

Pronoun resolution in right node raising: Explorations in ellipsis

Right node raising (RNR, ex.1) remains mysterious [6,15,17]. Some analyze RNR as **backward ellipsis** ((2a), [1,4,12]); others argue the pivot (shared element) is dominated by multiple nodes (**multidominance**, ex(2b), [2]); others favor a **dual analysis**, claiming RNR results from ellipsis or multidominance ([3,16,21]), or both [3]. We provide (i) data supporting the dual-analysis approach, and (ii) a systematic experimental investigation on strict/sloppy construals in RNR.

VP ellipsis allows strict (3b) and sloppy readings (3c). For RNR, **sloppy readings** (4a) are reported [11,20] and taken as evidence for an ellipsis-based analysis. It is unclear how, under multidominance, *her* in (4) could refer to two different entities [20].

But RNR **strict readings** have received less attention. To explore the multidominance / ellipsis debate, we test two kinds of strict readings: Can *her* in (4) can be construed as coreferential with the first subject (Lisa, 5a, ‘strict-first-subject’) and/or with the second subject (Kate, 5b, ‘strict-second-subject’). A multidominance analysis generates both readings. What about ellipsis? We argue that existing assumptions about ellipsis [5,7,8,10] yield the strict-*second*-subject reading (6). I.e., though both multidominance and ellipsis generate the strict-*second*-subject reading, it is unclear how ellipsis could generate a strict-*first*-subject reading.

EXP1-2 used a **sentence-picture rating task**: people saw a RNR sentence with two same-gender subjects and a possessive pronoun (e.g. *Meg tolerated, and Gina detested, her rival; Fred liked, and Tim disliked, his supervisor; Lily interviewed, and Zoe photographed, her coach*), and (on the same screen) an image with characters and arrows (Fig.1). Characters were labelled (e.g. Meg, Meg’s rival); verbs were selected based on norming. People rated how well the image matches the sentence’s meaning (1= *not at all*; 6= *very well*).

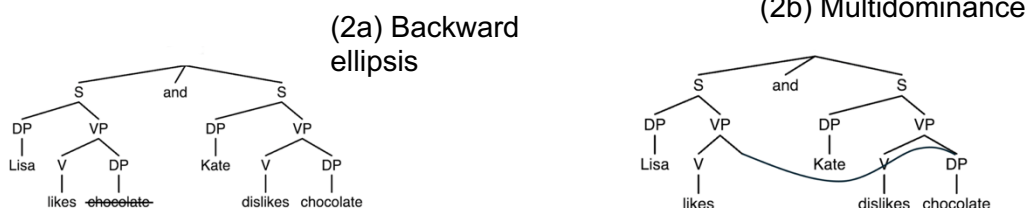
DESIGN: We used images to convey 4 interpretations (Latin-Square): *sloppy* (Fig.1a), *strict-first-subject* (1b), *strict-second-subject* (1c) or ‘*crossed-arrows*’ (1d, expected to be rated ‘does not match’). Exp.1 (n=61 participants) and Exp.2 (n=54) were the same (24 targets, 36 fillers), but Exp.1 used *and* as the connective, whereas Exp.2 used *but*.

RESULTS. Fig.2 (**Exp.1**) shows that *sloppy* meanings match RNR better than *strict-first-* or *strict second-subject meanings* ($t's > |3.6|$, $p's < .005$, emmeans, Bonferroni-corrected, z-scores); the latter two pattern alike ($t < .9$, $p = 1$). Both strict meanings are rated better than ‘crossed-arrows’ ($t's > |9|$, $p's < .001$). Thus, *sloppy is favored but both strict readings are also available*. **Exp.2** (with *but*) yields similar results. Overall, existence of sloppy readings points to ellipsis, while existence of strict readings – especially *strict-first-subject* – points to multidominance.

To test our idea that sloppy readings are derived via ellipsis and strict-first-subject readings via multidominance, **Exp.3** (n=54, Fig.3) tested pronouns that gender-match *only the second subject* (ex.7). Now, we find that sloppy readings are somewhat available, as expected if ellipsis—known to be mismatch-tolerant—is at play [9,13,14,18]. Furthermore, strict-second-subject readings are rated better in Exp.3 than Exp.1-2. This finding that *unambiguity* boosts the strict-second-subject construal fits with general pronoun patterns (e.g. [19]) and points to multidominance, not ellipsis.

Thus, we report three experiments on RNR pronoun interpretation, including gender-matching/mismatching pronouns, and identify systematic asymmetries in availability of strict/sloppy readings, favoring a dual analysis of RNR.

(1) Lisa likes ___ and Mary dislikes chocolate.



(3) *Lisa likes her neighbor and Kate does too.*

(a) *Lisa₁ likes her₃ neighbor and Kate₂ does like her₃ neighbor too. (strict, 3rd)*

(b) *Lisa₁ likes her₁ neighbor and Kate₂ does like her₄ neighbor too. (strict, coref)*

(c) *Lisa₁ λ1 t₁ likes her₁ neighbor and Kate₂ λ2 t₂ does like her₂ neighbor too. (sloppy, sem-binding)*

(4) **Exp.1-2: Lisa likes, and Kate dislikes, her neighbor.** [example sentence]

(a) *Lisa₁ λ1 t₁ likes her₄ neighbor and Kate₂ λ2 t₂ dislikes her₂ neighbor. (sloppy)*

(5a) *Lisa₁ likes her₁ neighbor and Kate₂ dislikes her₁ neighbor. (strict first subject)*

(5b) *Lisa₁ likes her₂ neighbor and Kate₂ dislikes her₂ neighbor. (strict second subject)*

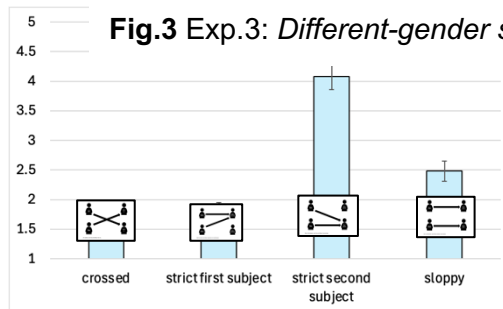
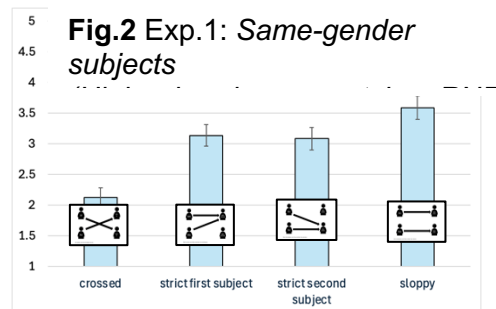
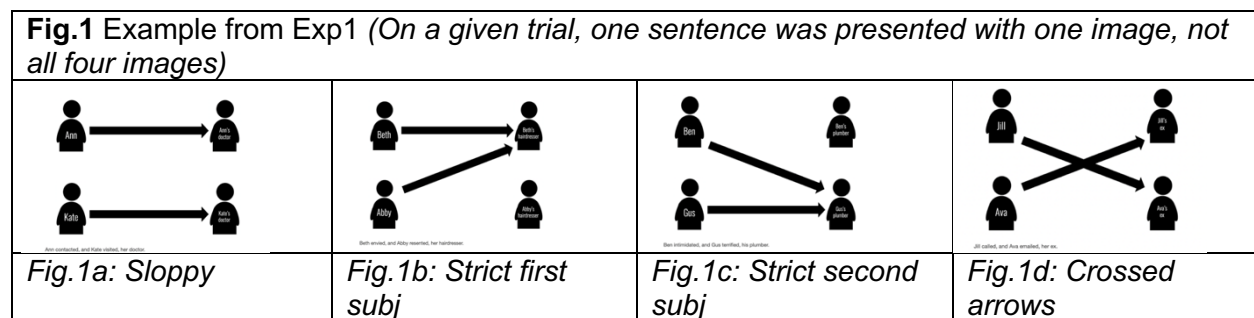
(6) *Lisa₁ λ1 t₁ likes her₂ neighbor and Kate₂ λ2 t₂ dislikes her₂ neighbor (strict second subject)*

(7) **Exp.3: Bob likes, and Kate dislikes, her neighbor.** [example sentence]

(a) *Bob₁ λ1 t₁ likes his₄ neighbor and Kate₂ λ2 t₂ dislikes her₂ neighbor. (sloppy w/gender mismatch)*

(8a) *Bob₁ likes #her₁ neighbor and Kate₂ dislikes #her₁ neighbor. (strict first sub, # due to mismatch)*

(8b) *Bob₁ likes her₂ neighbor and Kate₂ dislikes her₂ neighbor. (strict second subject)*



1. Abels04 RNR 2. Bachrach&Katzir09 RNR & delayed spellout 3. Belk et al.23 What divides, and what unites, RNR 4. Bošković04 Two notes on RNR 5. Buring05 Bound to bind 6. Chaves14 Disunity of RNR phenomena 7. Fleischer23 On referential parallelism & compulsory binding 8. Fox00 Economy & semantic inter-pretation 9. Grinder&Postal71 Missing antecedents & RNR 10. Grodzinsky&Reinhart93 Innateness of binding & coreference 11. Ha08 On ellipsis features & RNR 12. Hartmann00 RNR & gapping 13. Kitagawa91 Copying identity. 14. Lakoff73 Some thoughts on transderivational constraints 15. Larson18 RNR & nongrammaticality 16. Malanoski24 RNR & flexible cyclic linearization 17. McCawley82 Parentheticals & discontinuous constituent structure 18. Sag79 Deletion & logical form 19. Stewart etal07 Shallow processing of ambiguous pronouns 20. Sugawa11 Derivation of RNR & its implications 21. Vicente&Barros11 RNR requires ellipsis & multidomination