Ling 566
Feb 25, 2019

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*

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

Entry for *continue*, with Inherited Information

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

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.

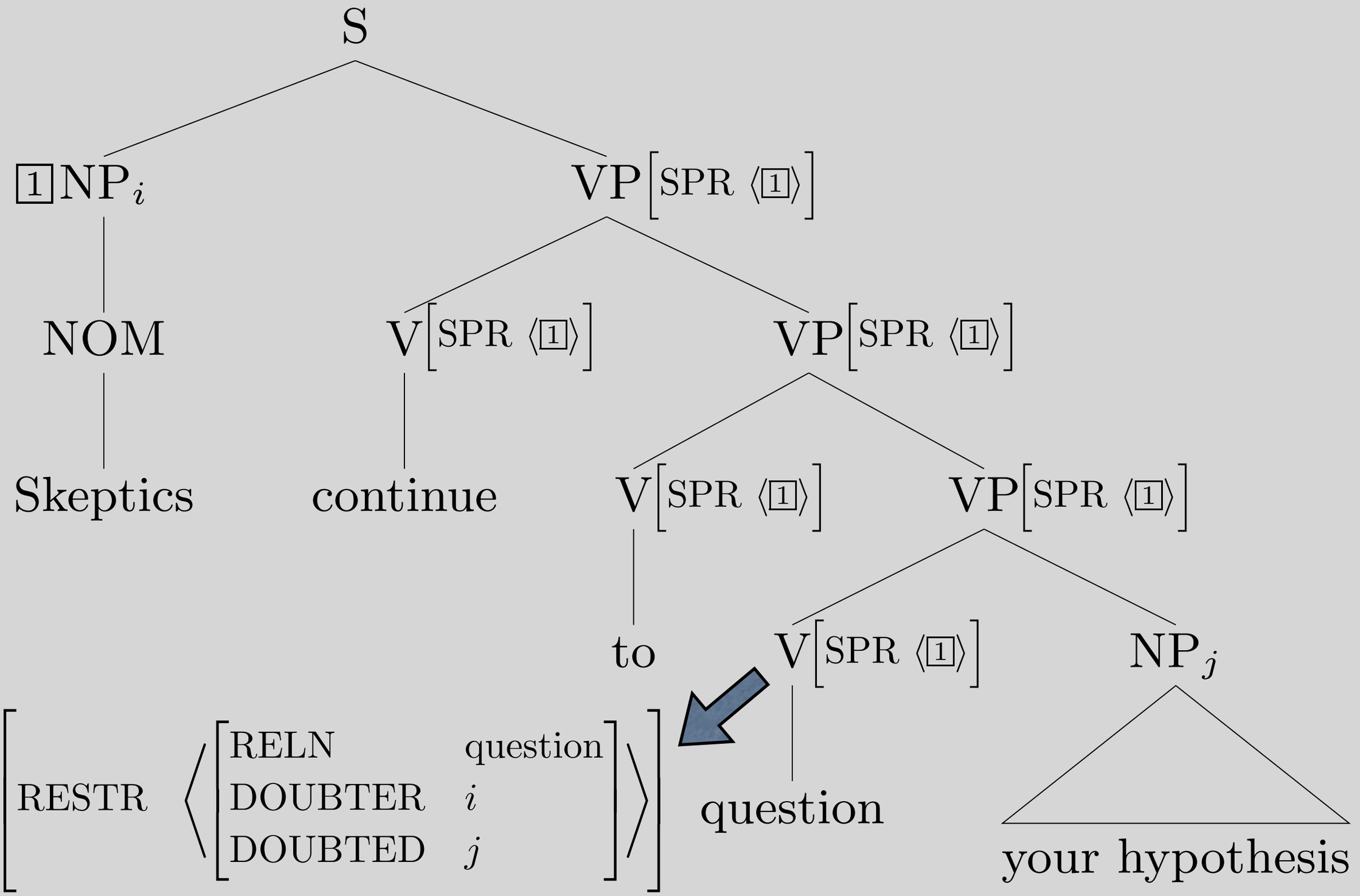
$$\begin{bmatrix} \text{ARG-ST} & \left\langle \boxed{1} \begin{bmatrix} \text{HEAD} & \textit{nominal} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle\,\rangle \\ \text{COMPS} & \langle\,\rangle \end{bmatrix} \end{bmatrix}, \begin{bmatrix} \text{VP} \\ \text{INF} & + \\ \text{SPR} & \langle \boxed{1}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

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

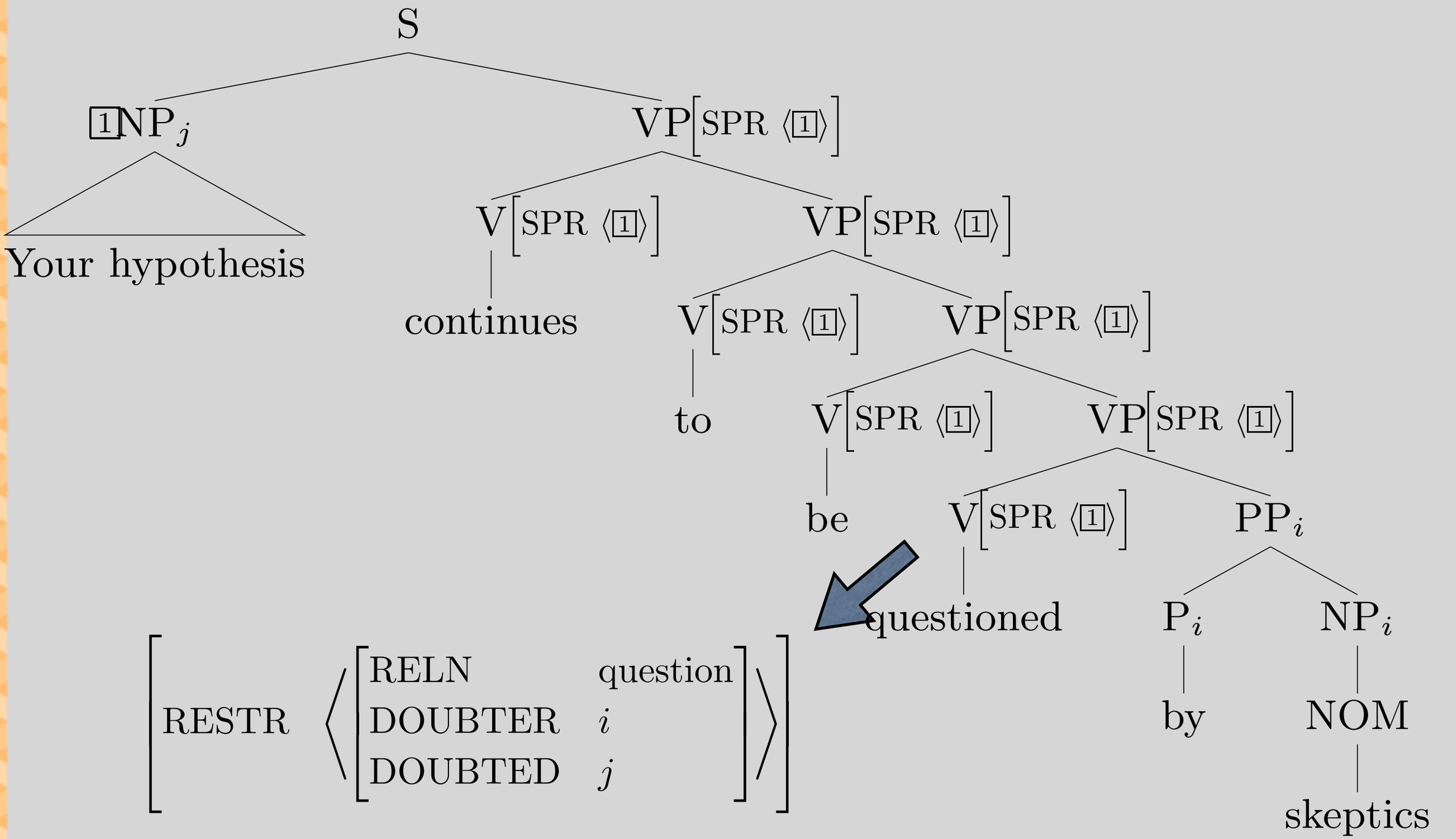
- SRVs take dummy subjects when and only when their complements do.
- SRVs take idiom chunk subjects when and only when their complements do.
- Passivizing the verb in the VP complement of an SRV doesn't change the truth conditions of the whole sentence:

  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

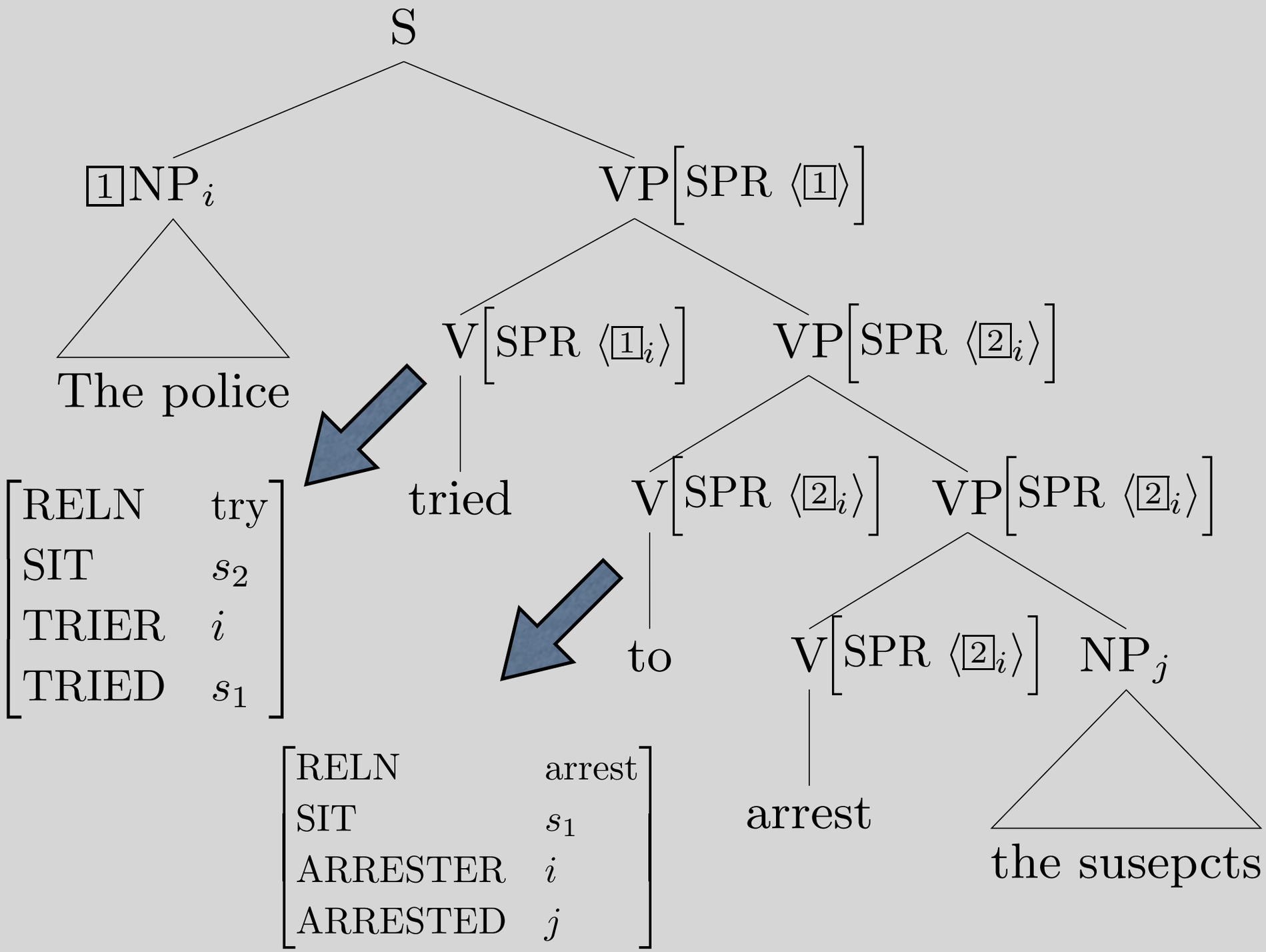
- What rules out dummies and idiom chunks as subjects of *try*?
- What accounts for the semantic non-equivalence of pairs like the following?

  Reporters tried to interview the candidate

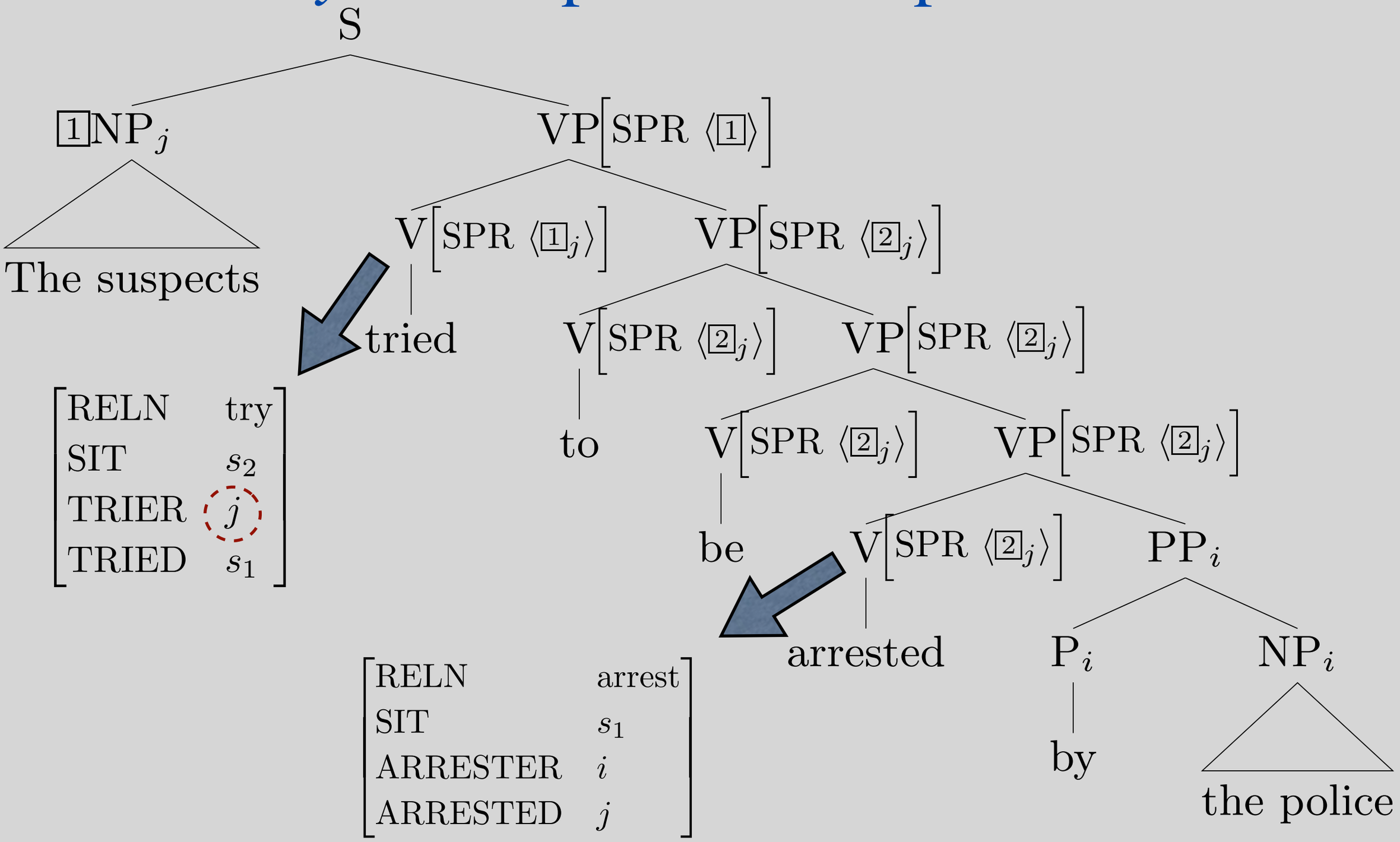
  The candidate tried to be interviewed by reporters

- 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

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

VP

VP

CONTROL

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

- Why do we need both [FORM base] and INF?
- Is the raising v. control distinction universally valid?
- Is the distinction any more obvious in other languages?

Reading Questions

- Why don't control verbs identify their first argument with the subject of their second argument (not just their indices) the same way that raising verbs do? The book gives an explanation, but it's kind of lost on me. Are there situations where the subject of the control verb does not match the feature structure on its VP complement's SPR list?

Reading Questions

- The formulation of *try*/*continue* necessarily requires an INF. I find that these to-headed INFs could often be in a present participle form and still be grammatical; e.g., *the FBI tried finding Lee* vs. *the FBI tried to find Lee*. This seems only to be true in active sentences. Would we just treat present participles as INF-y? Or would we need to construct some rule to account for both forms?

Reading Questions

- The entry we formulated for *to* is pretty simple and makes sense but I don't know if I'd be able to correctly identify the infinitive *to* when compared to other uses.
- It may be covered more in Ch 13 with the *auxv-lxm* discussion but are there other inf form verbs in English? How unique is this inf form to English?

Reading Questions

- 12.5 shows that adjectives can also be involved in phenomena similar to the srv-lxm. Is this mentioned to highlight the fact that subject raising/control extends beyonds verbs, or will we further extend our grammar with this information at a later point?

Reading Questions

- I'm still confused that how do we differentiate the 'object raising' verb and 'object control' verb syntactically or semantically, because I think it's kind of ambiguous to treat *expect* as 'object raising' verb.

Reading Questions

- The last paragraph on p. 381 gives the reasoning as to why the grammar indicates that object raising verbs like expect take two complements, rather than one complement that encompasses both the NP and VP. The books says that if the latter were the case, expect would have to have "a doubleton ARG-ST list contining the subject NP and some kind of infinitival phrase that includes the NP." Can you give an example of what this doubleton list might look like? I think seeing it would help me conceptualize why the grammar doesn't choose this analysis.

Reading Questions

- The structures in (35) and (36) give two different analyses for {expect, persuade} Leslie to be aggressive. Beyond saying we could imagine these two different analyses, the book doesn't explain where (35) might come from any why it would seem appealing enough that we have come up for a justification for (36). If I squint a little, I can see how the semantic association between Leslie and to be aggressive might make it seem natural to associate these under some kind of phrase. Is something along these lines what would make (35) come to mind, or is there some other reason we're considering this possibility?

Reading Questions

- Couldn't expect have an empty EXPECTER value as in (i)?

  (i). It was expected to rain.

  (ii). *It expected to rain.

- For expect in 12.6, why won’t the following sentence containing two "passive" be accepted: *Chris was expected to be left*.

Reading Questions

- We have said a few times in the past that it's not a problem if some role in a predication ends up unfilled (unindentified with any entity in the tree), for example the agent in a passive construction that omits the optional PP[FORM by] or an objectless 'eat' VP. P. 364 says that since nonreferential NPs can't fill any roles, the 'it' in "I hate it" MUST be referential, implying that object of "hate" is not optional. What says that the 'thing hated' role has to be filled when a role like 'think eaten' or agent does not?

Reading Questions

- I am wondering if "to be honest" in a sentence like "the book was, to be honest, pretty boring" uses the same infinitive structure that would be used with a complement verb such as in "I'm trying to be honest"

Reading Questions

- Sentences like *It continues to eat oysters* are clearly grammatical if *it* is referential rather than nonreferential, which leads to two questions:
  - Is there some notation that marks dummy words like *it* as referential versus nonreferential?
  - How do we define the semantics for the referential *it* as in *It eats oysters*, where the reference of "it" is not present?