Ling 566
Nov 14, 2017

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*

$$\left\langle \text{to} \;, \left[\begin{array}{ll} \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \left[\begin{array}{ll} \text{FORM} & \text{base} \\ \text{INF} & + \\ \text{AUX} & + \end{array}\right] \end{array}\right] \\ \text{ARG-ST} & \left\langle \boxed{1} \;, \left[\begin{array}{ll} \text{HEAD} & \left[\begin{array}{ll} \textit{verb} & \\ \text{INF} & - \\ \text{FORM} & \text{base} \end{array}\right] \\ \text{VAL} & \left[\begin{array}{ll} \text{SPR} & \langle\, \boxed{1} \,\rangle \\ \text{COMPS} & \langle\, \rangle \end{array}\right] \\ \text{SEM} & \left[\text{INDEX} \quad s\right] \end{array}\right] \right\rangle \\ \text{SEM} & \left[\begin{array}{ll} \text{INDEX} & s \\ \text{RESTR} & \langle\, \rangle \end{array}\right] \end{array}\right] \right\rangle$$

The Syntax of Infinitival *to*

$$\begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{FORM} & \text{base} \\ \text{INF} & + \\ \text{AUX} & + \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

- 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

$$\begin{bmatrix} \text{ARG-ST} & \left\langle \boxed{1}, \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{verb} & \\ \text{INF} & - \\ \text{FORM} & \text{base} \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle\ \boxed{1}\ \rangle \\ \text{COMPS} & \langle\ \rangle \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & s \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix}$$

- 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*

$$\begin{bmatrix} \text{ARG-ST} & \left\langle \boxed{1}, \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{verb} & \\ \text{INF} & - \\ \text{FORM} & \text{base} \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle\, \boxed{1} \,\rangle \\ \text{COMPS} & \langle\, \rangle \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & \textcircled{s} \end{bmatrix} \end{bmatrix} \right\rangle \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & \textcircled{s} \\ \text{RESTR} & \langle\, \rangle \end{bmatrix} \end{bmatrix}$$

- 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*):

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

- 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*

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

Entry for *continue*, with Inherited Information

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

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.

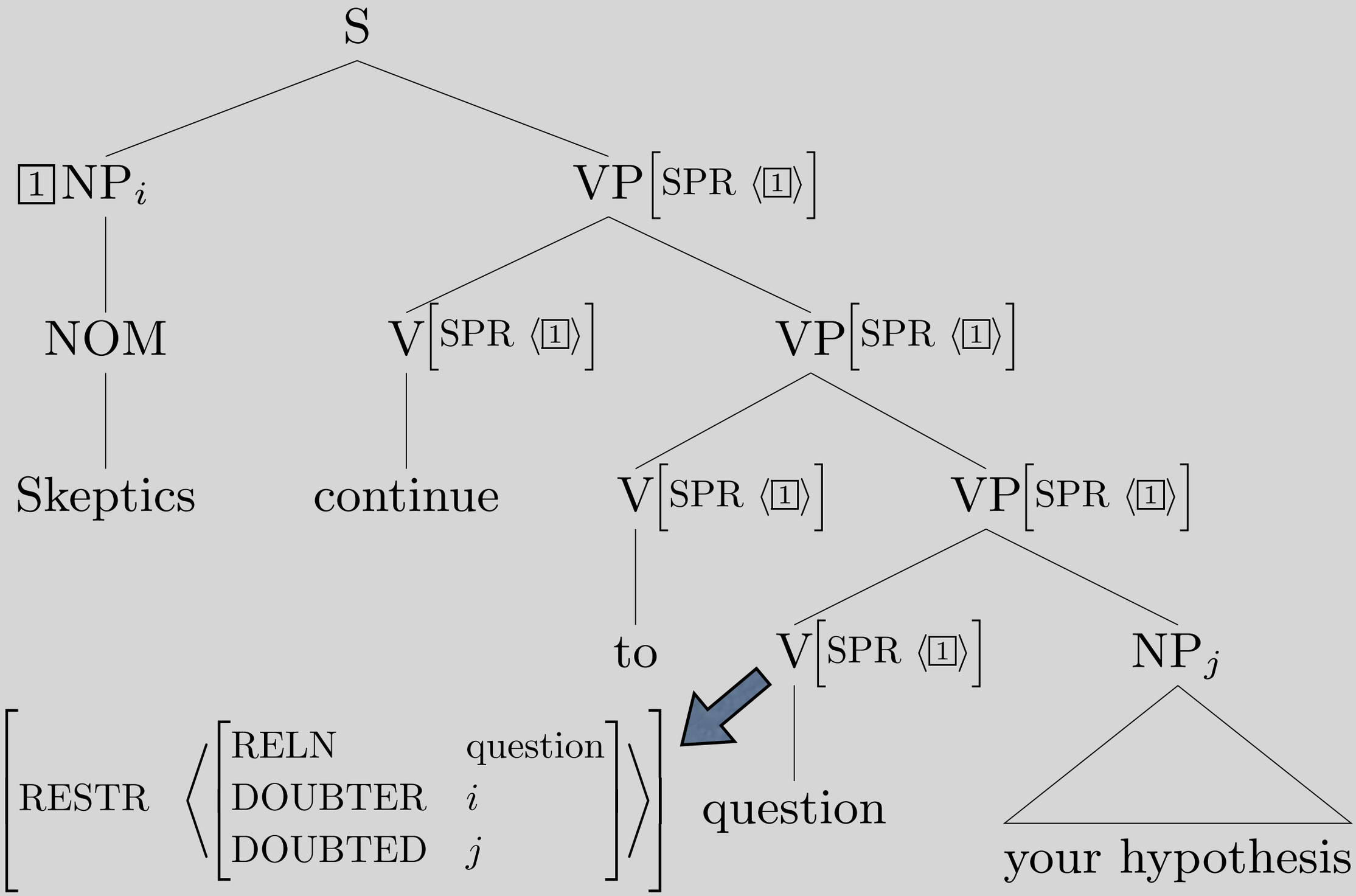
$$\left[\begin{array}{ll}
\text{ARG-ST} & \left\langle \boxed{1} \left[\begin{array}{ll}\text{HEAD} & \textit{nominal}\\ \text{VAL} & \left[\begin{array}{ll}\text{SPR} & \langle\,\rangle\\ \text{COMPS} & \langle\,\rangle\end{array}\right]\end{array}\right], \left[\begin{array}{ll}\text{VP}\\ \text{INF} & +\\ \text{SPR} & \langle \boxed{1} \rangle\\ \text{INDEX} & s_2\end{array}\right]\right\rangle\\
\text{SEM} & \left[\begin{array}{ll}\text{MODE} & \text{prop}\\ \text{INDEX} & s_1\\ \text{RESTR} & \left\langle \left[\begin{array}{ll}\text{RELN} & \textbf{continue}\\ \text{SIT} & s_1\\ \text{ARG} & s_2\end{array}\right]\right\rangle\end{array}\right]
\end{array}\right]$$

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

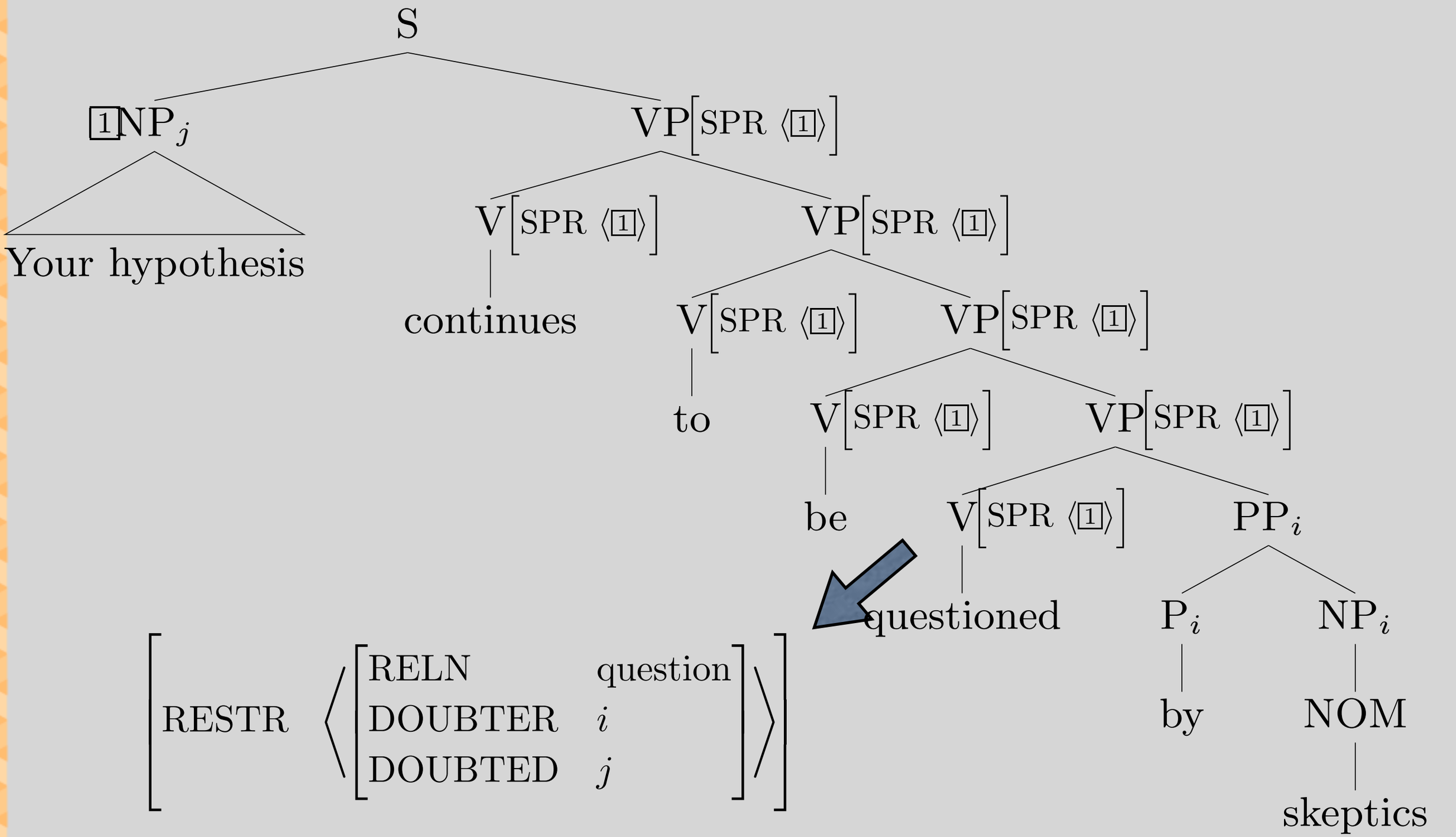
- SRVs take dummy subjects when and only when their complements do.
- SRVs take idiom chunk subjects when and only when their complements do.
- Passivizing the verb in the VP complement of an SRV doesn't change the truth conditions of the whole sentence:

  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):

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

- 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*

$$\left\langle \text{try} \;,\; \left[\begin{array}{ll} \textit{scv-lxm} & \\ \text{ARG-ST} & \left\langle \text{NP}_i \;,\; \left[\begin{array}{r} \text{VP} \\ \text{INF} + \end{array} \right] \right\rangle \\ \text{SEM} & \left[\begin{array}{ll} \text{INDEX} & s_1 \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \textbf{try} \\ \text{SIT} & s_1 \\ \text{TRIER} & i \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

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

Entry for *try*, with Inherited Information

$$\left\langle \text{try} \;,\; \left[\begin{array}{ll} \textit{scv-lxm} & \\ \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \left[\begin{array}{ll} \textit{verb} & \\ \text{PRED} & - \\ \text{INF} & - \\ \text{AGR} & \boxed{1} \end{array}\right] \\ \text{VAL} & \left[\text{SPR} \quad \langle\, [\text{AGR}\ \boxed{1}]\, \rangle\right] \end{array}\right] \\ \text{ARG-ST} & \left\langle \text{NP}_i \;,\; \overset{\text{VP}}{\left[\begin{array}{ll} \text{INF} & + \\ \text{SPR} & \langle\, \text{NP}_i \,\rangle \\ \text{SEM} & \left[\text{INDEX} \quad s_2\right] \end{array}\right]} \right\rangle \\ \text{SEM} & \left[\begin{array}{ll} \text{INDEX} & s_1 \\ \text{MODE} & \text{prop} \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \textbf{try} \\ \text{SIT} & s_1 \\ \text{TRIER} & i \\ \text{ARG} & s_2 \end{array}\right] \right\rangle \end{array}\right] \end{array}\right] \right\rangle$$

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

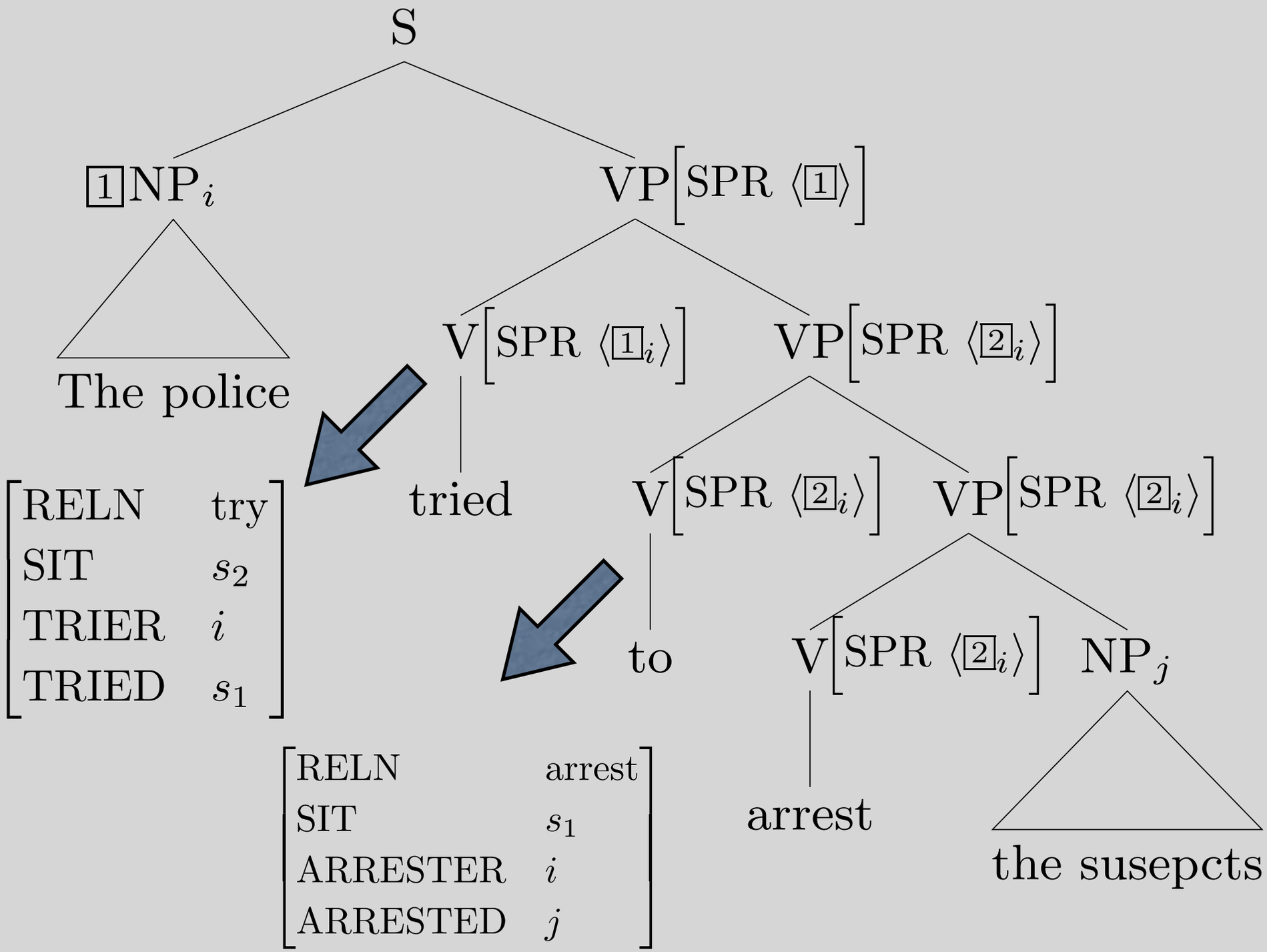
- What rules out dummies and idiom chunks as subjects of *try*?
- What accounts for the semantic non-equivalence of pairs like the following?

  Reporters tried to interview the candidate

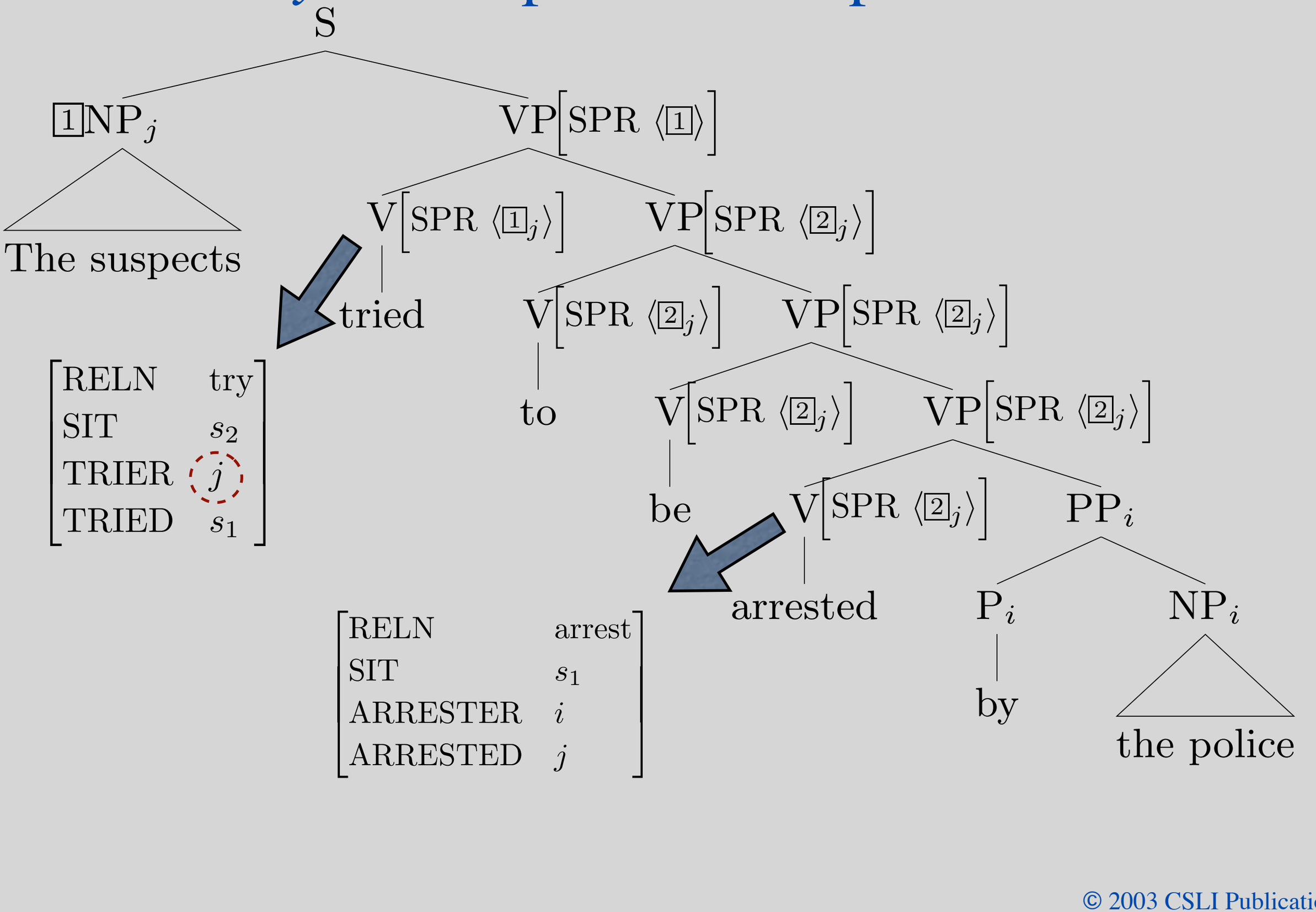
  The candidate tried to be interviewed by reporters

- 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

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

CONTROL

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

RAISING

Which is which?

Why?

Raising & Control in Transformational Grammar

- Raising

  _____ continue [the dogs to bark]

- Control

  $[\text{the dogs}]_i$ try $[NP_i$ 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*)

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

- The formal distinction is again between tagging and coindexing

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

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

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

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

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

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

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

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

Ch 12 Prob 4

- Construct examples of each of the following four types which show a contrast between *expect* and *persuade*:
  - Ex with dummy *there*
  - Ex with dummy *it*
  - Ex with idiom *chunks*
  - Ex of relevant active/passive pairs

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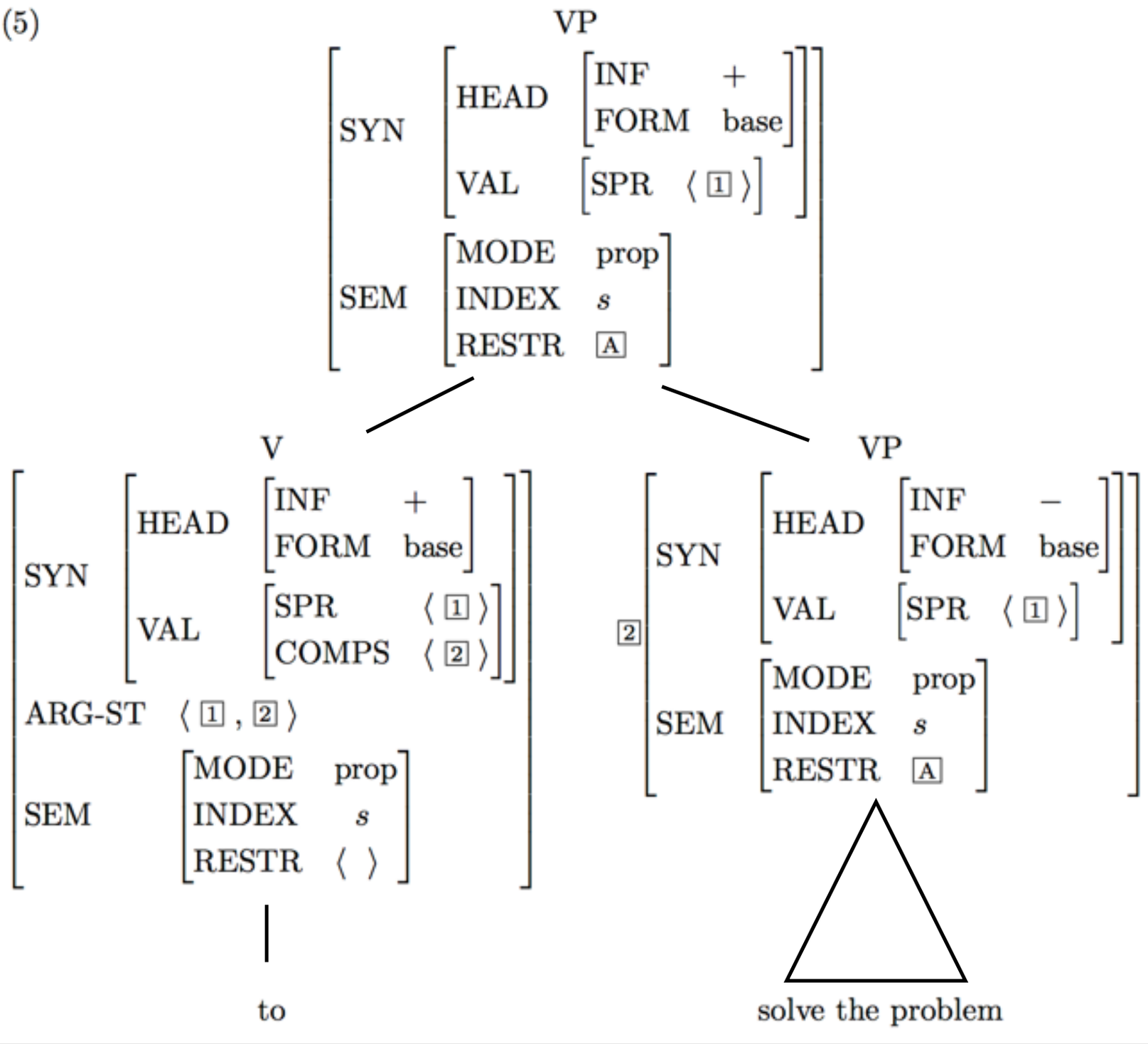
Reading Questions

- What's the answer to Exercise 1?
- What does infinitival mean, and how do all of the verbs discussed in this chapter fit under that?
- In page 363, Figure (5), the INF value of the mother VP node is +, and that of the child VP node is -. Does this suggest that this 'rule' (VP -> V VP) is not headed?

(5)



Reading Questions

- Is it more efficient to add INF +/- rather than subtyping base as a value of FORM?
- When are verbs[PRED +/-] and [INF +/-]. I What are these features are saying? Are there any easy tests to find out the correct feature values?

Reading Questions

- "*continue* and its complement must have the same subject." How does the SPR agreement work in these examples? Would you say that the specifier is agreeing with both *continue* and the [FORM base] verb?

Reading Questions

- The lexical entry for *try* indicates that its complement must be [INF +], and at the beginning of the chapter, it says that only to will have the feature [INF +] (all other verbs being [INF -]). But: *The FBI tried finding Lee*. Is *finding* actually [INF +] as well here, or is there something else going on?

Reading Questions

- On p. 362, (4), *to* is SEM empty and grabs the SEM from its VP complement. On the other hand, the subject/object raising verbs are NOT empty - they just take the SEM of another predication as an argument and add their own RELN and call it a new SIT, right? These seem somewhere in the middle of SEM empty and SEM full predications (like *love*). What's the range of SEM emptiness/fullness?

Reading Questions

- How many raising/control verbs are there?

Both raising and control constructions turn on lexical properties of certain licensing verbs (and adjectives). It follows that correctly identifying these constructions in running text, and thus correctly linking up the shared argument with its semantic role in the embedded predicate, relies on detailed lexical knowledge. 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.[14]

Reading Questions

- I'm confused by how active-passive pairs illustrate that a verb doesn't do anything semantically with its subject. The book's example was:

  a. The FBI continued to visit Lee.

  b. Lee continued to be visited by the FBI.

- The fact that these two sentences are the same means that the verb continue doesn't semantically use its subject. But couldn't we put many (all?) verbs in the same example?

  a. The FBI assaulted Lee.

  b. Lee was assaulted by the FBI.

- But assaulted clearly does something with its subject (denotes it as the assaulter). So how do active-passive pairs illustrate no semantic interaction with the subject?

Reading Questions

- I don't see much difference in the first and second properties of continue it seems that the one major property is that the word is "transparent" to its subject and VP complement: "the first striking property of the verb continue: it places no restrictions of its own on its subject, but rather takes as a subject whatever kind of subject its VP complement is looking for. A second, related property of continue is that it doesn’t do anything semantically with its subject."

Reading Questions

- As a CLMS student, what are the broader concepts you would expect me to take away from this reading and use in other courses? How do you suggest students extract and master these broader concepts so that we can successfully use them beyond the grammar that we use in this course