

# Argument asymmetries and *vP*

**Previously:** 9 constituency tests

**Last week:** Constituency tests as a window into hierarchical structure; structure-building with Merge and Adjoin

## 1 Seven NP asymmetries<sup>1</sup>

Given two NPs, how can we tell their relative height?

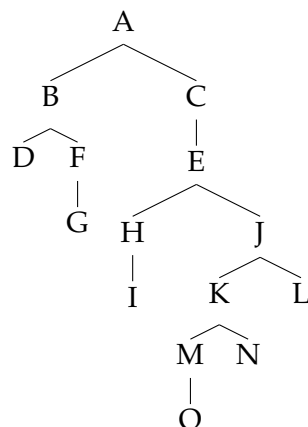
### 1. Binding Condition C:

*R-expressions* (NPs that are not pronouns) cannot \_\_\_\_\_  
\_\_\_\_\_ (= \_\_\_\_\_). (Underlined NPs below are coreferential.)

- (1) a. \*He/John likes John.  
b. His/John's mother likes John.  
c. The rumor about him/John upset John.
- (2) a. \*He/John thinks Mary likes John.  
b. His/John's mother thinks Mary likes John.

In particular, Condition C (and other asymmetries below) appear to be sensitive to the relationship of *c-command*:

- (3) **C-command** (originally by Tanya Reinhart; formulation here from Adger 2003:117):  
Node A c-commands node B if and only if A's sister either is B, or contains B.



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<sup>1</sup>Based on a handout by Jason Merchant.

2. Binding Condition A:

*Reflexive (-self)* and *reciprocal* pronouns (*each other*) must be \_\_\_\_\_ by their *antecedent* ( \_\_\_\_\_ ) within \_\_\_\_\_.

- (4) a. John likes himself.  
b. \*Himself likes John.
- (5) a. John and Mary like each other.  
b. \*Each other likes John and Mary.
- (6) a. \*Sarah's dad loves herself.  
b. Sarah likes the picture of herself.  
c. John and Mary like the pictures of each other.
- (7) a. \*John thinks Mary likes himself.  
b. \*John and Mary think Bill likes each other.

(8) Reflexives in some languages do not have this locality restriction: (Mandarin)

Li taitai renwei [laoshi xihuan ziji-de xiaohai].

Li madam think teacher like self-GEN child

'Mrs. Li thinks the teacher likes *self's* child.'

3. Binding Condition B:

Regular pronouns must be \_\_\_\_\_ within \_\_\_\_\_.

- (9) a. \*John likes him.  
b. John likes [his parents].  
c. John thinks [Mary likes him].

Movement asymmetries:

4. Superiority: (Kuno and Robinson, 1972)

(10) We want to ask a question based on "You said who ate what":

- a. Who did you say \_\_\_ ate what?  
↑  
└───┘
- b. \*What did you say who ate \_\_\_?  
↑  
└──────────────────┘

5. Strong crossover (SCO): (Postal, 1971)

(11) We want to know who  $x$  is in the sentence “You think  $x$  said  $x$  will win”:

- a. Which guy do you think \_\_\_ said he will win?  
↑  
└──────────────────────────┘
- b. \* Which guy do you think he said \_\_\_ will win?  
↑  
└──────────────────────────┘

A *wh* phrase “crossing over” a coreferential pronoun leads to ungrammaticality.

6. Weak crossover (WCO): (Postal, 1971)

- (12) a. Which guy do you think \_\_\_ said [his mother] will win?  
↑  
└──────────────────────────┘
- b. \* Which guy do you think [his mother] said \_\_\_ will win?  
↑  
└──────────────────────────┘

**Note:** There are two differences between SCO and WCO. First, in SCO (11b), the coreferential pronoun *c*-commands the “gap” of the moved *wh*, whereas in WCO (12b), it does not. Second, speakers robustly reject SCO constructions with the intended interpretation, whereas WCO is “weak” because many speakers do not find such configurations ungrammatical.

And one more:

7. Quantifier-pronoun binding:<sup>2</sup>

Pronouns whose reference changes depending on some other, quantificational NP (*bound pronouns*), must be below the quantificational NP.

- (13) a. Every/No school pays its students.  
b. \* Its students like every/no school.  
c. \* The review of every book upset its author.

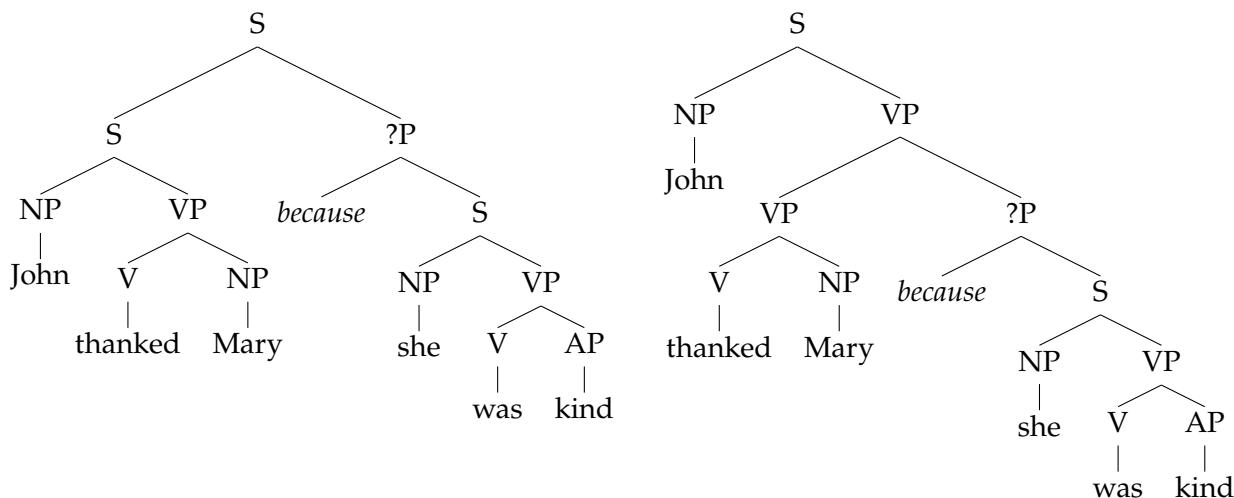
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<sup>2</sup>Quantifier binding is useful as a basic diagnostic tool, but may not be strictly require *c*-command. See Barker 2012.

NP asymmetries are a useful diagnostic for the height of (constituents containing) NPs. Consider *because* clauses:

(14) John thanked Mary [*because* she was kind].

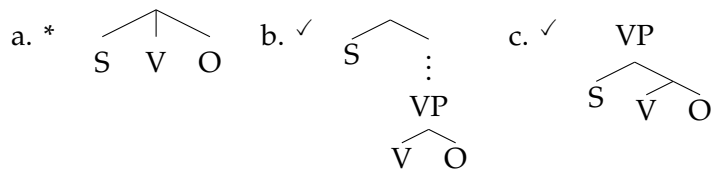
Where is the *because* clause? There are (at least) two reasonable options — here illustrated schematically with S = Sentence:



**Exercise:** Use Binding Condition C to compare these hypotheses.

These NP asymmetries above show that subjects are consistently higher than objects: in particular, subjects c-command objects and objects do not c-command subjects. This supports our idea that there is a constituent containing V and the object, but not the subject:

(15) **Because the subject c-commands the object, but not the opposite:**

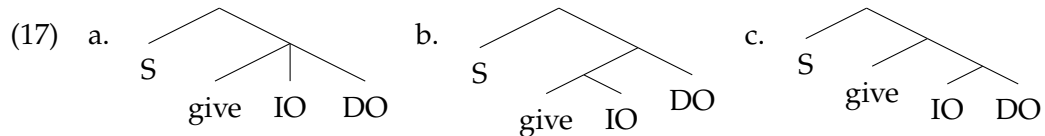


We discuss the position of subjects in greater detail next week.

## 2 Ditransitives

(16) I gave [NP John] [NP a picture].

*John* is the indirect object (IO)/goal; *a picture* is the direct object (DO)/theme



The NP asymmetries above are useful for determining the relative heights of the direct and indirect objects. What tests are used in (18–22)? What do they teach us about the relative positions of the IO and DO? (some data from Barss and Lasnik 1986)

(18) a. I showed John/him himself (in the mirror).

b. \*I showed himself John (in the mirror).

(19) a. I showed the contestants each other.

b. I showed the students [each other's grades].

c. \*I showed [the students' parents] [each other's grades].

d. \*I showed [each other's parents] the contestants.

(20) a. Who did you give     what?

b. \*What did you give who    ?

(21) a. Which boy did you show     [his reflection] in the mirror?

b. \*Which lion did you show [its trainer]    ?

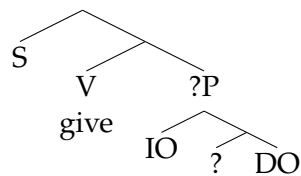
(22) a. I showed every friend of mine his photograph.

b. \*I showed its trainer every lion.

► This suggests that \_\_\_\_\_.

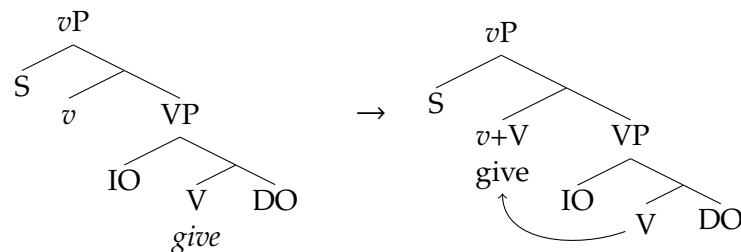
Note that this is incompatible with all of the structures in (17)!

(23) **The basic idea:**



But intuitively, *give* selects for its objects, DO and IO.

(24) **A solution (Larson, 1988): V selects for the DO and IO and “moves” to *v*:**



(I illustrate the subject (S) in the specifier of *vP*. This will be motivated next week, when we discuss the position of subjects in detail.) We will see other kinds of “movement” soon. We refer to movement of the head V to *v* as *head movement*.

- (25) a. V (later pronounced as *give*): [V; uN, uN]  
 b. *v*: [*v*; uN] (“little *v*”)

(26) **Hierarchy of projections (Adger, 2003: 135):**  
 Every clause has  $v > V$ .

We must update Merge accordingly:

(27) **Merge( $\alpha, \beta$ ):** (read: ‘merge  $\beta$  to  $\alpha$ ’)

For any syntactic objects  $\alpha, \beta$ , where  $\alpha$  bears an unchecked selectional feature F and  $\beta$  bears a matching categorial feature, or the Hierarchy of Projections requires that  $\alpha$  take  $\beta$  as its complement:

- check the feature F on  $\alpha$ , if any:  $\text{F-}$ ;
- let the label  $\gamma$  be the unchecked non-inflectional features of  $\alpha$ ; and
- return  $\begin{matrix} \gamma \\ \alpha \quad \beta \end{matrix}$  if  $\alpha$  is a head and  $\begin{matrix} \gamma \\ \beta \quad \alpha \end{matrix}$  otherwise.

How do we know which argument has which interpretation?

(28) **Uniformity of Thematic Alignment Hypothesis (UTAH from Baker 1988, here from Adger 2003: 138):**

Identical *thematic relationships* between predicates and their arguments are represented syntactically by identical structural relationships when items are Merged. For example:

- a. Specifier of *vP*:           agent
- b. Complement of V:       theme (direct object)
- c. Specifier of VP:         goal (indirect object)

A remaining puzzle: Ditransitive verbs can also introduce arguments in the form “DO to IO”:

- (29) John gave [<sub>NP=DO</sub> a book] [<sub>PP=IO</sub> to Mary].

See discussion in Adger 2003.

## References

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