Ling 566
Oct 24, 2011

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$_i$ likes her$_i$.*
- *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):

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

- This is a constraint on the type word

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.

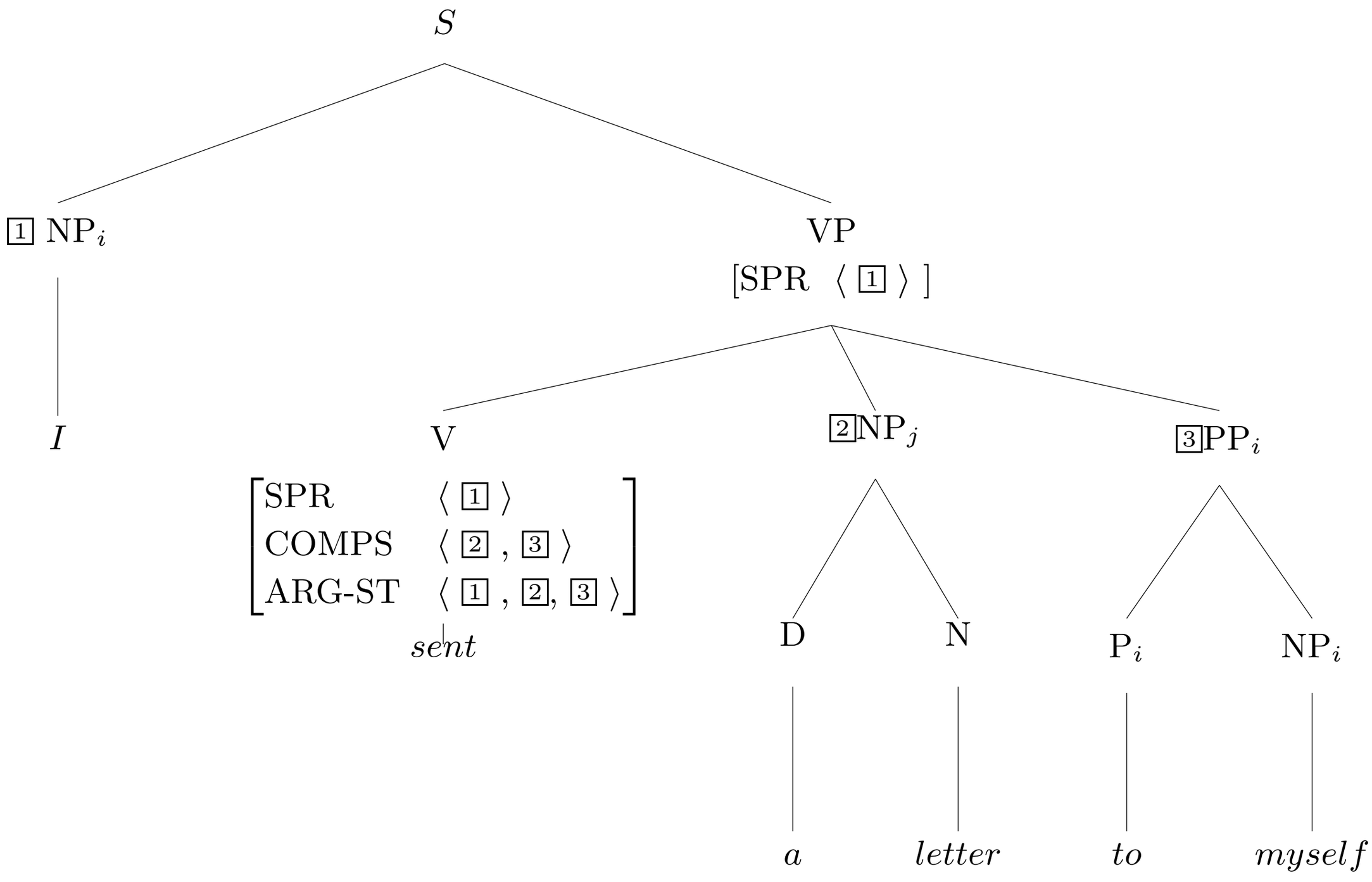
Two Types of Prepositions: a Formalization

- 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

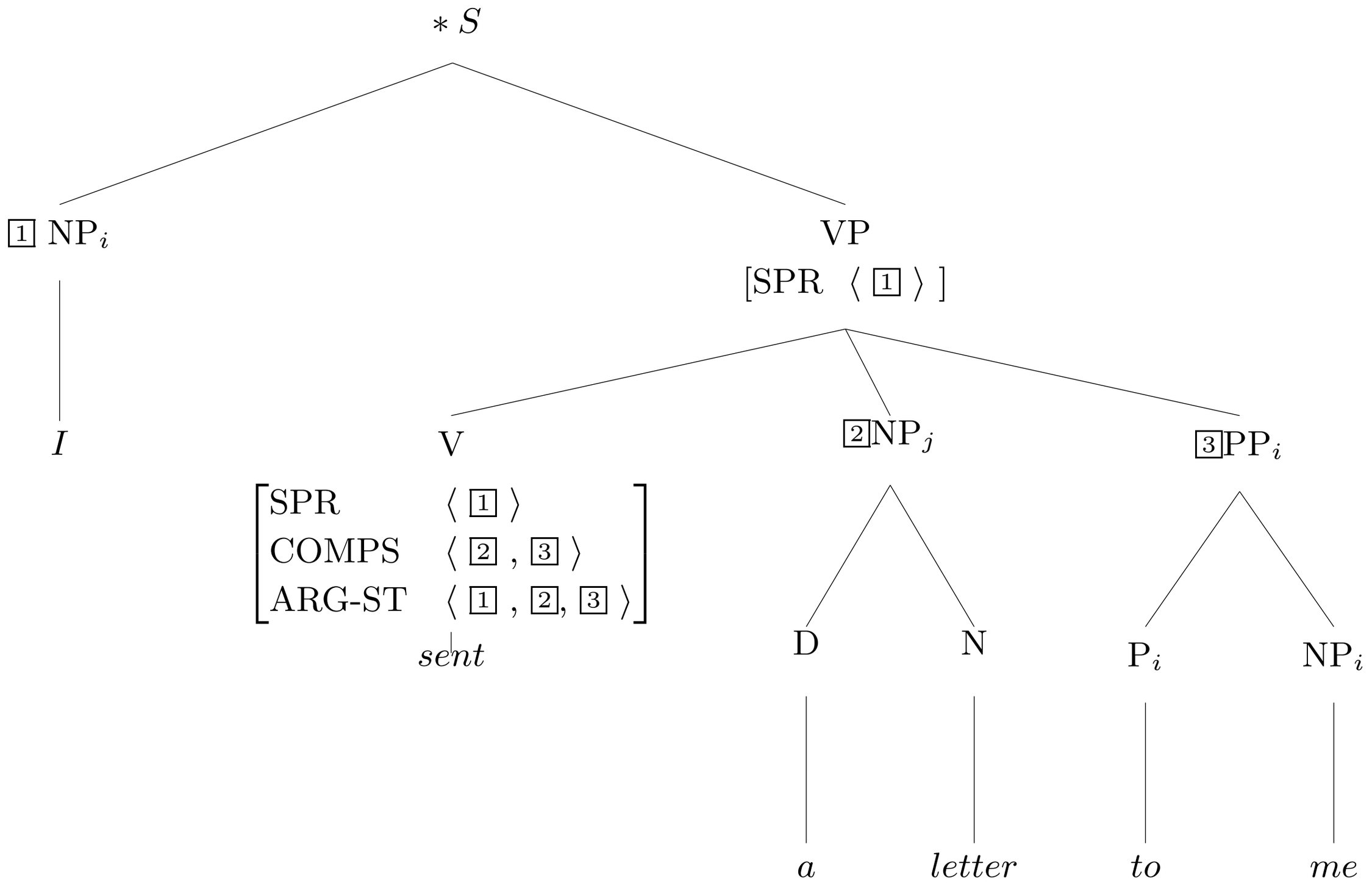


The ARG-ST

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

- 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*

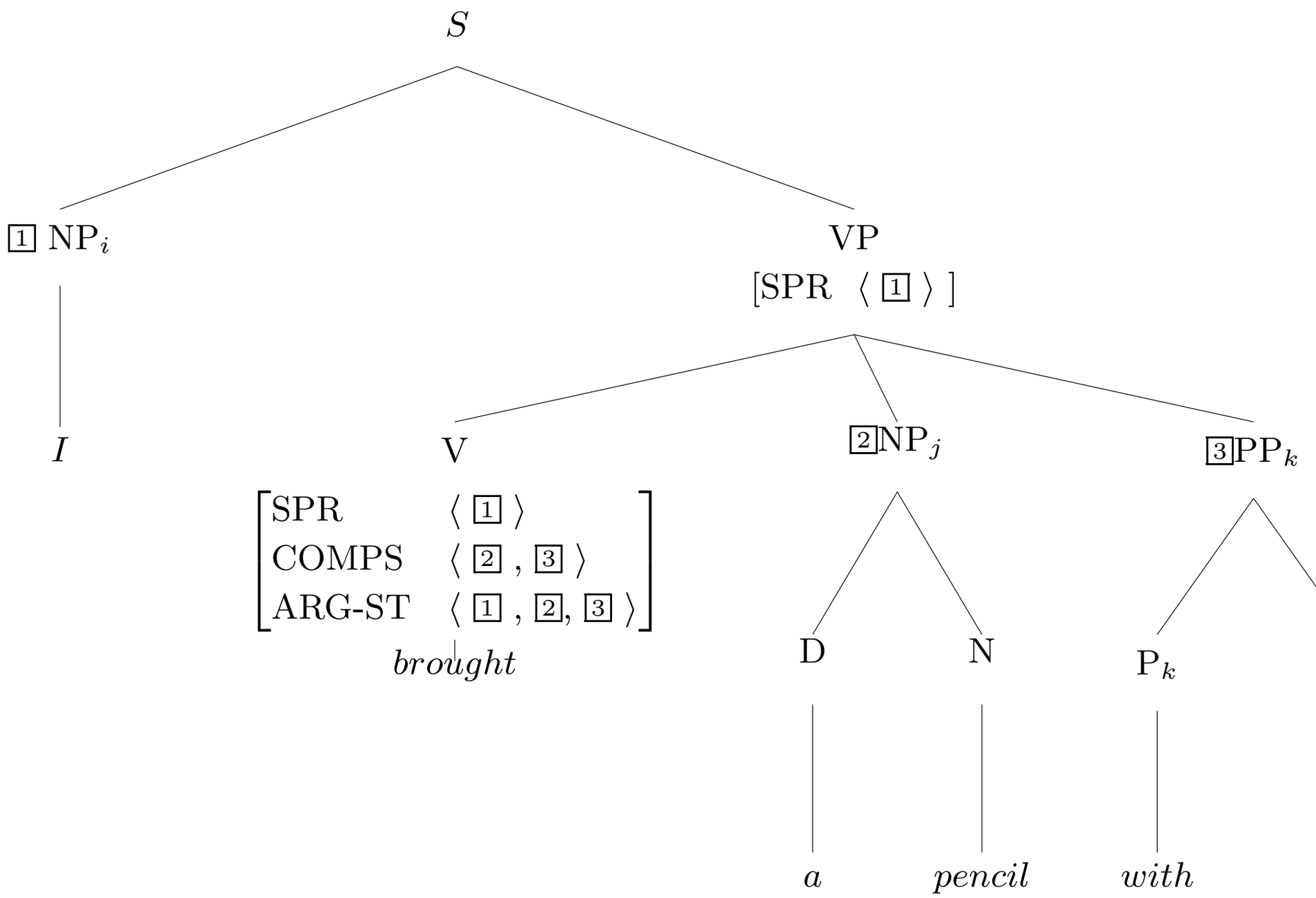


The ARG-ST

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

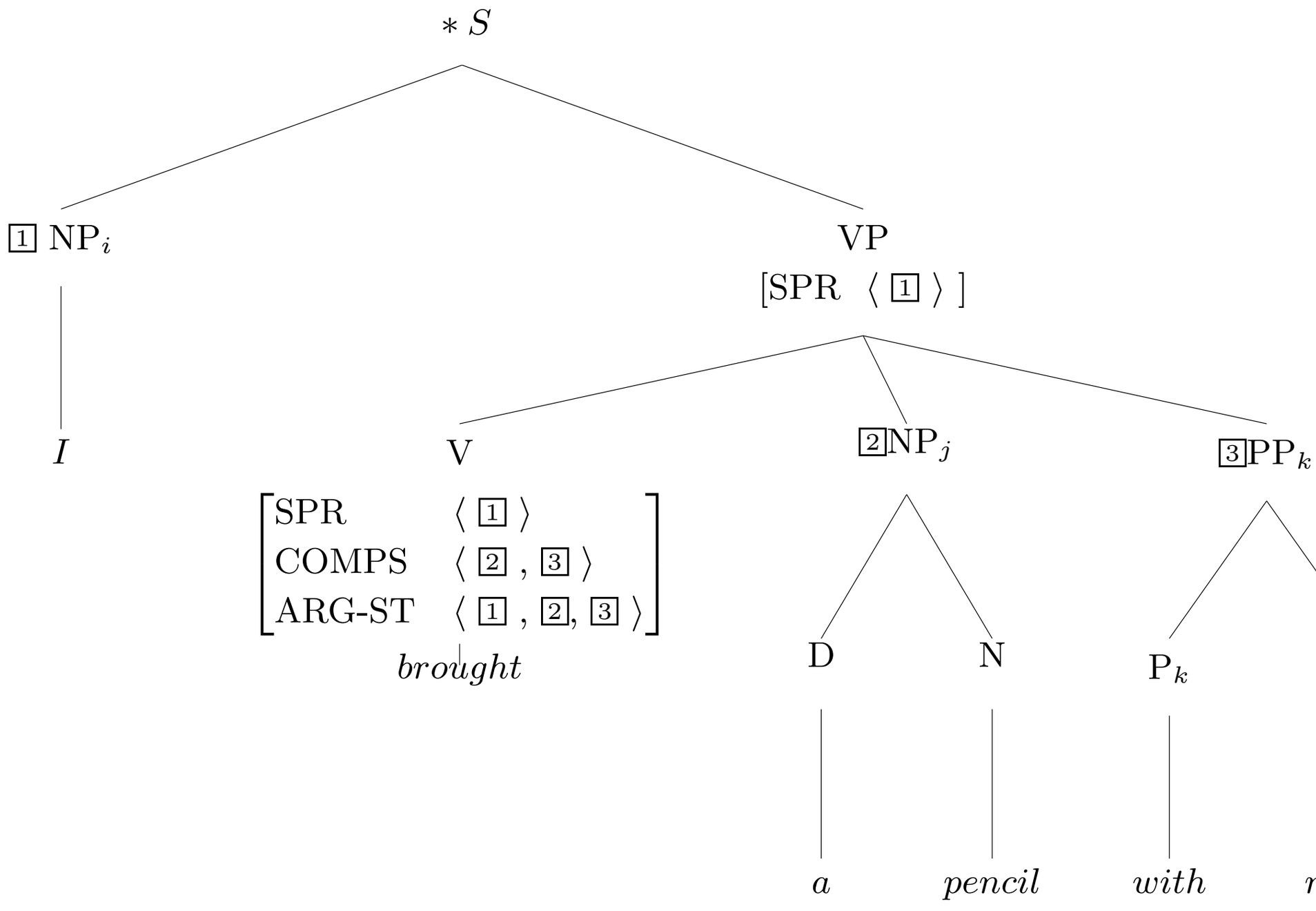
- The PP is outranked by the first NP.
- *me* has the same rank as the PP.
- So, *me* is outranked by the first NP.
- Therefore, Principle B is violated.

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

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

- 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 HFP and the SIP.

Imperative example (Combining constraints again)

What's the SPR value on S?

Why?

What's the SPR value on VP?

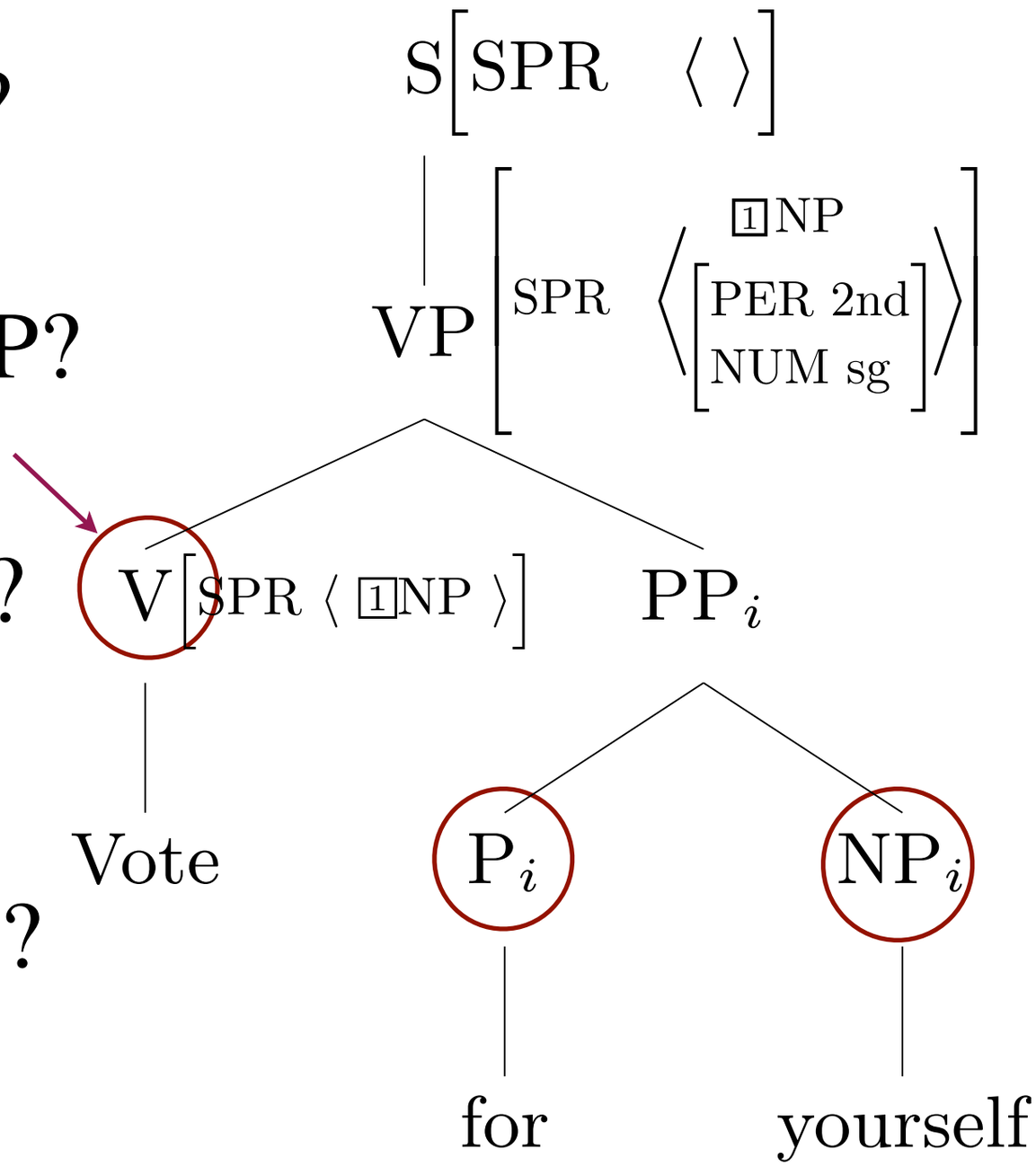
Why?

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*

$$\left\langle \begin{bmatrix} \text{NP}_i \\ \text{PER} \quad \text{2nd} \\ \text{NUM} \quad \text{sg} \end{bmatrix}, \begin{bmatrix} \text{PP}_i \\ \text{MODE} \quad \text{ana} \end{bmatrix} \right\rangle$$

- 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

- If ARG-ST = SPR append COMPS, how do we get the right division between SPR and COMPS? How do COMPS and ARG-ST differ as features in the same lex entry?
- Are the binding principles universal or English-specific? Are universal rules/ principles/features considered better?
- Why is *Sandy_i offended Jason_i ungrammatical?
- Why does *Pat's family are enjoying themselves* sound good to me?

Reading Questions

- How does the grammar handle examples where both reflexive and non-reflexive pronouns are possible?
  - Susan_i wrapped the blanket around her_i/herself_i.
- Does anything require the coindexing in (27a)?
  - The house_i had a fence around it_i.

Reading Questions

- In (22), why doesn't the AAP account for the fact that *an interesting couple* and the *he* and *she* aren't at least showing some sort of reference to each other when there is an obvious connection in the physical world?

- Why aren't the two NPs coindexed in *The solution to this problem is rest and relaxation*.?

Reading Questions

- How do verbs specify which argument marking preposition they require?
- Why is it necessary to make arg-marking P(P)s and their object NPs be of equal rank? Don't the Binding Principles permit an anaphor that is outranked by its coindexed element, regardless of the ranking relative to the PP that it is a part of?