

# Ling 566

## Oct 25, 2016

Binding Theory, Imperatives

# Overview

- Review of Ch 1 informal binding theory
- What we already have that's useful
- What we add in Ch 7 (ARG-ST, ARP)
- Formalized Binding Theory
- Binding and PPs
- Examples
- Imperatives
- Reading questions

# *Some Examples from Chapter 1*

- *She likes herself*
- *\*She<sub>i</sub> likes her<sub>i</sub>.*
- *We gave presents to ourselves.*
- *\*We gave presents to us.*
- *We gave ourselves presents*
- *\*We gave us presents.*
- *\*Leslie told us about us.*
- *Leslie told us about ourselves.*
- *\*Leslie told ourselves about us.*
- *\*Leslie told ourselves about ourselves.*

# The Chapter 1 Binding Theory Reformulated

- Old Formulation:
  - A reflexive pronoun must be an argument of a verb that has another preceding argument with the same reference.
  - A nonreflexive pronoun cannot appear as an argument of a verb that has a preceding coreferential argument.
- New Formulation:
  - Principle A (version I): A reflexive pronoun must be bound by a preceding argument of the same verb.
  - Principle B (version I): A nonreflexive pronoun may not be bound by a preceding argument of the same verb.

# Some Challenges

- Replace notions of “bound” and “preceding argument of the same verb” by notions definable in our theory.
- Generalize the Binding Principles to get better coverage.

# A Question

- What would be a natural way to formalize the notion of “bound” in our theory?
- Answer: Two expressions are bound if they have the same INDEX value (“are coindexed”).

# Two More Questions

- Where in our theory do we have information about a verb's arguments?
- **Answer:** In the verb's **VALENCE** features.
- What determines the linear ordering of a verb's arguments in a sentence?
- **Answer:** The interaction of the grammar rules and the ordering of elements in the **COMPS** list.

# The Argument Realization Principle

- For Binding Theory, we need a single list with both subject and complements.
- We introduce a feature ARG-ST, with the following property (to be revised later):

$$\left[ \begin{array}{l} \text{SYN} \\ \text{ARG-ST} \end{array} \left[ \begin{array}{l} \text{VAL} \\ \boxed{A} \oplus \boxed{B} \end{array} \left[ \begin{array}{l} \text{SPR} \\ \text{COMPS} \end{array} \left[ \begin{array}{l} \boxed{A} \\ \boxed{B} \end{array} \right] \right] \right] \right]$$

- This is a constraint on the type word



# Notes on ARG-ST

- It's neither in SYN nor SEM.
- It only appears on lexical heads (not appropriate for type *phrase*)
- No principle stipulates identity between ARG-STs.

# Two Bits of Technical Machinery

- Definition: If *A* precedes *B* on some ARG-ST list, then *A* **outranks** *B*.
- Elements that must be anaphoric -- that is, that require an antecedent -- are lexically marked [**MODE ana**]. These include reflexive pronouns and reciprocals.

# The Binding Principles

- Principle A: A [MODE ana] element must be outranked by a coindexed element.
- Principle B: A [MODE ref] element must not be outranked by a coindexed element.

# Pronoun-Antecedent Agreement

- The Binding Principles by themselves don't block:
  - \* *I amused yourself.*
  - \* *He amused themselves.*
  - \* *She amused himself.*
- Coindexed NPs refer to the same entity, and AGR features generally correlate with properties of the referent.
- The Anaphoric Agreement Principle (AAP):  
Coindexed NPs agree.

# Binding in PPs

- What do the Binding Principles predict about the following?

*I brought a book with me.*

*\*I brought a book with myself.*

*\*I mailed a book to me.*

*I mailed a book to myself.*

# Two Types of Prepositions: the Intuition

- “Argument-marking”: Function like case-markers in other languages, indicating the roles of NP referents in the situation denoted by the verb.
- “Predicative”: Introduce their own predication.

# Two Types of Prepositions: a Formalization

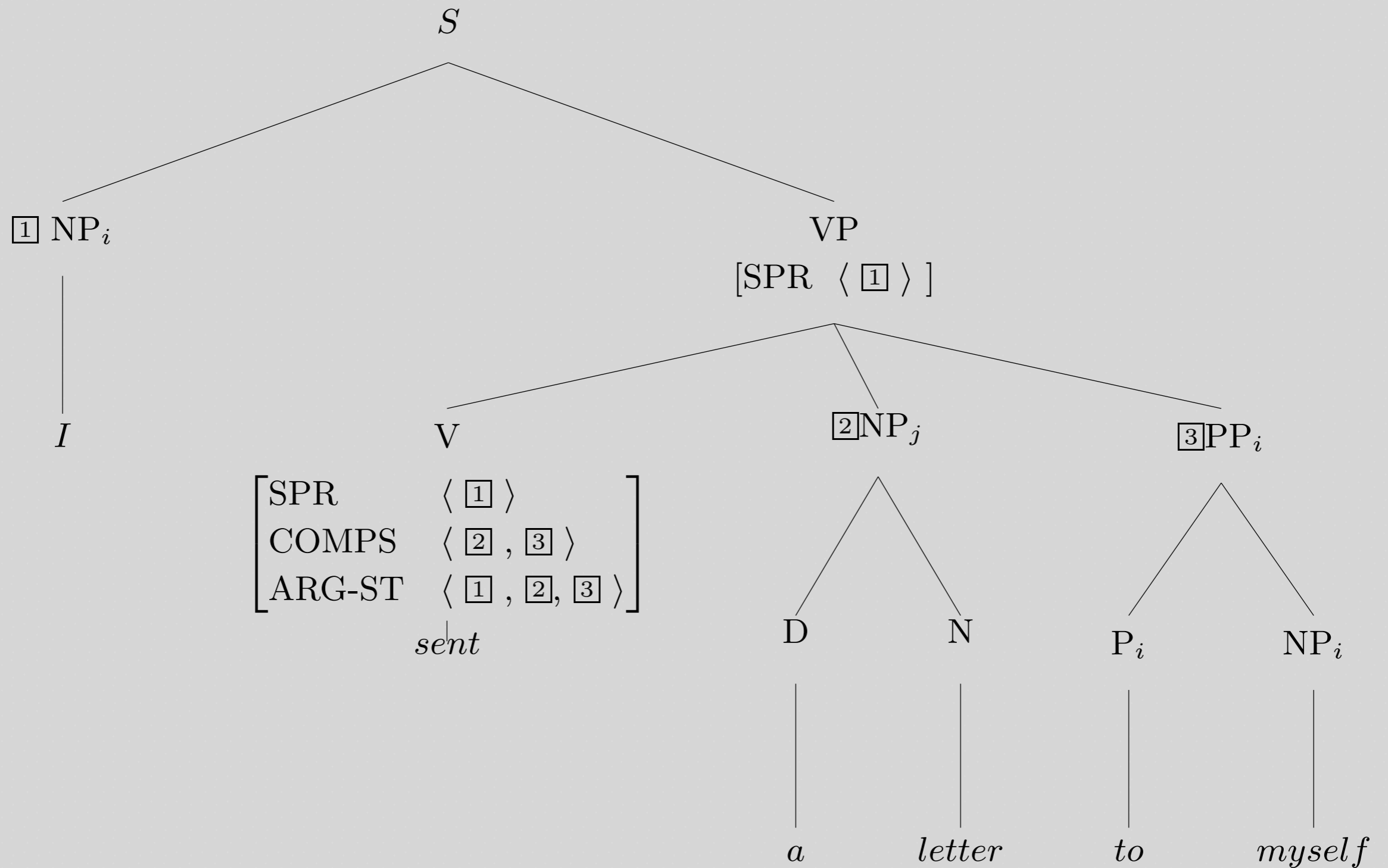
- Argument-marking prepositions share their objects' **MODE** and **INDEX** values.
  - This is done with tagging in the lexical entries of such prepositions.
  - These features are also shared with the PP node, by the Semantic Inheritance Principle.
- Predicative prepositions introduce their own **MODE** and **INDEX** values.

# Redefining Rank

- If there is an ARG-ST list on which  $A$  precedes  $B$ , then  $A$  outranks  $B$ .
- If a node is coindexed with its daughter, they are of equal rank -- that is, they outrank the same nodes and are outranked by the same nodes.



# An Example

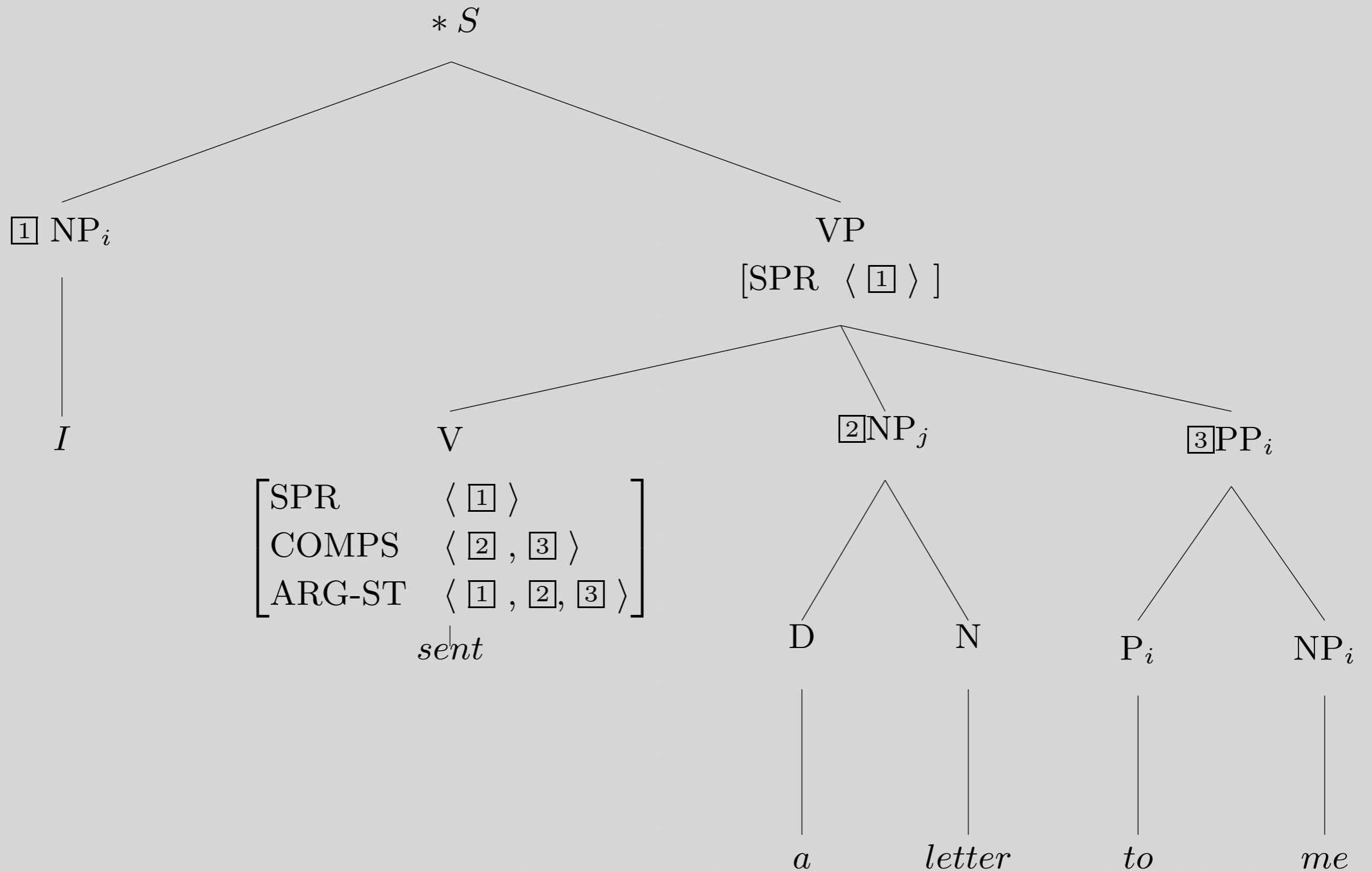


# The ARG-ST

$$\left[ \text{ARG-ST} \left\langle \begin{array}{c} \text{NP}_i \\ \left[ \text{MODE ref} \right] \end{array}, \begin{array}{c} \text{NP}_j \\ \left[ \text{MODE ref} \right] \end{array}, \begin{array}{c} \text{PP}_i \\ \left[ \text{MODE ana} \right] \end{array} \right\rangle \right]$$

- The PP is outranked by the first NP. (Why?)
- *myself* has the same rank as the PP. (Why?)
- So, *myself* is outranked by the first NP. (Why?)
- Therefore, Principle A is satisfied.

# Replacing *myself* with *me*

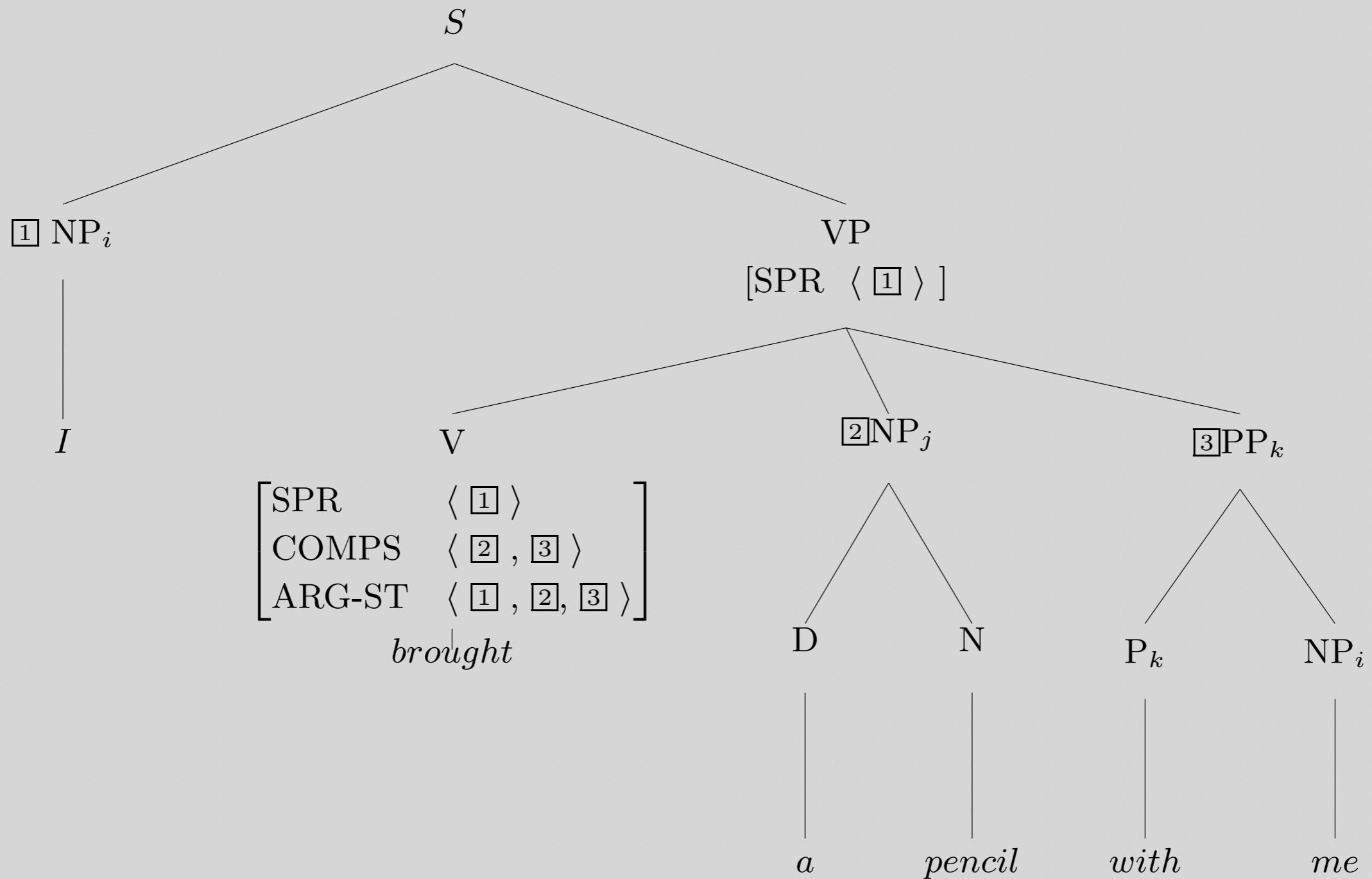


# The ARG-ST

$$\left[ \text{ARG-ST} \left\langle \begin{array}{c} \text{NP}_i \\ \left[ \text{MODE ref} \right] \end{array}, \begin{array}{c} \text{NP}_j \\ \left[ \text{MODE ref} \right] \end{array}, \begin{array}{c} \text{PP}_i \\ \left[ \text{MODE ref} \right] \end{array} \right\rangle \right]$$

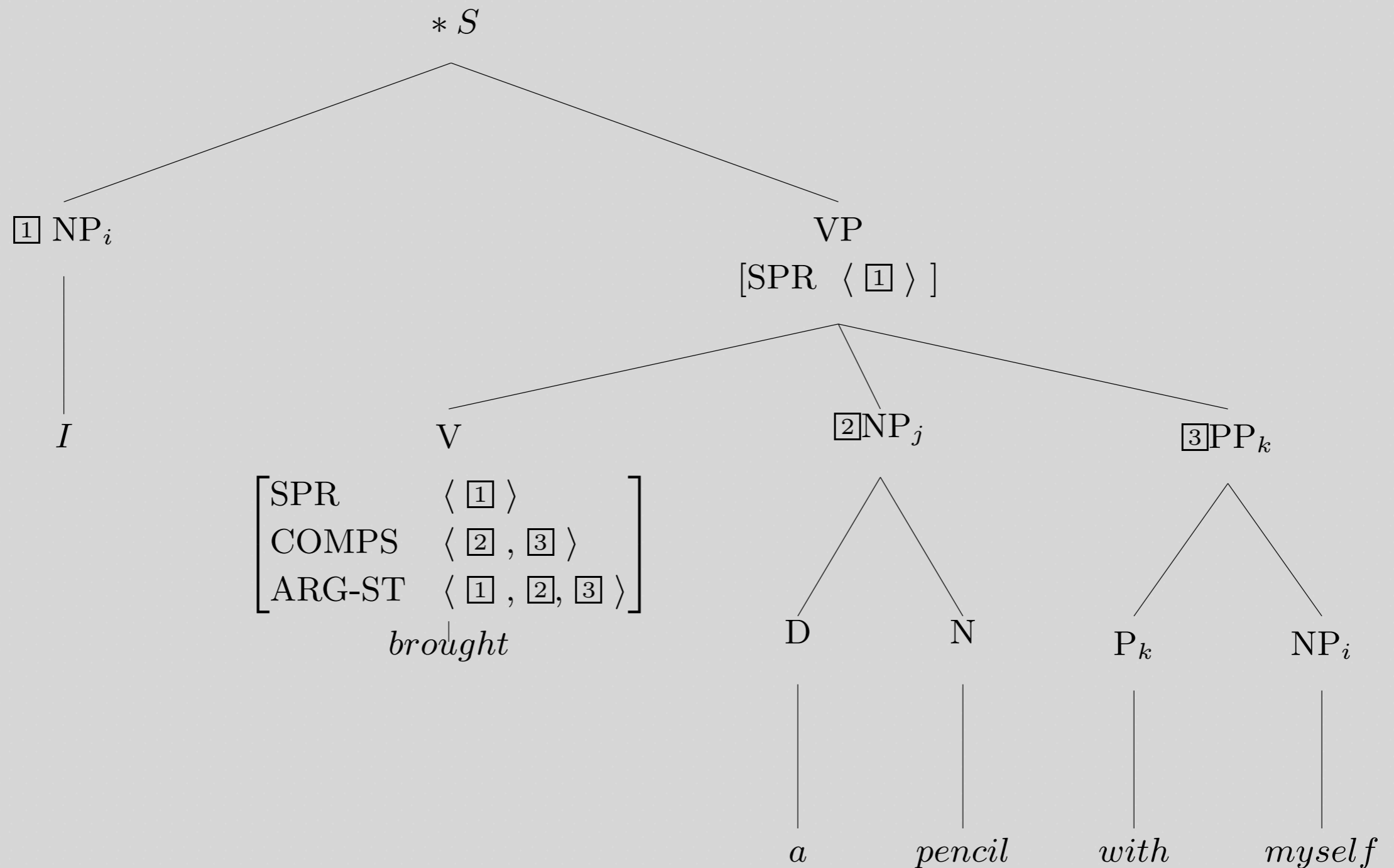
- The PP is outranked by the first NP.
- *me* has the same rank as the PP.
- So, *me* is outranked by the first NP.
- Therefore, Principle B is violated.

# Another Example



- Here *I* does not outrank *me*, so Principle B is satisfied.

# Replacing *me* with *myself*



- Here *I* does not outrank *myself*, so Principle A is violated.

# Imperatives

- Have the internal structure of a VP

*Leave!*

*Read a book!*

*Give the dog a treat!*

*Put the ice cream in the freezer!*

- Function as *directives*

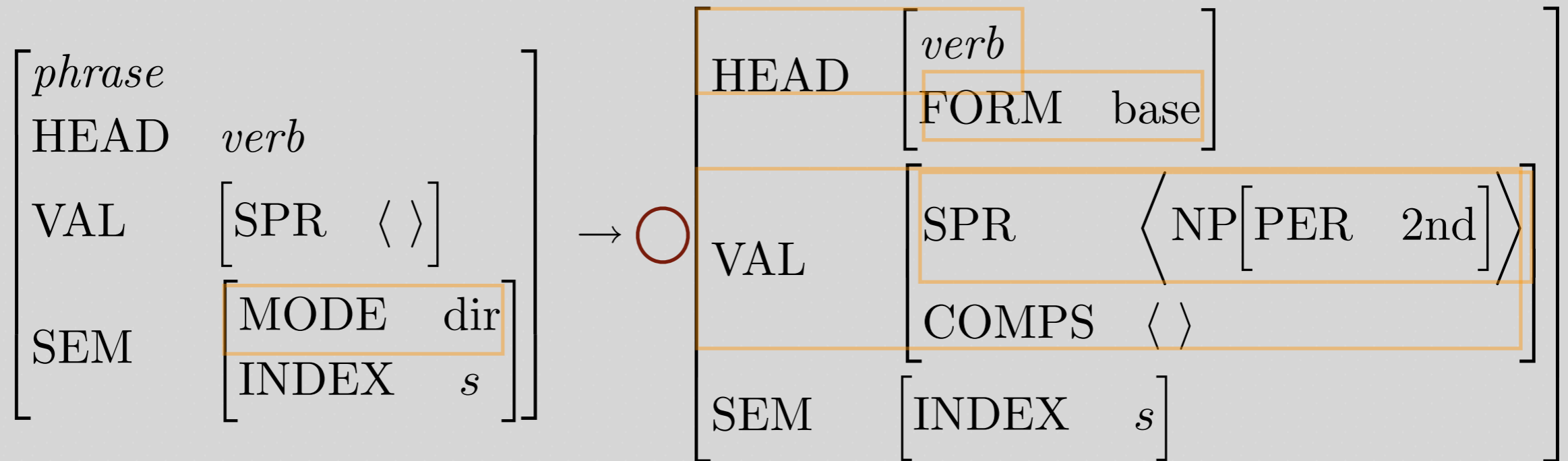
- Have the verb in base form

*Be careful!* not *\*Are careful!*

- Allow 2nd person reflexives, and no others

*Defend yourself!* vs. *\*Defend myself/himself!*

# The Imperative Rule



- Internal structure of a VP
- Directive function
- Base form
- Only 2nd person reflexives
- Note that this is not a headed rule. Why?
- Answer: It would violate the HFP and the SIP.



# Imperative example (Combining constraints again)

What's the SPR value on S?

Why?

What's the SPR value on VP?

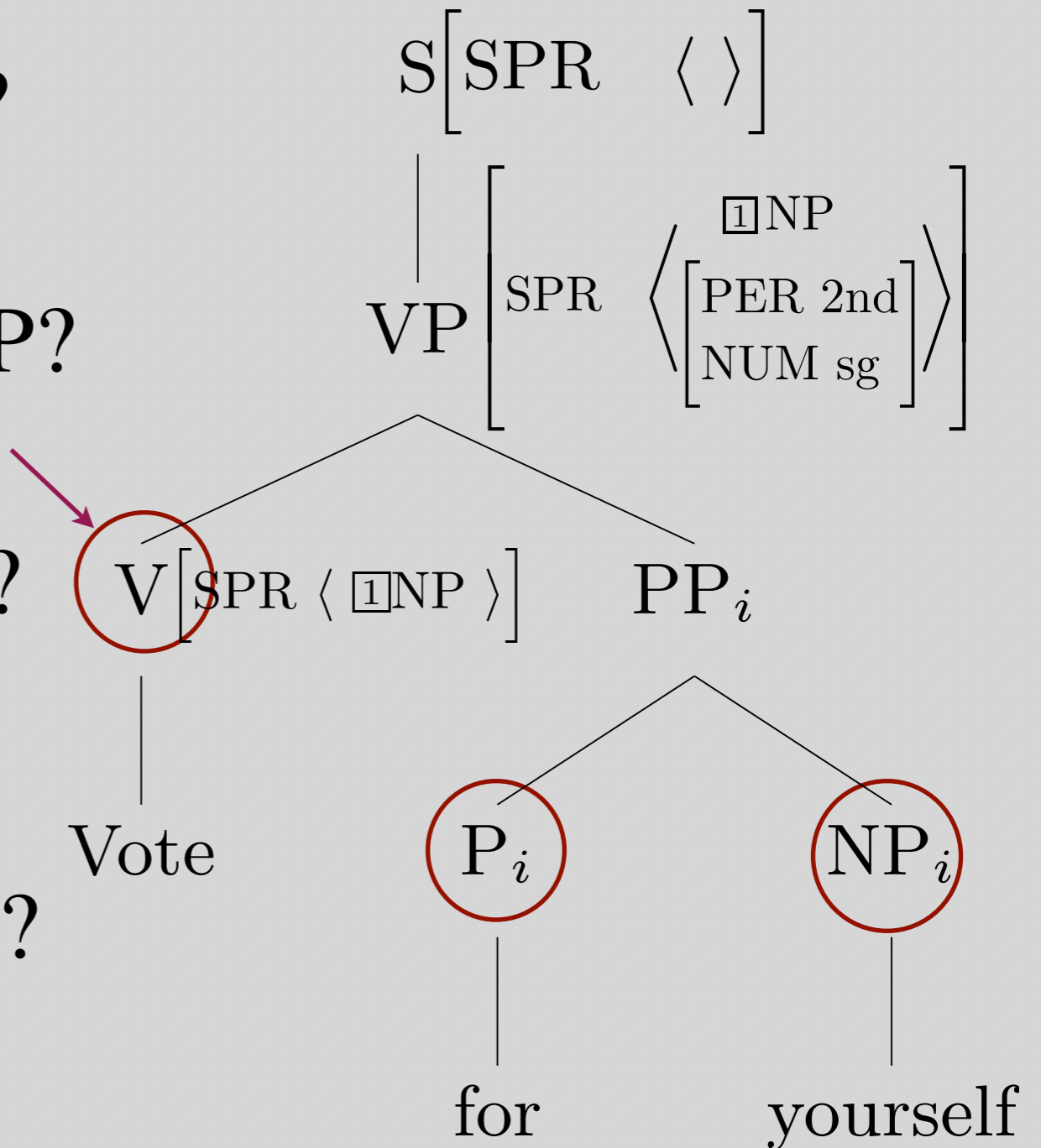
Why?

What's the SPR value on V?

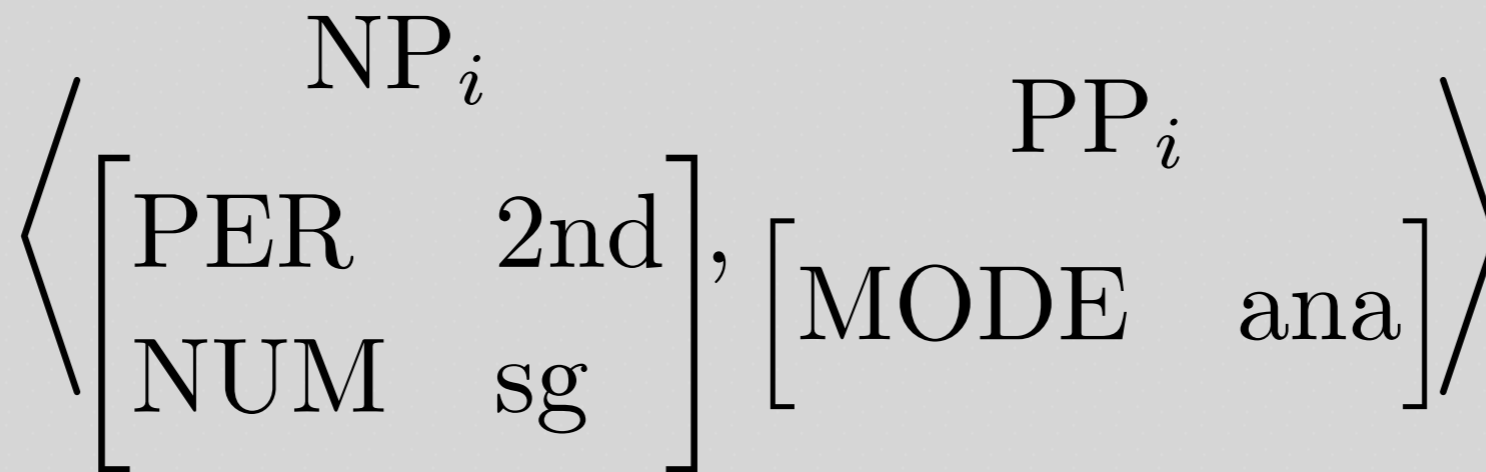
Why?

Which nodes have ARG-ST?

Which ARG-ST matters for  
the licensing of yourself?



# ARG-ST on *vote*



- Is Principle A satisfied?
- How?
- Is Principle B satisfied?
- How?

# Day 1 Revisited

- Recall

*F----- yourself!*

*F----- you!*

*Go f----- yourself!*

*\*Go f----- you!*

- *F--- NP!* has two analyses
  - As an imperative
  - As a truly subjectless fixed expression.
- *Go f----- NP!* can only be analyzed as an imperative.

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# Reading Questions

- Why is ARG-ST not in SYN or SEM?  
Doesn't it belong in VAL? Does it have only SYN information in it, or both?
- Why do we need ARG-ST if we already have SPR and COMPS?
- Why do we need SPR and COMPS if we have ARG-ST?
- Doesn't ARG-ST hide the difference between no SPR and no COMPS?

# Reading Questions

- (28) shows an example lexical entry that makes sure that argument-marking prepositions take the `MODE` and `INDEX` values of their objects by explicitly encoding that in the `ARG-ST` list. Would it have been equally correct to encode that in the `COMPS` list of the preposition?
- Why did we add `[MODE ana]` for reflexive pronouns, but nothing for adjectives and adverbs?

# Reading Questions

- I'm curious about why the mechanics are set up the way they are. As I was reading, I was thinking that we were going to percolate the ARG-ST list of an argument-marking preposition to the predicate that selects it, but instead we transmit the MODE and INDEX. That makes it so that we have to revise our definition of outrank to the one in (30). I notice that (30ii) requires the existence of some ARG-ST list, such that if one wanted to verify that the Binding Principles were satisfied, one would have to search the entire tree. If, on the other hand, we percolated the ARG-ST list, the check on the Binding Principles would be more local. Is there any empirical or theoretical reason to prefer one approach over the other? It seems to me that if we claim that certain prepositions simply `_mark_` arguments, then isn't that like saying that the argument actually comes from the selecting verb, and not the preposition itself?

# Reading Questions

- I still don't quite understand why argument-marking prepositions share the *MODE* and *INDEX* of their objects. What enforces that? Is that why the P and NP in (32) both have an *i* subscript?
- Why do we need to specify that a PP and its object NP are of equal rank? When does that become an issue?
- Is there any simple test to tell whether a PP is a new predication versus an argument marker?



# Reading Questions

- The definition of ARG-ST lists implies that all word-structures have them. We've only seen how they function on prepositions and verbs -- do they do anything on nouns or other word types?
- When do we use (+) and when do we use commas?

# Reading Questions

- What about: *My wife and myself went to the theatre*, or *They know more than my friend and myself*? Also, in a phrase like *He is not himself these days*, would *he* and *himself* be coindexed? Or only coreferenced?
- Does binding theory have anything to say about coreference?

# Reading Questions

- In "A reflexive pronoun must be bound by a preceding argument of the same verb", does "preceding argument" always mean what's in SPR, for English?
- We mark these imperative verbs to have second person NP specifiers, but no NP appears in the tree. How does this work? Is the NP hidden?
- The grammar can tell if a verb is reflexive, not by the verb, but by its reflexive pronoun?

# Reading Questions

- In pg. 208 number (17), the sentences are marked as ungrammatical only because of the way the nouns were coindexed. However, how is this representative of the natural language? In what situation (if ever) would a regular English speaker think that Sandy and Jason are one in the same and (unconsciously) assign same coindex to both? Such ungrammaticality seems unrealistic and not a natural language phenomenon, so why create rules for things that are not normally occurring in natural language?