

Outline of talk

Resource Sharing in Type Logical Grammar

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- Jacobson's treatment of pronominal anaphora in CCG
- $L_{|}$: Lambek calculus + anaphora
- Linguistic application:
 - Pronominal anaphora
 - VP-ellipsis
 - Cataphora
 - Interaction of anaphora and hypothetical reasoning

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Jacobson's proposal

- Semantics: pronouns denote identity functions
- Syntax: next to forward and backward looking categories, there are categories that look for an antecedent ($A|B$)
- Crucial inferences:

$$\frac{X, A, Y \Rightarrow B}{X, A|C, Y \Rightarrow B|C} \qquad \frac{A \setminus B/C, C|A \Rightarrow A \setminus B}{}$$

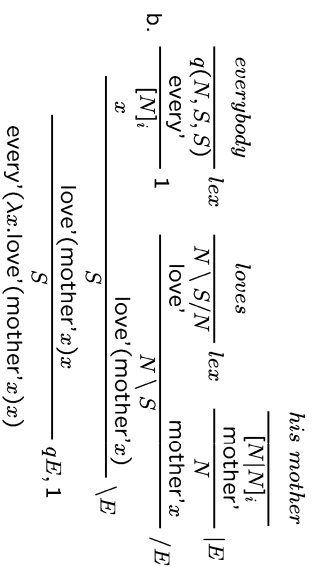
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The logic $L_{|}$

- Anaphors use a resource without consuming it
- Thus apparently some version of Contraction is called for.
- Makes search space infinite
- Finite reading property is lost.
- Semantic intuition:
 - $a \models B|A$ iff a behaves like a B provided the context supplies an antecedent of type A .

(5) a. Everybody loves his mother

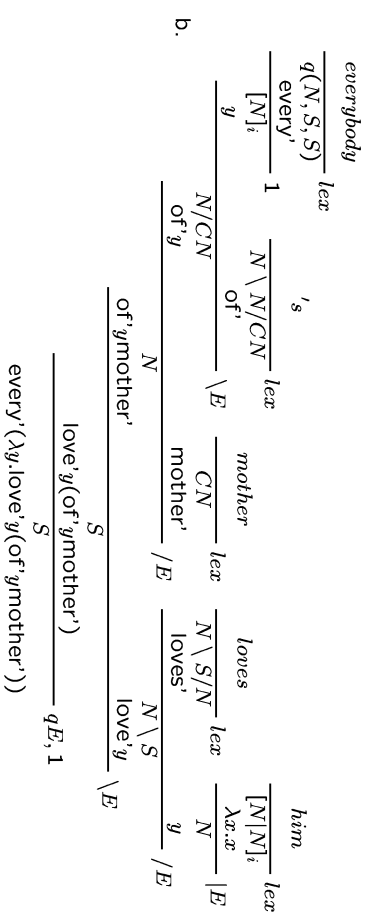


- Derivation of a bound reading for *His mother loves everybody* fails since the hypothetical *N* does not precede the pronoun \Rightarrow accounts for Crossover phenomena
- bound readings only possible as long as quantifier isn't scoped \Rightarrow bound pronouns are in the scope of the binder

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Embedded Antecedents

(6) a. Everybody's mother loves him

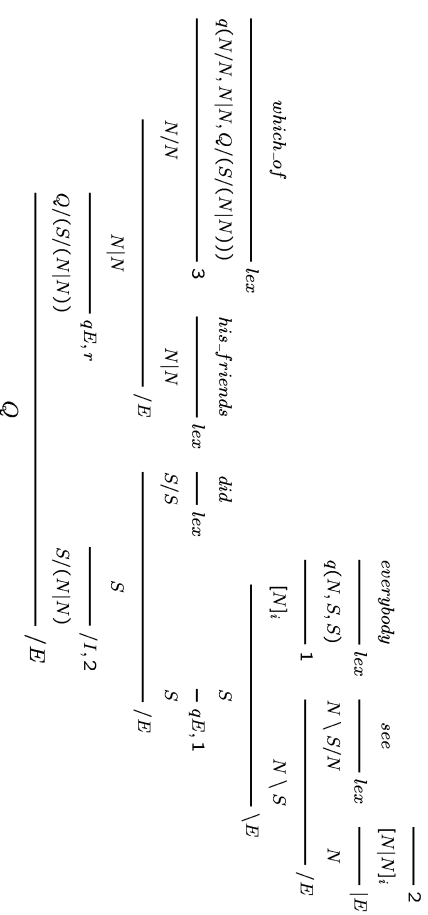


every'(\lambda y.love'y(of'ymother'))

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Interaction of anaphora and hypothetical reasoning # 1

(7) a. Which of his_i friends did everybody_i see



Backward Anaphora

- Only constraint on anaphora: Antecedent/binder must precede anaphor
- What about cataphora?
- Four cases are to be considered:
 1. Interaction of anaphora and hypothetical reasoning
 2. Accidental coreference
 3. Backward binding
 4. Psych verbs

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Accidental coreference

- Antecedent of a pronoun may be supplied by context
 - Nothing prevents coreference with a name occurring after the pronoun
 - Displays anaphoric de-accenting
- (8) He_i won the race and we { WELCOMED John_i
*welcomed JOHN_i }

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Backward binding

- Evidence for non-accidental coreference would come from bound cataphoric pronouns
 - excluded by Weak Crossover, as in
- (9) His mother gave every student a book
- Furthermore no sloppy readings with cataphora:
- (10) a. John_i gave his_i mother a book and Bill_j gave his_j mother flowers.
 b. Mary gave his_i mother a picture of John_i.
 c. *Mary gave his_i mother a picture of John_i and Sue gave his_j mother a photo of Bill_j

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Apparent counterexample (from Williams 1997):

- (11) Anyone who has written it_i can turn [his term paper]_i in to me now.
- Accidental coreference is impossible
 - No sloppy reading, however:
- (12) Anybody who has written it can turn his term paper in to me and submit his thesis to the committee.
- Furthermore, the "antecedent" requires anaphoric de-accenting:
- (13) ?Anyone who has written it can turn in HIS TERM PAPER to me now.
- ¹⁸ Proposal: *it* is a paycheck pronoun here (category: (N|N)(N|N)), denoting the identity function over Skolem functions

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Psych verbs

- (14) a. That he might someday meet the queen inspires every British soldier.
 b. That he had won encouraged John and electrified Bill
- Bound and sloppy readings possible
 - Has to be taken care of in the lexicon
- ¹⁸ Proposal: Curry and Fey's combinator S
- $$x : (S \setminus S) / N \Rightarrow \lambda yz.xz(yz) : (S|N) \setminus (S|N)$$
- is available as lexical rule (restricted to psych verbs)

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- Gawron and Peters:
(19) Every student revised his paper before the teacher did
- critical reading: Every student revised his paper before the teacher revised the students paper
- Delay quantifier scoping until the end:
 - plug a hypothetical N into the matrix subject position
 - give the ellipsis a strict construal
 - scope the quantifier