Chapter 7 (all)

Binding Theory

© 2003 CSLI Publications

Some Examples from Chapter 1

- *She likes herself*
- *She likes her.* [she≠her]
- *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.*

© 2003 CSLI Publications

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.

© 2003 CSLI Publications

A Question

- What would be a natural way to formalize the notion of “bound” in our theory?

  - An expression binds another if they have the same INDEX value (“are coindexed”), and .... [to be continued]

© 2003 CSLI Publications

Two More Questions

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

© 2003 CSLI Publications

The Argument Realization Principle

- For Binding Theory, it is useful to have a single list with both subject and complements.
- We introduce a feature ARG-ST:

$$\begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{VAL} & \begin{bmatrix} \text{SPR} & \boxed{A} \\ \text{COMPS} & \boxed{B} \end{bmatrix} \end{bmatrix} \\ \text{ARG-ST} & \boxed{A} \oplus \boxed{B} \end{bmatrix}$$

- This is a constraint on the type *word*
  - Neither in SYN nor SEM.
  - Only appears on lexical heads (not type *phrase*)

© 2003 CSLI Publications

Some 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]**.
  - Includes reflexive pronouns and reciprocals.

© 2003 CSLI Publications

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.

© 2003 CSLI Publications

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.

© 2003 CSLI Publications

Binding into 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.

- With the current formulation, only the non-reflexive pronouns should be good. [Why?]

© 2003 CSLI Publications

Two Types of Prepositions: the Intuition

- "Argument-marking":
  - Indicate the roles of NP referents in the situation denoted by the verb.
  - Function like case-markers in other languages
- "Predicational": Introduce their own semantic content (predication).

© 2003 CSLI Publications

Two Types of Prepositions: a Formalization

- Argument-marking prepositions share their objects' MODE and INDEX values.
  - Enforced by tags in their lexical entries
  - These features are also shared with the PP node, by the Semantic Inheritance Principle.
- Predicational prepositions introduce their own MODE and INDEX values.

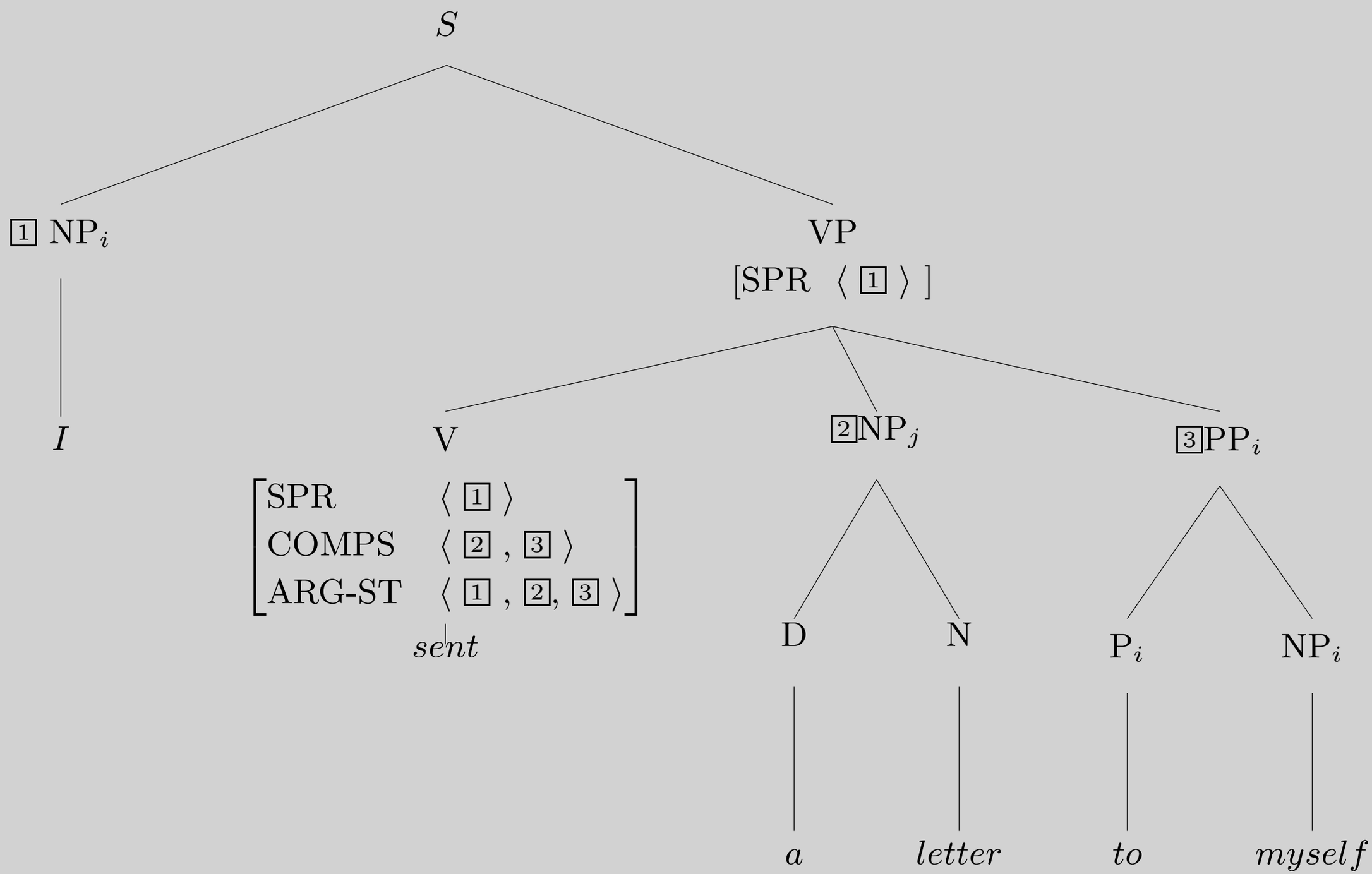
© 2003 CSLI Publications

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.
  - I.e., they outrank the same nodes and are outranked by the same nodes.

© 2003 CSLI Publications

An Example



© 2003 CSLI Publications

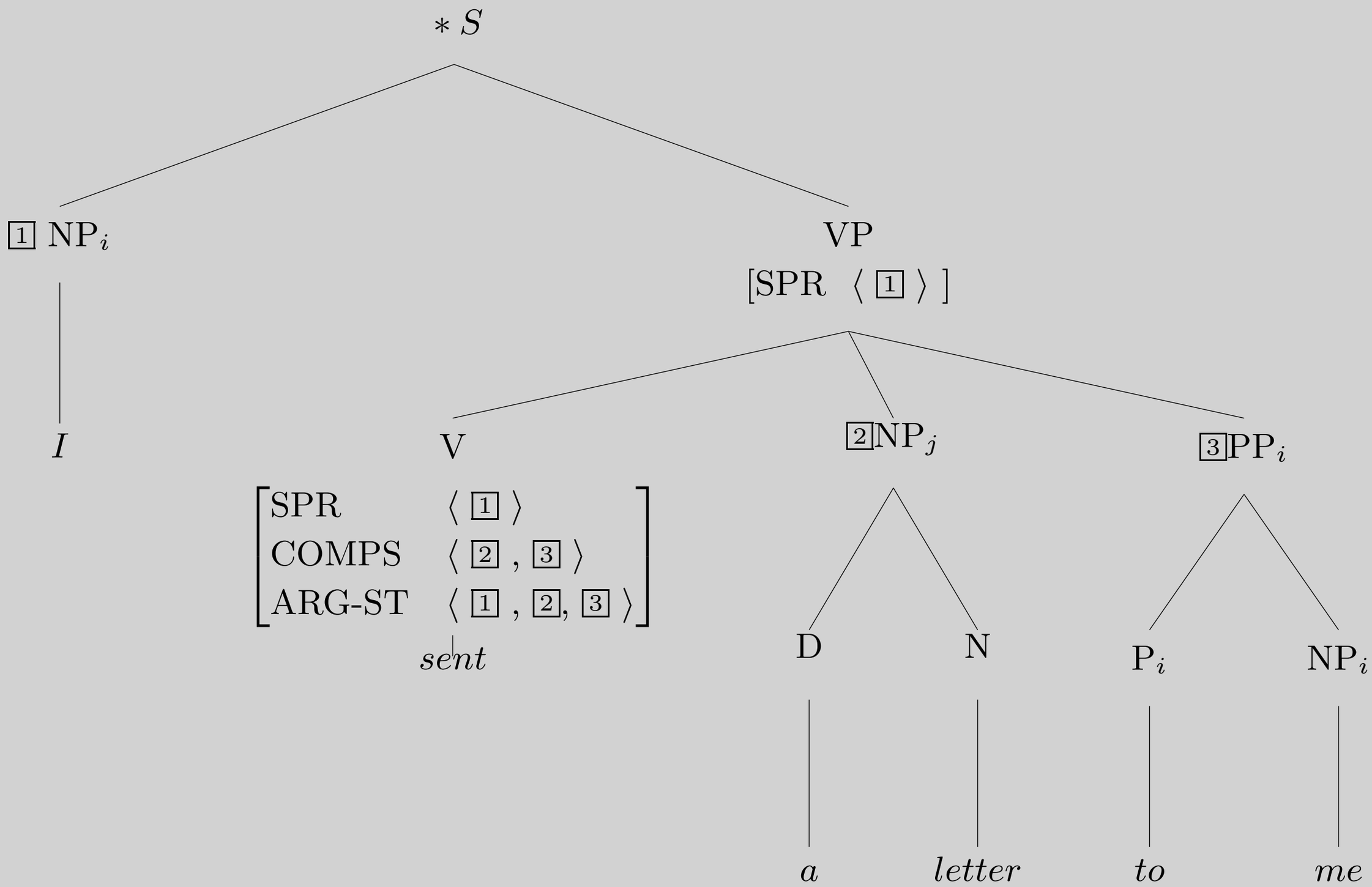
The ARG-ST of *sent*

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

- 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.

© 2003 CSLI Publications

Replacing *myself* with *me*



© 2003 CSLI Publications

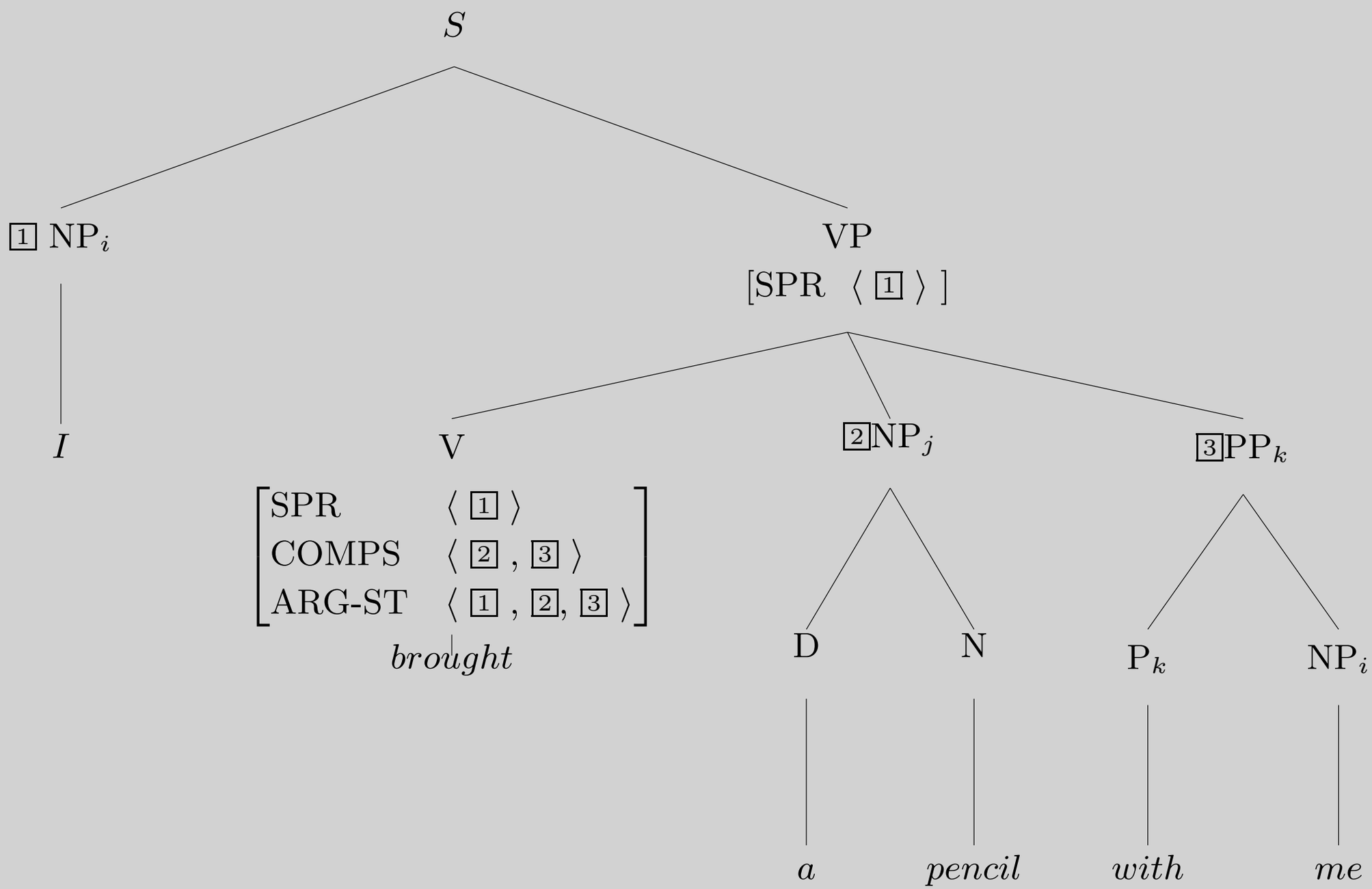
The ARG-ST of *sent*

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

- 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.

© 2003 CSLI Publications

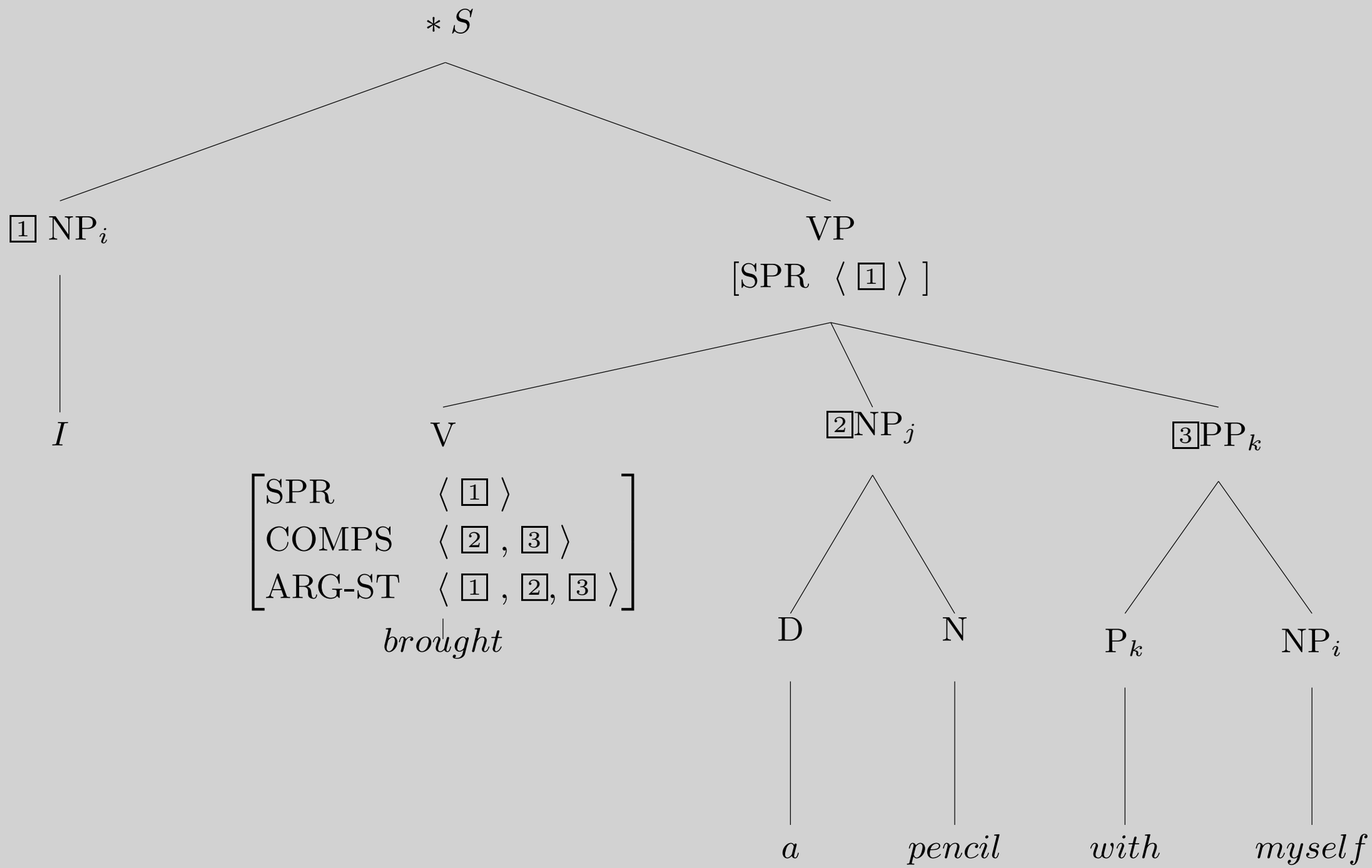
Another Example



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

© 2003 CSLI Publications

Replacing *me* with *myself*



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

© 2003 CSLI Publications

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!*

© 2003 CSLI Publications

The Imperative Rule

$$\begin{bmatrix} \textit{phrase} & \\ \text{HEAD} & \textit{verb} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle\ \rangle \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{MODE} & \text{dir} \\ \text{INDEX} & s \end{bmatrix} \end{bmatrix} \rightarrow \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{verb} & \\ \text{FORM} & \text{base} \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \left\langle \text{NP}\begin{bmatrix} \text{PER} & \text{2nd} \end{bmatrix} \right\rangle \\ \text{COMPS} & \langle\ \rangle \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & s \end{bmatrix} \end{bmatrix}$$

- 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 SIP.

© 2003 CSLI Publications

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.

© 2003 CSLI Publications