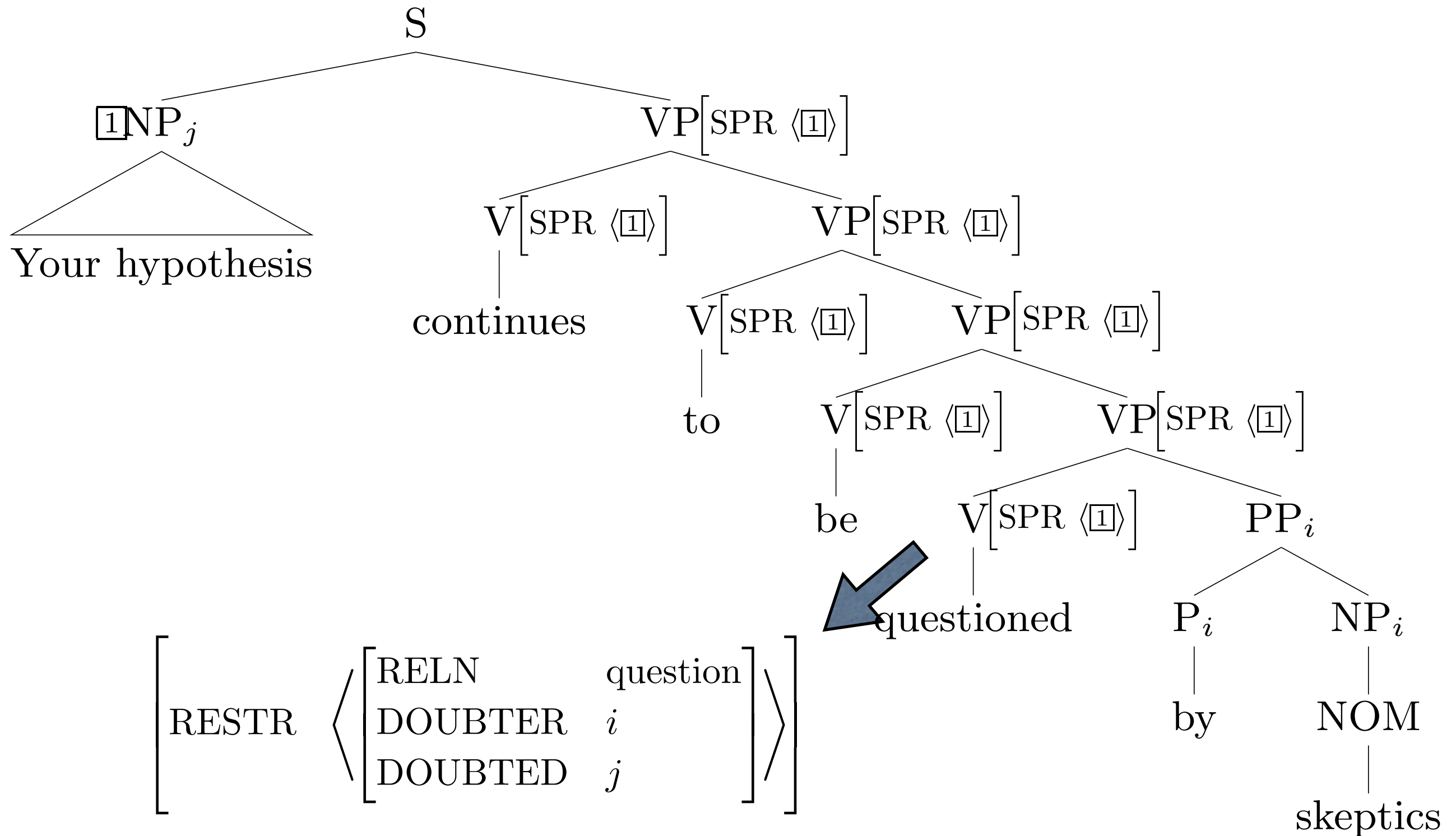
*Your hypothesis continues to be questioned by skeptics*



# *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*

$$\left\langle \text{try} , \left[ \begin{array}{l} scv-lxm \\ \text{ARG-ST} \left\langle \text{NP}_i , \left[ \text{VP} \right. \right. \\ \left. \left. \left[ \text{INF} + \right] \right] \right\rangle \\ \text{SEM} \left[ \begin{array}{l} \text{INDEX} \quad s_1 \\ \text{RESTR} \left\langle \left[ \begin{array}{l} \text{RELN} \quad \mathbf{try} \\ \text{SIT} \quad s_1 \\ \text{TRIER} \quad i \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

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>															
SYN	<table> <tr> <td>HEAD</td><td> <table> <tr> <td><i>verb</i></td><td></td></tr> <tr> <td>PRED</td><td>—</td></tr> <tr> <td>INF</td><td>—</td></tr> <tr> <td>AGR</td><td>[1]</td></tr> </table> </td></tr> <tr> <td>VAL</td><td>[SPR &lt; [AGR [1]] &gt;]</td></tr> </table>	HEAD	<table> <tr> <td><i>verb</i></td><td></td></tr> <tr> <td>PRED</td><td>—</td></tr> <tr> <td>INF</td><td>—</td></tr> <tr> <td>AGR</td><td>[1]</td></tr> </table>	<i>verb</i>		PRED	—	INF	—	AGR	[1]	VAL	[SPR < [AGR [1]] >]		
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ARG-ST	<table> <tr> <td colspan="2">VP</td></tr> <tr> <td>NP<sub>i</sub></td><td> <table> <tr> <td>INF</td><td>+</td></tr> <tr> <td>SPR</td><td>&lt; NP<sub>i</sub> &gt;</td></tr> <tr> <td>SEM</td><td>[INDEX s<sub>2</sub>]</td></tr> </table> </td></tr> </table>	VP		NP <sub>i</sub>	<table> <tr> <td>INF</td><td>+</td></tr> <tr> <td>SPR</td><td>&lt; NP<sub>i</sub> &gt;</td></tr> <tr> <td>SEM</td><td>[INDEX s<sub>2</sub>]</td></tr> </table>	INF	+	SPR	< NP <sub>i</sub> >	SEM	[INDEX s <sub>2</sub> ]				
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SIT	s <sub>1</sub>														
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## Things to Note:

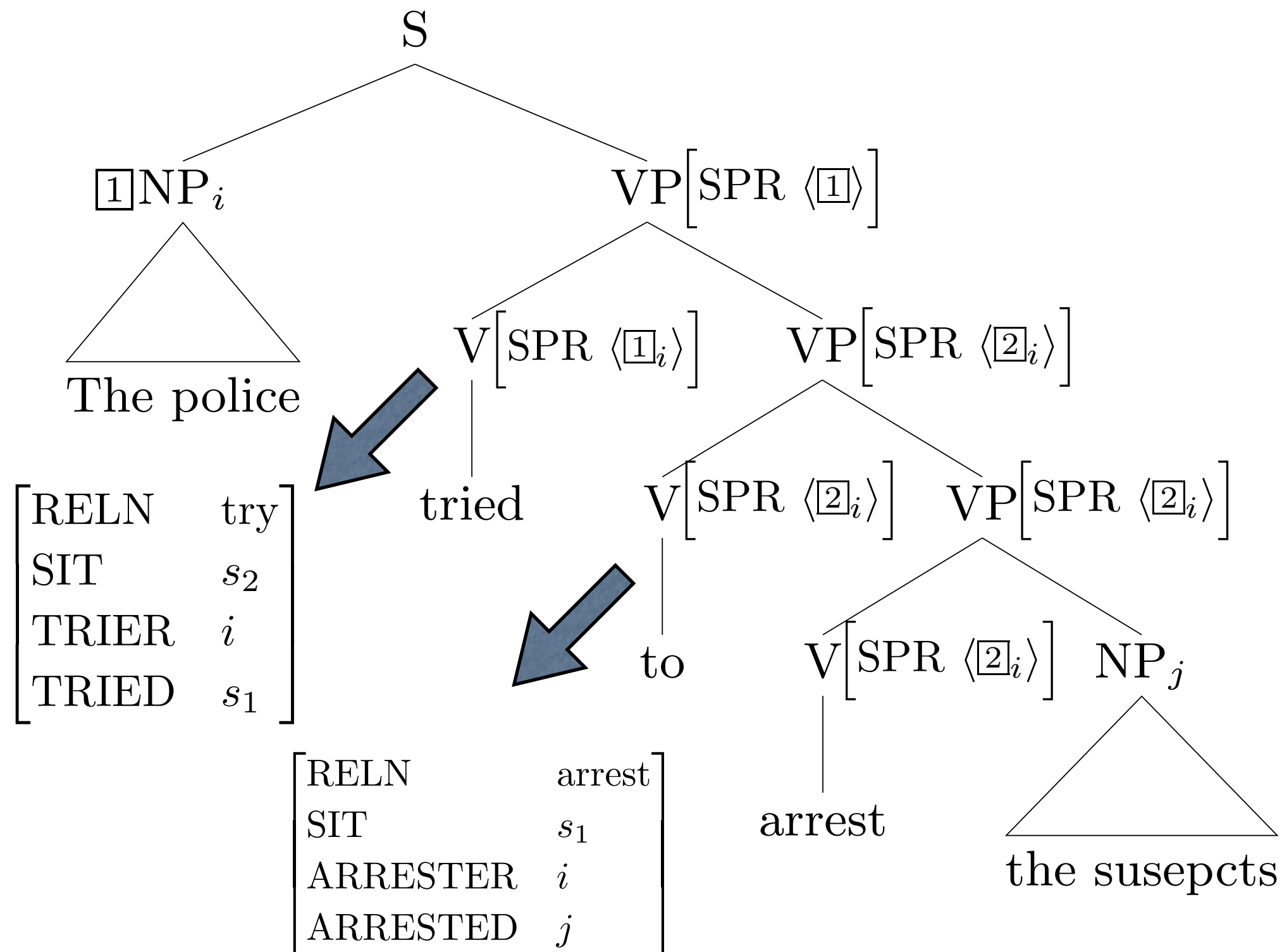
- The first argument has an index
- The first argument is coindexed with the SPR of the second argument
- Both the first and second arguments play semantic roles in the ‘try’ relation
- Very little had to be stipulated in the entry for *try*

# Questions

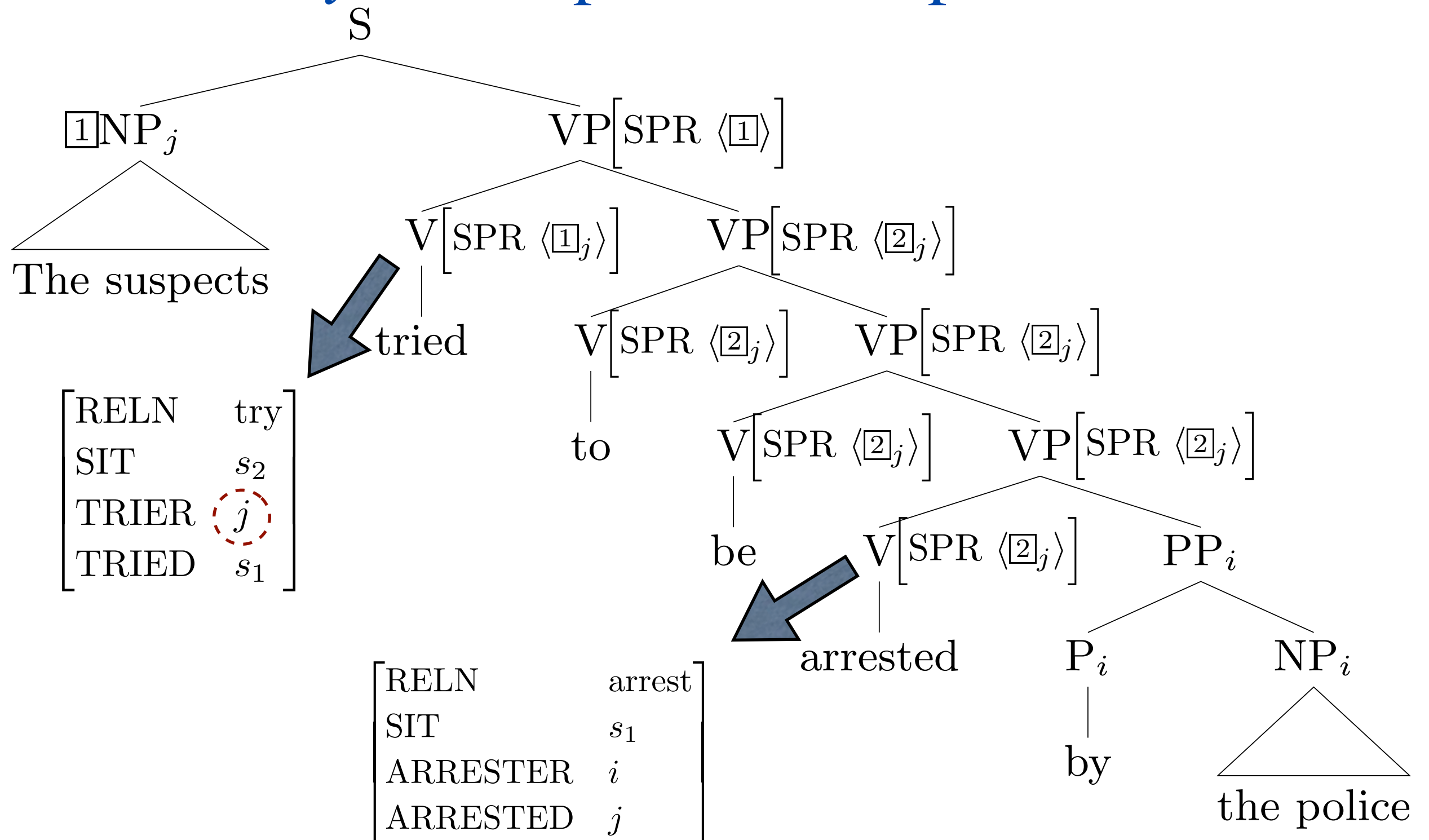
- What rules out dummies and idiom chunks as subjects of *try*?
- What accounts for the semantic non-equivalence of pairs like the following?  
*Reporters tried to interview the candidate*  
*The candidate tried to be interviewed by reporters*
- Why does *continue* behave differently in these respects?



# Try with an active complement



# Try with a passive complement



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

$$\begin{array}{cc}
 \begin{array}{c} \text{VP} \\ \left\langle \text{NP}_i, \begin{bmatrix} \text{INF} & + \\ \text{SPR} & \langle \text{NP}_i \rangle \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & s_2 \end{bmatrix} \end{bmatrix} \right\rangle \end{array} & \begin{array}{c} \text{VP} \\ \left\langle \boxed{1} \text{ NP}, \begin{bmatrix} \text{INF} & + \\ \text{SPR} & \langle \boxed{1} \rangle \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & s_2 \end{bmatrix} \end{bmatrix} \right\rangle \end{array} \\
 \text{CONTROL} & \text{RAISING}
 \end{array}$$

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.

# We make another raising/control distinction

## *Object-Raising Verb Lexeme (orv-lxm)*

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

- The formal distinction is again between tagging and coindexing

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

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

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

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

$$\left\langle \text{expect}, \left[ \begin{array}{l} \text{orv-lxm} \\ \text{ARG-ST} \langle \text{NP}_j, \text{X}, \left[ \begin{array}{c} \text{VP} \\ \text{INF} + \end{array} \right] \rangle \\ \text{SEM} \left[ \begin{array}{l} \text{INDEX} \quad s \\ \text{RESTR} \left\langle \left[ \begin{array}{l} \text{RELN} \quad \text{expect} \\ \text{SIT} \quad s \\ \text{EXPECTER} \quad j \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

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

$$\left\langle \text{persuade}, \left[ \begin{array}{l} \text{ocv-lxm} \\ \text{ARG-ST} \langle \text{NP}_j, \text{NP}_i, \left[ \begin{array}{c} \text{VP} \\ \text{INF} + \end{array} \right] \rangle \\ \text{SEM} \left[ \begin{array}{l} \text{INDEX} \quad s \\ \text{RESTR} \left\langle \left[ \begin{array}{l} \text{RELN} \quad \text{persuade} \\ \text{SIT} \quad s \\ \text{PERSUADER} \quad j \\ \text{PERSUADEE} \quad i \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

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

# Reading Questions

- How do we handle phrases like *Kim continued biking*? What about *Kim continued the course*? *Kim helped Sandy move*?
- Why is *to* an auxiliary verb?
- Isn't it enough to make it [INF +]?

# Reading Questions

- How do you test for object raising v. object control?
- Are there other raising/control verbs?

The lexicon included in the ‘1111’ release of the ERG [Flickinger, 2000, 2011] includes 45 different types of valence patterns for verbs which involve raising or control. The types are instantiated by a total of 501 verbs.  
(Bender 2013: 113)



# Reading Questions

- (i) Everyone expected Leslie to be aggressive. (ii) Leslie was expected to be aggressive. (iii) For Leslie to be aggressive was expected.
- (iii) seems to me to have the same semantics as (i) and (ii), but it suggests that *Leslie* and *to be aggressive* are a constituent. Is *for* a complementizer? Another strange thing about (iii) is I don't consider the active form (iv) grammatical. (iv) \**Everyone expected for Leslie to be aggressive*. Does our grammar allow null representations of complementizers to allow the active form of (iii) to be expressed as (i)? If we do it seems reasonable for the tree given in (46) in the book to be allowed, with a CP being the complement of *expected*.

# Reading Questions

- Re *The FBI continues to visit Lee/Lee continues to be visited by the FBI*. We know that the elements in the RESTR list are in a different order. But would all of the individual elements in the RESTR list be IDENTICAL for both the active and passive sentences - same RELN, same indices, same features - but just in a different order?

# Logistics for 11/13 and 11/18

- I'll post links to last year's lectures (and slides) on those same chapters.
- RQs are still required -- you should post them before you watch the lectures and at any rate by the standard deadline.
- Olga will come to class (and use AdobeConnect) during the regular lecture times, to facilitate a discussion of the material. [Attendance optional]
- Any questions you still have please post to GoPost and I'll try to get to them as quickly as possible.