

## 0. INTRODUCTION

- What is the role of binding in grammar?
- Can binding be reduced to the minimalist Agree-based theory of syntax?
- Is it possible to derive the locality (and non-locality) of binding?
- At which levels does binding apply?

## 1. MAIN EMPIRICAL QUESTIONS

### Empirical Question 1: c-command and locality

- (1) *Binding and c-command:*
- John<sub>i</sub> saw himself<sub>i</sub>.
  - \*[John's friends] saw himself<sub>i</sub>.
  - \*[Friends of himself<sub>i</sub>] saw John<sub>i</sub>.
- (2) *Binding and locality:*
- John<sub>i</sub> saw himself<sub>i</sub>.
  - \*John<sub>i</sub> knows that Mary saw himself<sub>i</sub>.

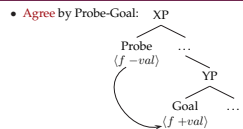
### Empirical Question 2: subject orientation

- Monomorphemic anaphors (Russian *sebjā*): subject oriented
  - Complex anaphors (English *himself*): not subject oriented
- (3) a. John<sub>i</sub> asked Bill<sub>j</sub> about himself<sub>i/j</sub>.
- b. Ivan<sub>i</sub> sprosīl Borisā<sub>j</sub> o sebe<sub>i/j</sub>.
- Ivan.NOM asked Boris.ACC about self
- 'Ivan<sub>i</sub> asked Boris<sub>j</sub> about himself<sub>i/j</sub>.'

### Empirical Question 3: double-object constructions

- How to account for Barss-Lasnik effects given that a GOAL always starts lower than a THEME (Barss and Lasnik, 1986)?
- (4) a. I showed the professors [clones of themselves].
- b. \*I showed [clones of themselves] the professors.

## 2. BINDING IN MINIMALISM



- Binding: The reflexive is lower than its antecedent
- Can binding be reduced to feature-checking?

	Binding	Agreement
Unvalued element	lower	higher
Locality	Mostly	No
Orientation	Sometimes	Subject

Hicks 2009: Requires **probing up** in case probing down does not lead to valuation.

- Fails to account for subject-orientation of monomorphemic reflexives (E.Q. 2)
- No mention of Barss-Lasnik effects (E.Q. 3)
- Fails to derive any type of long-distance dependencies or movement effects

Reuland 2005, 2011: Raising of anaphors to the edge of vP in order to be able to be probed by the local T.

- Only works for monomorphemic reflexives, impossible to derive binding by the direct object
- Fails to account for Barss-Lasnik effects (E.Q. 3)
- Fails to derive any type of long-distance dependencies or movement effects

Hasegawa 2005: Multiple probing by T with [+multi] feature, probing of the reflexive by T results in binding.

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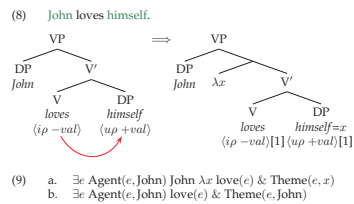
## 3. REFLEXIVITY FEATURE

$\rho$ -feature: A syntactic version of Reinhart and Reuland's (1993) reflexivity.

- (5) a. A predicate is reflexive iff (at least) two of its arguments are coindexed.
- b. A predicate is reflexively marked iff either (i) one of its arguments is a self-anaphor; or (ii) a predicate is lexically reflexive.
- (6) a. **Principle A:** A reflexive-marked (syntactic) predicate is reflexive.
- b. **Principle B:** A reflexive (semantic) predicate is reflexively marked.

Properties of ( $\rho$ ):

- ( $\rho$ ) is required for coreference between the reflexive and an expression in specifier position.
- ( $\rho$ ) can be freely applied to any lexical head.
- ( $\rho$ ) must be valued through an Agree relation (Pesetsky and Torrego 2007).



(9) a.  $\exists e$  Agent( $e$ , John) John  $\lambda x$  love( $e$ ) & Theme( $e$ ,  $x$ )

b.  $\exists e$  Agent( $e$ , John) love( $e$ ) & Theme( $e$ , John)

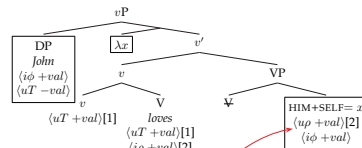
Justifying  $\rho$ : Languages where reflexivity is marked on the verb (Halkomelem Salish, Tamil, etc.)

- (10) Upriver Halkomelem, Wiltschko, 2004
- kw'em-łomət 'to raise oneself'
  - xwə-łomət 'shame oneself, be embarrassed'
  - q'óy-łət 'to kill oneself'
  - iyəq' 'change oneself'

- (7) Distribution of ( $\rho$ ):
- on V: interpretable ( $i\rho -val$ )
  - on reflexives: valued ( $u\rho +val$ )
  - on R-expressions: absent

## 4. CASE OF ENGLISH himself

- (11) John<sub>i</sub> loves himself<sub>i</sub>.
- (12) vP structure of (11) before merge of T:  
(In the tree below  $\rho$ -feature is placed on V. It can also be placed on v with the same result.)



- (13)  $\lambda x \exists e: V(e) \& \text{Theme}(e, x)$
- (14) a.  $\exists e: \text{Agent}(e, \text{Subj}) \& \text{Subj } \lambda x V(e) \& \text{Theme}(e, x)$
- b.  $\exists e: \text{Agent}(e, \text{Subj}) \& V(e) \& \text{Theme}(e, \text{Subj})$

## 5. CASE OF RUSSIAN sebjā

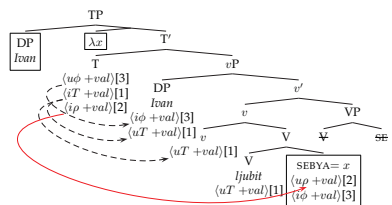
- (15) Properties of *sebjā*
- Monomorphemic
  - Not marked for  $\phi$ -features ( $i\rho -val$ )
  - Subject-oriented

- (16) Ivan<sub>i</sub> ljubit sebjā<sub>i</sub> (Russian)
- Ivan loves SELF<sub>i</sub>
- 'Ivan loves himself'

- (17) Subject-orientation
- Marina<sub>i</sub> otдалa Petra<sub>j</sub> sebe<sub>i/j</sub> / Petru<sub>j</sub> sebjā<sub>i/j</sub> (Russian)
  - Marina gave Peter<sub>ACC</sub> SELF<sub>DAT</sub> / Peter<sub>DAT</sub> SELF<sub>ACC</sub>
  - Ivan<sub>i</sub> rasskazal Petru<sub>j</sub> o sebe<sub>i/j</sub>
  - Ivan told Peter<sub>ACC</sub> about SELF<sub>i</sub>
  - 'Ivan told Peter about himself (=Ivan)'

- Unvalued  $\phi$ -features on the reflexive need to be valued.
- Placing a  $\rho$ -feature on V/v does not achieve  $\phi$ -feature valuation on the reflexive.
- The value can only come from another  $\phi$ -bearing element, in this case T.
- For T to probe the reflexive, the interpretable  $\rho$ -feature must be placed on T.
- Subject orientation follows from the fact that in order to value  $\phi$ -features on the reflexive, the interpretable instance of  $\rho$ -feature must be placed on T.
- Binding only from Spec,TP position.

(18) TP structure of (16):



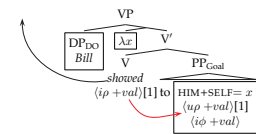
## 6. BARSS-LASNIK EFFECTS

- In English ditransitive constructions binding by the object is possible, (19).

- (19) John<sub>i</sub> showed Bill<sub>j</sub> [to himself<sub>i/j</sub>].

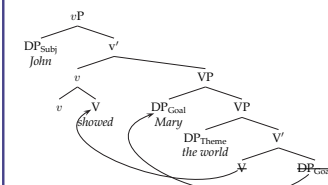
- To achieve binding by the direct object, the  $\rho$ -feature must be placed on V:  $\lambda$ -operator introduced directly above V, immediately below the object.
- To achieve binding by the subject, the  $\rho$ -feature must be placed on v:  $\lambda$ -operator introduced directly above v, immediately below the subject.

(20) VP structure of (19), object antecedent



- (21) a. I showed the professors [clones of themselves].
- b. \*I showed [clones of themselves] the professors.
- (22) Thematic hierarchy, Carrier-Duncan 1985; Larson 1988
- AGENT > THEME > GOAL > OBLIGUES

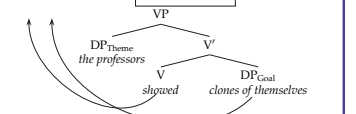
(23) The structure of the double object construction:  
John showed Mary the world.



Derivation: Dative as a concordal case: case on Goal DP is valued after it moves to the edge of VP. (In fact, this movement is motivated by need for case on Goal DP.)

- The derivational theory of binding: Principle A can be satisfied at any moment during the derivation. Once it is satisfied, further movement cannot bleed binding relations (Belletti and Rizzi 1988)
- Problem for the derivational theory of binding: If the goal argument is reflexive:

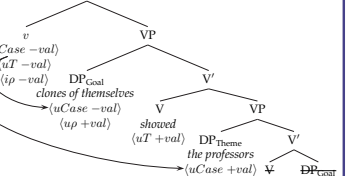
- (24) a. \*John showed himself<sub>i</sub> Bill<sub>j</sub> t<sub>j</sub>.
- b. \*John<sub>i</sub> showed [clones of themselves]<sub>i</sub> [the professors]<sub>j</sub> t<sub>j</sub>.
- 



• Proposal: Binding cannot apply while there are still unvalued features.

- The case-feature on the GOAL does not get valued before the GOAL is moved to the (second) Spec,VP.
- The first moment the binding can apply is shown in (25).
- The ( $\rho$ )-feature can only be placed on v, and therefore subject is the only potential antecedent of the GOAL-internal reflexive.

(25) The structure of the vP of (24-b):



## 7. BINDING AND wh-MOVEMENT

- Binding by a matrix element is possible only if probe  $\rho$ -feature is placed on a matrix element (T, v/V)

- (26) Interaction of wh-movement and binding in English:
- Which pictures of himself<sub>i/j</sub> does John<sub>i</sub> think Bill<sub>j</sub> likes t<sub>j</sub>.
  - John<sub>i</sub> wonders which pictures of himself<sub>i/j</sub> Bill<sub>j</sub> published t<sub>j</sub>.

- Binding of HIMSELF can be achieved by placing a  $\rho$ -feature on v/V.
- In both direct and indirect questions in English (26), the wh-phrase-internal reflexive can be probed by the matrix v/V, therefore binding by the matrix subject (and object as well) is possible.

- (27) Interaction of wh-movement and binding in Russian:
- [Kogo iz svoix<sub>i/j</sub> detej] Ivan<sub>i</sub> skazal čto Olga<sub>j</sub> nakazala t<sub>j</sub>?  
which of self's kids Ivan said that<sub>IND</sub> Olga punished  
'[Which of her/his children] Ivan said that Olga punishes?'
  - Ivan interesetsja [kakie rasskazy o sebe<sub>i/j</sub>] Boris<sub>j</sub> pročital t<sub>j</sub>.  
Ivan is interested [which stories about SELF] Boris read<sub>PAST</sub>.  
'Ivan<sub>i</sub> is interested with stories about himself<sub>i/j</sub> Boris<sub>j</sub> has read.'

- In direct questions in Russian (27-a), the wh-phrase-internal reflexive can be probed by the matrix T, therefore binding by the matrix subject is possible, since it is located within the same domain (phase).
- In indirect questions in Russian (27-b), the wh-phrase-internal reflexive cannot be probed by T (embedded CP is a phase – two phase edges in between), and therefore binding by the matrix subject is impossible.

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