HG4041 Theories of Grammar

Raising and Control

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Lecture 10
Location: LHN-TR+36

Overview

- Intro to topic
- Infinitival to
- (Subject) raising verbs
- (Subject) control verbs
- Raising/control in Transformational Grammar
- Object raising and object control

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 continue is semantically a one-place predicate, expressing a property of a situation (namely, that it continues to be the case)
  - Whereas try 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:

  (1) Pat aspires to stardom
  (2) Pat aspires to be a good actor
  (3) *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

$$\left\langle \text{to}, \left[\begin{array}{ll} \text{syn} & \left[\begin{array}{ll} \text{head} & \left[\begin{array}{ll} \text{form} & \text{base} \\ \text{inf} & + \\ \text{aux} & + \end{array}\right] \end{array}\right] \\ \text{arg-st} & \left\langle \boxed{1}, \left[\begin{array}{ll} \text{head} & \left[\begin{array}{ll} \text{verb} & \\ \text{inf} & - \\ \text{form} & \text{base} \end{array}\right] \\ \text{val} & \left[\begin{array}{ll} \text{spr} & \left\langle \boxed{1} \right\rangle \\ \text{comps} & \left\langle\ \right\rangle \end{array}\right] \\ \text{sem} & \left[\text{index} \quad \text{s}\right] \end{array}\right] \right\rangle \\ \text{sem} & \left[\begin{array}{ll} \text{index} & \text{s} \\ \text{restr} & \langle\rangle \end{array}\right] \end{array}\right] \right\rangle$$

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

$$\left[\text{arg-st}\ \left\langle \boxed{1}, \left[\begin{array}{ll}\text{head} & \left[\begin{array}{ll}\text{verb} & \\ \text{inf} & - \\ \text{form} & \text{base}\end{array}\right] \\ \text{val} & \left[\begin{array}{ll}\text{spr} & \left\langle \boxed{1} \right\rangle \\ \text{comps} & \left\langle\ \right\rangle\end{array}\right] \\ \text{sem} & \left[\text{index}\ \ \text{s}\right]\end{array}\right] \right\rangle\right]$$

- 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

$$\left[\begin{array}{ll} \text{arg-st} & \left\langle \boxed{1}, \left[\begin{array}{ll} \text{head} & \left[\begin{array}{ll} \text{verb} & \\ \text{inf} & - \\ \text{form} & \text{base} \end{array}\right] \\ \text{val} & \left[\begin{array}{ll} \text{spr} & \left\langle \boxed{1} \right\rangle \\ \text{comps} & \left\langle\ \right\rangle \end{array}\right] \\ \text{sem} & \left[\text{index} \quad \text{s}\right] \end{array}\right] \right\rangle \\ \text{sem} & \left[\begin{array}{ll} \text{index} & \text{s} \\ \text{restr} & \langle\rangle \end{array}\right] \end{array}\right]$$

- The index value is taken from the sem of the second argument.
- What is the semantic contribution of to?

Dummies and continue

- Some examples:

  (4) There continue to be seats available.
  (5) It continues to matter that we lost.
  (6) Advantage continues to be taken of the innocent.
  (7) *It continues to be seats available.
  (8) *There continues to matter that we lost.
  (9) *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)

$$\begin{bmatrix} \text{arg-st} & \left\langle \boxed{1}, \begin{bmatrix} \text{val} & \begin{bmatrix} \text{spr} & \left\langle \boxed{1} \right\rangle \\ \text{comps} & \langle\,\rangle \end{bmatrix} \\ \text{sem} & \begin{bmatrix} \text{index} & s \end{bmatrix} \end{bmatrix} \right\rangle \\ \text{sem} & \begin{bmatrix} \text{restr} & \left\langle \begin{bmatrix} \text{arg} & s \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix}$$

- 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
- The index of the complement must be an argument of the predication introduced by the verb

The Lexical Entry for continue

$$\left\langle \text{continue}, \left[\begin{array}{ll} \text{srv-lxm} & \\ \text{syn} & \left[\text{arg-st} \quad \left\langle \text{X, VP} \left[\text{inf} \quad + \right] \right\rangle \right] \\ \text{sem} & \left[\begin{array}{ll} \text{index} & s_1 \\ \text{restr} & \left\langle \left[\begin{array}{ll} \text{reln} & \text{continue} \\ \text{sit} & s_1 \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

continue with Inherited Information

$$\left\langle \text{continue}, \begin{bmatrix} \text{srv-lxm} \\ \text{syn} & \begin{bmatrix} \text{head} & \begin{bmatrix} \text{verb} \\ \text{pred} & - \\ \text{inf} & - \\ \text{agr} & \boxed{2} \end{bmatrix} \end{bmatrix} \\ \text{arg-st} & \left\langle \boxed{1} \begin{bmatrix} \text{head} & \text{nominal} \\ \text{val} & \begin{bmatrix} \text{spr} \left\langle \right\rangle & \text{comps} \left\langle \right\rangle \end{bmatrix} \end{bmatrix}, \text{VP} \begin{bmatrix} \text{inf} & + \\ \text{spr} & \left\langle \boxed{1} \right\rangle \\ \text{index} & s_2 \end{bmatrix} \right\rangle \\ \text{sem} & \begin{bmatrix} \text{mode} & \text{prop} \\ \text{index} & s_1 \\ \text{restr} & \left\langle \begin{bmatrix} \text{reln} & \text{continue} \\ \text{sit} & s_1 \\ \text{arg} & s_2 \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$

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.

$$\left\langle \text{continue}, \left[\begin{array}{ll} \text{srv-lxm} & \\ \text{arg-st} & \left\langle \boxed{1} \left[\begin{array}{ll} \text{head} & \text{nominal} \\ \text{val} & \left[\text{spr}\ \langle\rangle \quad \text{comps}\ \langle\rangle\right] \end{array}\right], \text{VP} \left[\begin{array}{ll} \text{inf} & + \\ \text{spr} & \left\langle \boxed{1} \right\rangle \\ \text{index} & s_2 \end{array}\right] \right\rangle \\ \text{sem} & \left[\begin{array}{ll} \text{mode} & \text{prop} \\ \text{index} & s_1 \\ \text{restr} & \left\langle \left[\begin{array}{ll} \text{reln} & \text{continue} \\ \text{sit} & s_1 \\ \text{arg} & s_2 \end{array}\right] \right\rangle \end{array}\right] \end{array}\right] \right\rangle$$

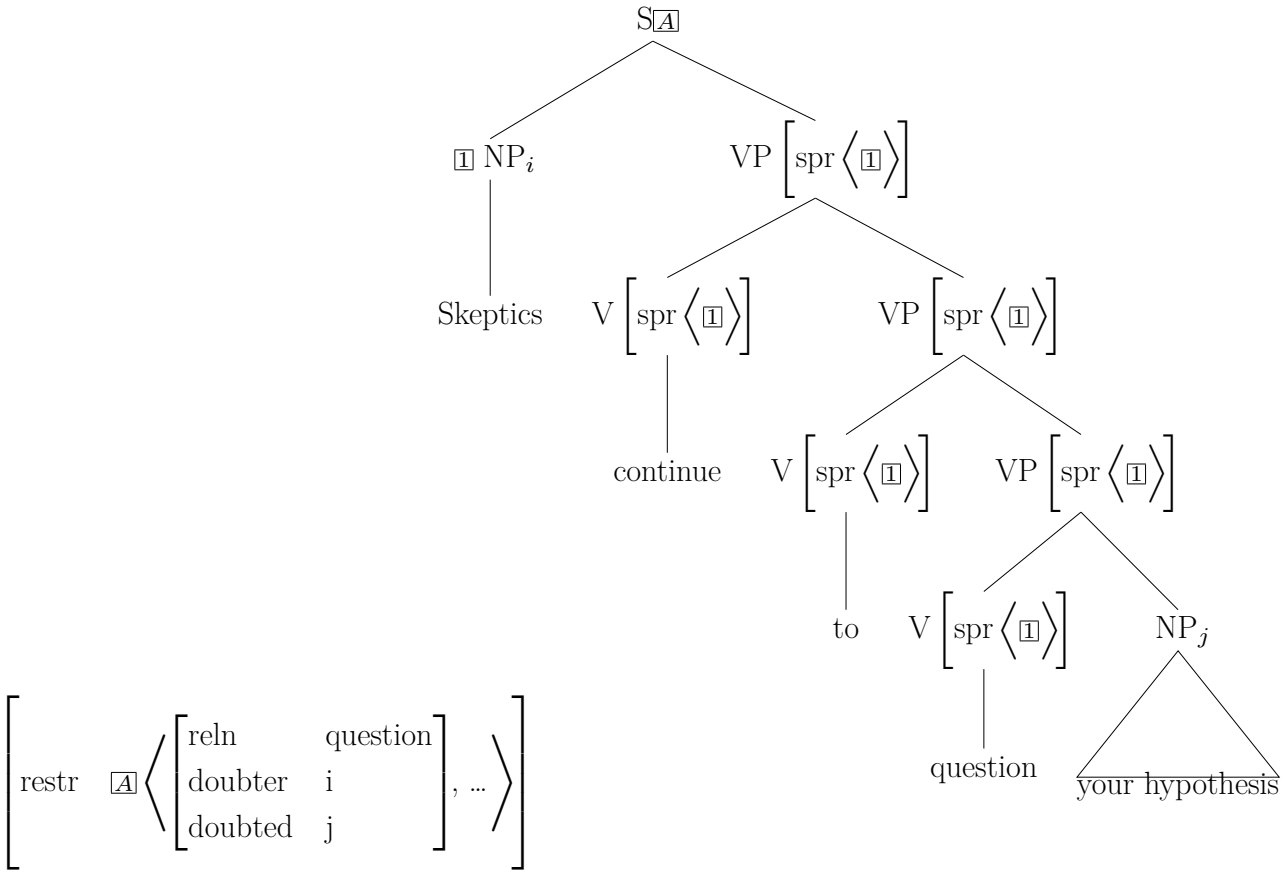
Constraints on SRV's subjects are from their complements

- 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:

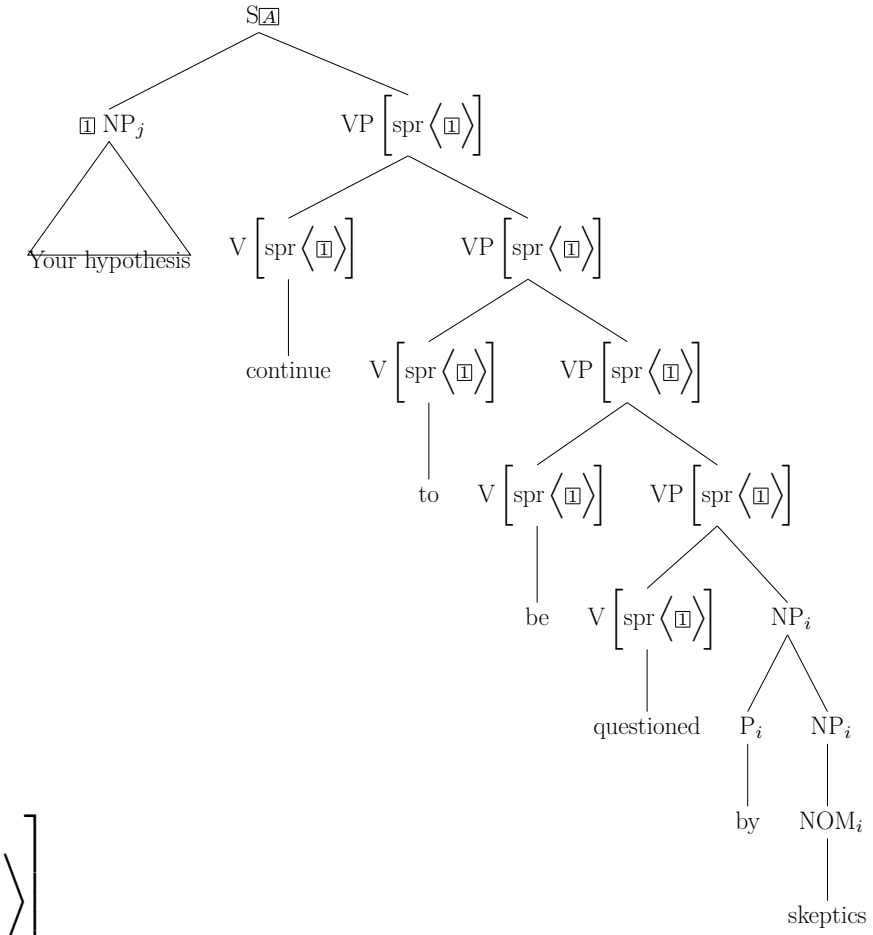
  (10) Skeptics continue to question your hypothesis

  (11) Your hypothesis continues to be questioned by skeptics

continue with active complement



continue with passive complement



$$\begin{bmatrix} \text{restr} & \boxed{A}\left\langle \begin{bmatrix} \text{reln} & \text{question} \\ \text{doubter} & \text{i} \\ \text{doubted} & \text{j} \end{bmatrix}, \ldots \right\rangle \end{bmatrix}$$

Control Verbs

- Control verbs, like try, appear in contexts that look just like the contexts for raising verbs:

  i. Pat tried to stay calm

  looks superficially like

  ii. 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.

  i. *There try to be bugs in my program
  ii. *It tries to upset me that the Giants lost
  iii. *Advantage tries to be taken of tourists

- Passivizing the complement's verb changes the truth conditions.

  i. The police tried to arrest disruptive demonstrators

  $\neq$

  ii. Disruptive demonstrators tried to be arrested by the police

A New Type

Subject-Control Verb Lexeme (scv-lxm)

$$\begin{bmatrix} \text{arg-st} & \left\langle \text{NP}_i, \begin{bmatrix} \text{val} & \begin{bmatrix} \text{spr} & \left\langle \text{NP}_i \right\rangle \\ \text{comps} & \left\langle\ \right\rangle \end{bmatrix} \\ \text{sem} & \begin{bmatrix} \text{index} & \boxed{\text{s}} \end{bmatrix} \end{bmatrix} \right\rangle \\ \text{sem} & \begin{bmatrix} \text{restr} & \left\langle \begin{bmatrix} \text{arg} & \text{s} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix}$$

- This differs from srv-lxm in that the first argument and the spr of the second argument are coindexed, not tagged (re-entrant).
- 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

$$\left\langle \text{try}, \left[\begin{array}{ll} \text{scv-lxm} & \\ \text{syn} & \left[\text{arg-st} \quad \left\langle \text{NP}_i, \text{VP} \left[\text{inf} \quad + \right] \right\rangle \right] \\ \text{sem} & \left[\begin{array}{ll} \text{index} & \text{s}_1 \\ \text{restr} & \left\langle \left[\begin{array}{ll} \text{reln} & \text{try} \\ \text{sit} & \text{s}_1 \\ \text{trier} & \text{i} \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

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

try with Inherited Information

$$\left\langle \text{try}, \left[\begin{array}{ll} \text{scv-lxm} & \\ \text{syn} & \left[\text{head} \left[\begin{array}{ll} \text{verb} & \\ \text{pred} & - \\ \text{inf} & - \\ \text{a agr} & \boxed{1} \end{array}\right]\right] \\ \text{arg-st} & \left\langle \text{NP}_i,\ \text{VP} \left[\begin{array}{ll} \text{inf} & + \\ \text{spr} & \left\langle \text{NP}_i \right\rangle \\ \text{index} & s_2 \end{array}\right] \right\rangle \\ \text{sem} & \left[\begin{array}{ll} \text{mode} & \text{prop} \\ \text{index} & s_1 \\ \text{restr} & \left\langle \left[\begin{array}{ll} \text{reln} & \text{try} \\ \text{sit} & s_1 \\ \text{arg} & s_2 \\ \text{trier} & \text{i} \end{array}\right] \right\rangle \end{array}\right] \end{array}\right] \right\rangle$$

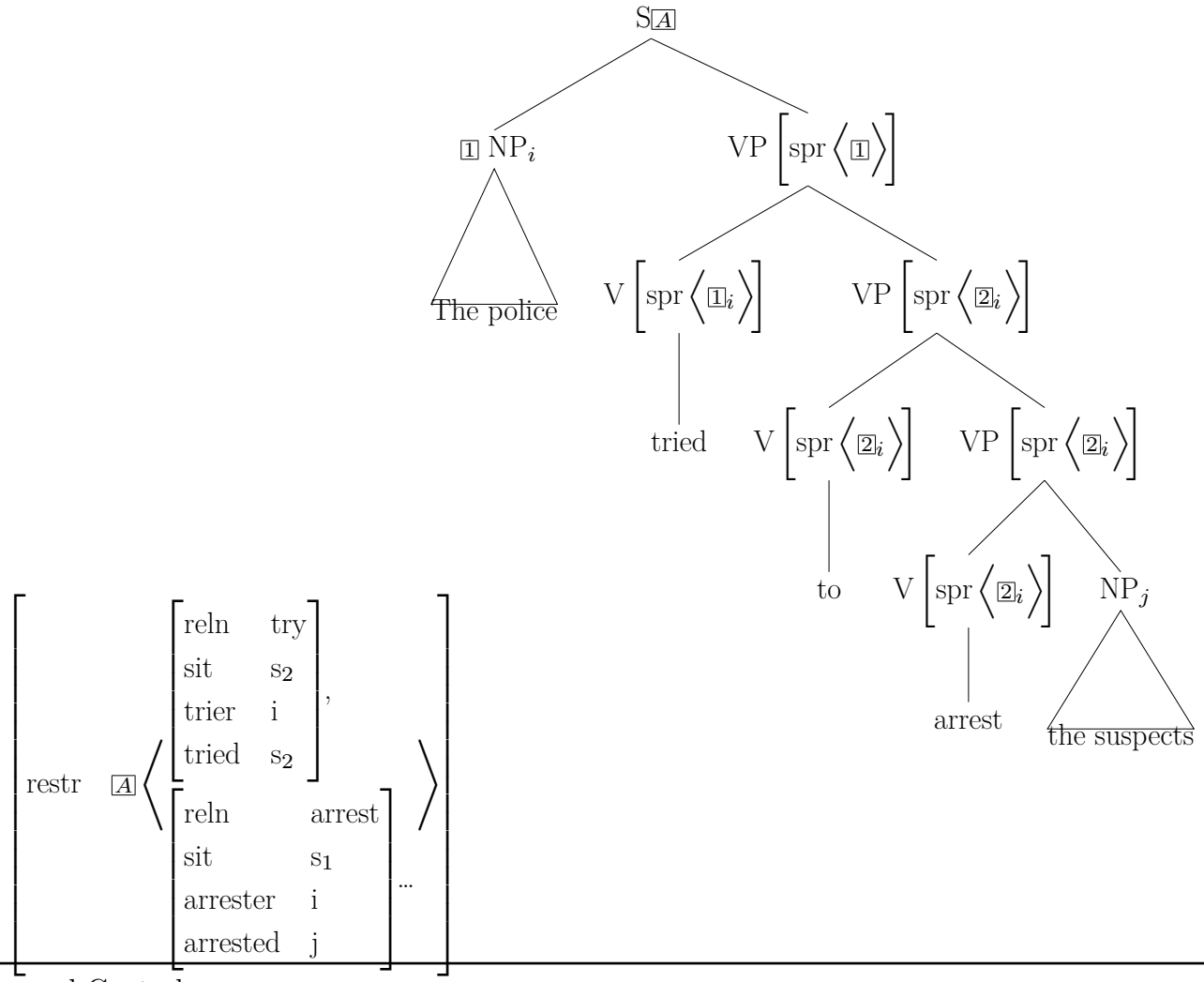
Things to Note:

- The first argument has an index
- The first argument is coindexed with 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

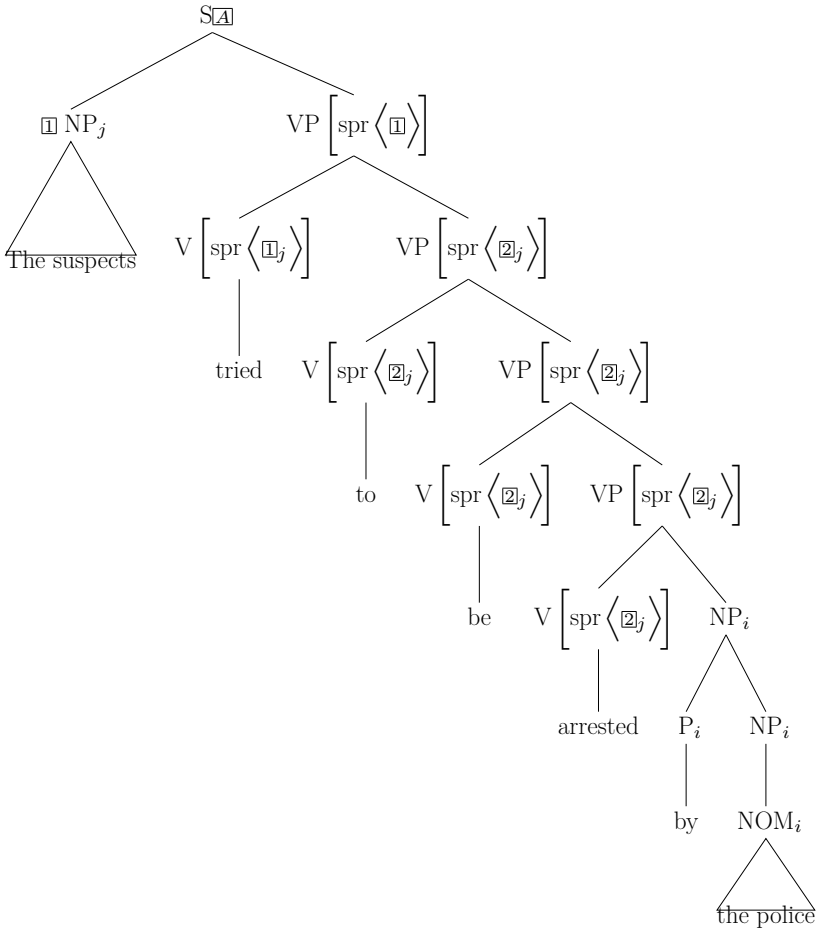
Questions

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

try with an active complement



try with passive complement



$$\left[\text{restr } \boxed{A} \left\langle \begin{bmatrix} \text{reln} & \text{try} \\ \text{sit} & s_2 \\ \text{trier} & j \\ \text{tried} & s_2 \end{bmatrix}, \begin{bmatrix} \text{reln} & \text{arrest} \\ \text{sit} & s_1 \\ \text{arrester} & i \\ \text{arrested} & j \end{bmatrix}, \ldots \right\rangle \right]$$

ARG-ST of raising vs control verbs

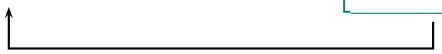
$$\left\langle \text{NP}_i,\ \text{VP}\begin{bmatrix}\text{inf} & + \\ \text{spr} & \langle \text{NP}_i \rangle \\ \text{index} & \text{s}_2\end{bmatrix} \right\rangle \qquad \left\langle \boxed{1}\ \text{NP},\ \text{VP}\begin{bmatrix}\text{inf} & + \\ \text{spr} & \langle \boxed{1} \rangle \\ \text{index} & \text{s}_2\end{bmatrix} \right\rangle$$

Control Raising

Raising & Control in Transformational Grammar

- Raising

  (12) _____ continue [the dogs to bark]



- Control

  (13) [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
  i. *The cat continued (for) the dog to bark
  ii. *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

(14) a. I expected Leslie to be aggressive. orv

b. I persuaded Leslie to be aggressive. ocv

Object-Raising Verb Lexeme (orv-lxm)

$$\begin{bmatrix} \text{arg-st} & \left\langle \text{NP}, \boxed{1}, \begin{bmatrix} \text{spr} & \left\langle \boxed{1} \right\rangle \\ \text{comps} & \langle\, \rangle \\ \text{index} & \text{s} \end{bmatrix} \right\rangle \\ \text{sem} & \begin{bmatrix} \text{restr} & \left\langle \begin{bmatrix} \text{arg} & \text{s} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix}$$

Object-Control Verb Lexeme (ocv-lxm)

$$\begin{bmatrix} \text{arg-st} & \left\langle \text{NP}, \text{NP}_i, \begin{bmatrix} \text{spr} & \left\langle \text{NP}_i \right\rangle \\ \text{comps} & \langle\, \rangle \\ \text{index} & \text{s} \end{bmatrix} \right\rangle \\ \text{sem} & \begin{bmatrix} \text{restr} & \left\langle \begin{bmatrix} \text{arg} & \text{s} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix}$$

- The formal distinction is again between tagging and coindexing
- This time it's the second argument and the spr of the third argument.

Example orv-lxm and ocv-lxm Entries

Object-Raising Verb Lexeme (orv-lxm)

$$\left\langle \text{expect}, \begin{bmatrix} \text{orv-lxm} \\ \text{arg-st} & \left\langle \text{NP}_j, \text{X}, \text{VP}\left[\text{inf} \quad +\right] \right\rangle \\ \text{sem} & \begin{bmatrix} \text{index} & \text{s} \\ \text{restr} & \left\langle \begin{bmatrix} \text{reln} & \text{expect} \\ \text{sit} & \text{s} \\ \text{expecter} & \text{j} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$

Object-Control Verb Lexeme (ocv-lxm)

$$\left\langle \text{persuade}, \begin{bmatrix} \text{orv-lxm} \\ \text{arg-st} & \left\langle \text{NP}_j, \text{NP}_i, \text{VP}\left[\text{inf} \quad +\right] \right\rangle \\ \text{sem} & \begin{bmatrix} \text{index} & \text{s} \\ \text{restr} & \left\langle \begin{bmatrix} \text{reln} & \text{persuade} \\ \text{sit} & \text{s} \\ \text{persuader} & \text{j} \\ \text{persuadee} & \text{i} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$

- Note that the orv-lxm 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

P1: Classifying Verbs

Classify the following verbs as raising or control:

➢ tend, decide, manage, fail, happen

Justify your classification by applying each of the following four tests to each verb. Show your work by providing relevant examples and indicating their grammaticality.

(i) Can the verb take a dummy there subject if and only if its complement selects for a dummy there subject?

(ii) Can the verb take a dummy it subject if and only if its complement selects for a dummy it subject?

(iii) Can the verb take an idiom chunk subject if and only if the rest of the idiom is in its complement?

(iv) Do pairs of sentences containing active and passive complements to the verb end up being paraphrases of each other?

Make sure to restrict your attention to cases of the form: NP V to VP. That is, ignore cases like Kim manages a store, Alex failed physics, and any other valence that doesn't resemble the continue vs. try pattern.

P2: Classifying Adjectives

Classify the following adjectives as raising or control:

➢ anxious, apt, bound, certain, lucky

Justify your classification by providing each of the four types of data discussed in the previous problem for each adjective.

Make sure to restrict your attention to cases of the form: NP be Adj to VP. That is, ignore cases like Kim is anxious about the exam, Carrie is certain of the answer, and any other valence that doesn't resemble the likely vs. eager pattern.

P3: expect vs. persuade

Construct the arguments that underlie the proposed distinction between orv-lxm and ocv-lxm.

Construct examples of each of the following four types which show a contrast between expect and persuade. Explain how the contrasts are accounted for by the differences in the types orv-lxm and ocv-lxm and/or the lexical entries for 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.

P4: A Type for Existential be

The be that takes there as its subject wasn't given a true lexical type in Chapter 11 (Sag, Wasow and Bender, 2003), because no suitable type had been introduced. One of the types in this chapter will do, if we make some of its constraints defeasible.

A. Which of the types introduced in this chapter comes closest to being consistent with the constraints on there-taking be?

B. Rewrite that type indicating which constraints must be made defeasible.

C. Give a stream-lined lexical entry for the there-taking be which stipulates only those constraints which are truly idiosyncratic to the lexeme.

Overview

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

Questions

Q: For subject control, it is clear how the active-passive pairs have different meanings. But for object control, like persuaded, the active-passive pairs seem like paraphrases of each other. (Ashley persuaded Chris to leave. = Chris was persuaded to leave (by Ashley). Is my understanding wrong?

A: no that is right

Q: To determine whether a subject of a verb plays a semantic role on that verb's predication, we have to determine whether it can accept nonreferential subject first? How to determine whether an object plays a semantic role on the verb's predication?

A: see if it can take a nonreferential object

Q: How would we approach an analysis of "It hurts to run.", where there's both a dummy 'it' and an infiniteval VP? I'm inclined to consider the verb "hurts" as a raising verb but I'm not very sure that it's fully accurate because there seems to be more than one semantic argument here, unlike in the example of the verb "continue" where the semantic argument is in the VP complement.

A: I think it just takes a VP complement with a meaning like 'running hurts [me]'

Q: On page 362 of the textbook, 'to' has an empty RESTR list But it is a member of the srv-lxm, shouldn't it have [ARG s1] in its RESTR?

A: Good point, I think this has to be made defeasible in srv-lxm:
SEM [REST / < [ARG s]>]

Q: Could you explain how the differences in the structures of (39) and (40) reflect object raising and control?

A: Yes :-). Maybe easier to see in (41), (42)

Q: (From page 378.) Can you explain the difference between orv-lxm and ocv-lxm? I don't see any difference.

A: The first complement is different

Q: (From page 379.) I want to ask how the tree in (39) is drawn. I'm pretty sure it's Head Complement Rule. But VP "to go" takes SPR "Sandy". So, how do we go about 'skipping' Head Specifier Rule for "to go"?

A: it is coindexed by the lexical entry for expect —so it does not have to go through the head-specifier rule

Q: Can you explain more about adjectival raising and control in the examples of textbook? for instance, in example: "It is likely to upset Pat that Chris left" How would "likely" be differently constructed in the lexical sequence?

A: we will look a this more in the problems.