

Gender mismatch and possession type effects on interpretation of VP ellipsis

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Pronoun interpretation can occur via discourse-level coreference or semantic-level binding (e.g. Heim, 1982; Reuland, 2001). These mechanisms yield different interpretations of the ellipsis in a sentence like (1) *Mark walked his dog, and Larry did [...], too*. If the overt *his* represents Mark, (1) can mean either that a) Larry walked his own dog (semantic-level bound variable [“BV”]; elided *his*=Larry) or b) Larry walked Mark’s dog (discourse-level coreference [“CR”]; elided *his*=Mark). What guides selection of one interpretation over the other?

Prior work suggests variable binding is preferred (e.g. Frazier & Clifton, 2000), as it operates on the semantic level and does not access discourse-level memory (Reuland, 2001). However, we have previously claimed that the nature of the possession relation matters (Storbeck & Kaiser, 2018). We found that inanimate possessed nouns (e.g. *her bicycle*) trigger more BV responses than possessed animates (e.g. *her father*). We argued that animate nouns are more likely to be processed as independent discourse referents, while inanimate nouns are more likely to be dependent on the discourse representations of their possessors. According to this view, animate possessions’ independent discourse status makes them more available for CR in ellipsis, but inanimates’ dependent representations tend to elicit more BV interpretations.

However, a competing possibility is that animate nouns are encoded in memory in a more prominent, semantically richer way than inanimates (e.g. Gelin et al., 2017), *independently* of the discourse model, simply on the lexical level. Under this memory-prominence view, animacy effects should persist even in contexts that rule out the possibility of an independent discourse referent for the possessed noun: for instance, if the matrix-clause subject is a quantified noun phrase (“QuNP”), e.g. *every woman*, which does not introduce a discourse referent (Reinhart, 2000). In contrast, under our model, lack of an available independent discourse representation should make CR impossible, regardless of animacy.

We tested these conflicting predictions in **four experiments**, all of which used the same forced-choice ellipsis-interpretation task as in Storbeck & Kaiser (2018) and similar materials but for the presence of a QuNP as the matrix-clause or elided-clause subject. We probed four possession types (Table 1). We also tested the claim that there is an acceptability penalty for gender mismatch between overt and elided pronouns in BV interpretations of sentences like (2) *Mary walked her dog, and Larry did [walked ~~her~~ his dog], too*. – especially if an overt feminine pronoun conflicts with an elided masculine (e.g. Kitagawa, 1991; Oku, 1998; Sag, 1976).

Exp.1 modified Storbeck & Kaiser’s (2018) materials (Table 1) by replacing matrix-clause subjects with *every man/woman*; **Exp.2** made the same substitution for the elided-clause subjects. **Exp.3 and 4** used the same items as Exp.1 and 2 but the gender of all QuNPs was switched to introduce mismatch. When the QuNP is in the matrix clause (Exp.1 and 3), building an independent discourse representation for the possessed noun is not possible. In contrast, when the QuNP is in the elided clause (Exp.2 and 4), processing of the matrix clause should proceed as in the original sentences, which always used two [gender-matched] names.

Results: Exp.1 and 3 exhibit a strong BV bias in all conditions (Figure 1, $p < .001$), there is no effect of animacy ($p > .1$ for all comparisons). However, in Exp.2 and 4, inanimate conditions received more BV interpretations than animates ($p < .001$). These results support our model and go against the discourse-independent memory-prominence view. We also found more CR (i.e. fewer BV) responses due to gender mismatch with elided-clause QuNPs (Exp.4, $p < .001$), but not with matrix-clause QuNPs (Exp.3, $p = .7$), where our model prohibits CR. We attribute the gender-mismatch penalty to an integration conflict that arises when retrieving a memory representation of the antecedent VP which conflicts with the VP representation activated by the BV discourse representation. We find no interaction between the gender mismatch effect and overt pronoun gender (contra Oku, 1998). **As a whole**, our studies support a discourse-based account of why animacy modulates preferences in ellipsis resolution.

Proportion of bound variable interpretations
by QuNP position, gender match, and possession type

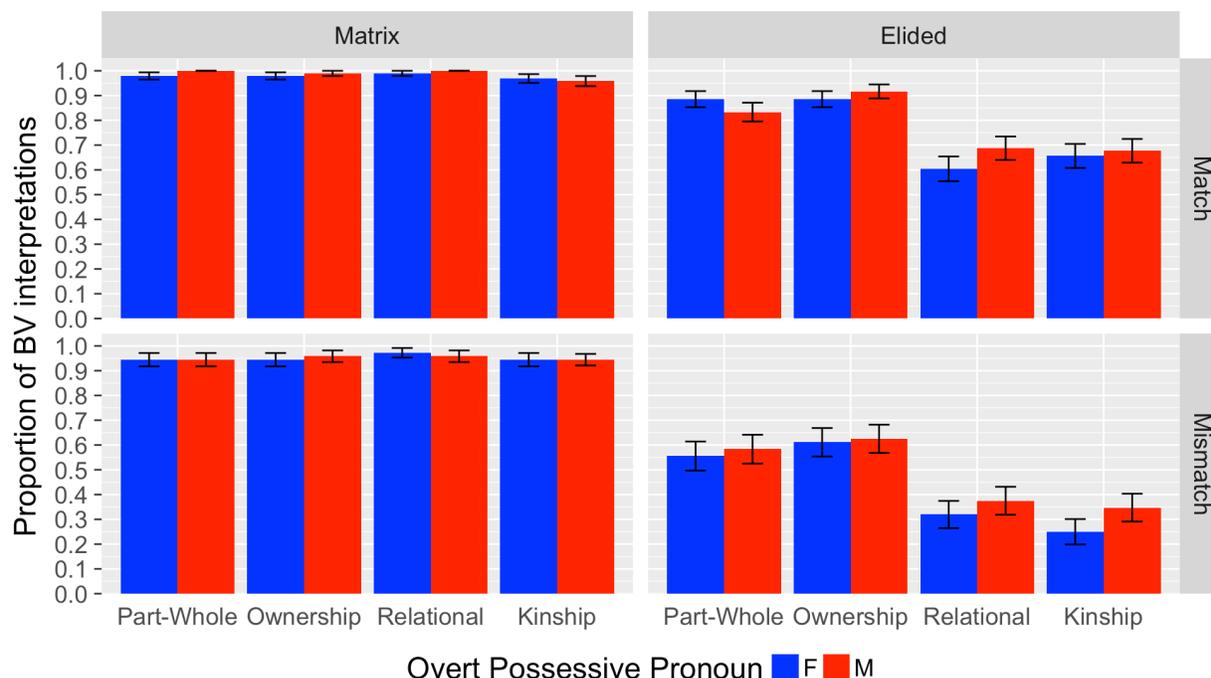


Figure 1. The proportion of BV responses in Experiments 1-4 (left to right, top to bottom)

Possession type	Example target sentence
Part-whole (inanimate)	Every woman chabbed her <u>nose</u> , and Amanda did, too.
Ownership (inanimate)	Every woman chabbed her <u>jacket</u> , and Amanda did, too.
Relational (animate)	Every woman chabbed her <u>boss</u> , and Amanda did, too.
Kinship (animate)	Every woman chabbed her <u>son</u> , and Amanda did, too.
Bound variable choice	Coreferential choice
Amanda chabbed her own [noun].	Amanda chabbed every woman's [noun].

Table 1. An example target sentence from Experiment 1 in each possession-type condition

References: Frazier, L. & Clifton, C. (2000). On bound variable interpretations: The LF-only hypothesis. *Journal of Psycholinguistic Research* ■ Gelin et al. (2017). Are animacy effects in episodic memory independent of encoding instructions?. *Memory* ■ Heim, I. (1982). The semantics of definite and indefinite noun phrases. Doctoral dissertation, UMass Amherst ■ Kitagawa, Y. (1991). Copying identity. *Natural Language & Linguistic Theory* ■ Oku, S. (1998). A theory of selection and reconstruction in the minimalist perspective. Doctoral dissertation, UConn ■ Reinhart, T. (2000). Strategies of anaphora resolution. *Interface Strategies* ■ Reuland, E. (2001). Primitives of binding. *Linguistic Inquiry* ■ Sag, I. A. (1976). Deletion and logical form. Doctoral dissertation, MIT ■ Storbeck, J. & Kaiser, E. (2018). Possession type affects resolution of possessive pronouns in English VP ellipsis. *Proceedings of the 92nd Annual Meeting of the Linguistic Society of America*. <http://dx.doi.org/10.3765/plsa.v3i1.4346>