Pronouns at the right frontier: discourse structure affects accessibility of final appositives

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Sentence-final appositive relative clauses (ARCs) have been shown to be more available than sentence-medial ARCs for certain anaphoric dependencies [5]. In this paper, we focus on two approaches to this puzzle. On a *speech act* account, final ARCs constitute the most recent speech act and thus show increased availability for anaphoric reference [1]. Alternatively, [2,3] argue for a *discourse structure* account, which assumes that final but not medial ARCs constitute accessible discourse units. Therefore, final ARCs can stand in a *subordinating* or *coordinating* discourse relation to the matrix clause and potentially block access to the matrix clause due to the Right Frontier Constraint [4] (see Fig. 1).

We tested the two accounts with a Forced Choice Task where participants had to indicate whether an anaphoric expression that followed a sentence containing a final ARC referred to the matrix clause or the ARC. The main research question was whether the special status of final ARCs is a function of discourse structure, or a general property of final ARCs, as predicted by a speech act account. A discourse structure account critically predicts that coordinating relations will increase the likelihood of RC choices compared to subordinating relations. In addition, we examined the generality of this effect by investigating whether (i) it affects different types of pronouns equally and (ii) whether this effect is limited to ARCs, or extends to restrictive relative clauses (RRCs).

In the experiment, we implemented a 2x2x2 design, crossing RC-TYPE (restrictive vs appositive), DISCOURSE RELATION (subordinating vs coordinating) and PRONOUN TYPE (personal vs propositional), see (1). For the critical manipulation of DISCOURSE RELATION, we varied the aspect of the verb in the RC (imperfective vs perfective) and added a temporal adverb in the coordinating conditions (*then*, *later*, *afterwards*). The pronouns were either propositional (*that*), or a personal pronoun (*s*/*he*) with one potential antecedent in each clause, both grammatical subjects. To avoid plausibility confounds, we used nonce-words as predicates in the critical sentence. 48 participants saw 24 items of this type and had to choose whether the anaphor referred to the matrix clause (antecedent) or the RC (antecedent).

The results and analysis are shown in Figure 2 and Table 1 respectively. We found significant main effects of each factor as well as an interaction of RC-TYPE and DISCOURSE RELATION. We observed (i) more RC choices for coordination than subordination; (ii) more RC choices for ARCs than for RRCs; (iii) the effect of discourse role was more pronounced for ARCs than RRCs; (iv) more RC choices for propositional pronouns than personal pronouns.

Finding (i) provides direct support for the discourse structure view; however, findings (ii) and (iii) suggest that the special status of the ARC partially determines RC availability and sensitivity to discourse structure, as predicted by the speech act account. Thus, our study provides support for both accounts. On the other hand, finding (iv) was unexpected and raises a deeper question about how different anaphors pick out their antecedent, which we aim to address in the future.

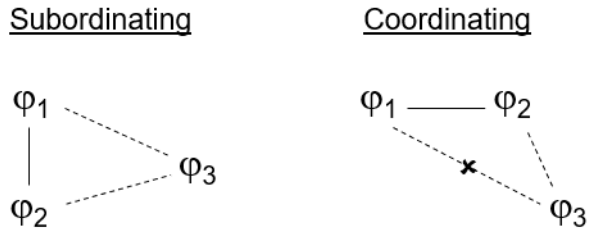

FIGURE 1: ILLUSTRATION OF RIGHT FRONTIER CONSTRAINT: A third discourse segment φ_3 can access the first segment φ_1 when φ_1 and φ_2 are subordinating but not when they are coordinating.

(1)

a. Restrictive/Appositive + **Subordinating (φ_1 (φ_2))** In the evening, **[**the nanny reprimanded the children(,)**]φ_1** **[***{that/who}* the housemaid **was calling** to bed.**]φ_2**	TARGET (φ_3) Personal/Propositional: **[**{*She/That*} was moticious.**]φ_3**
b. Restrictive/Appositive + **Coordinating (φ_1 + φ_2)** In the evening, **[**the nanny reprimanded the children(,)**]φ_1** **[**{*that/who*} the housemaid **then called** to bed.**]φ_2**	

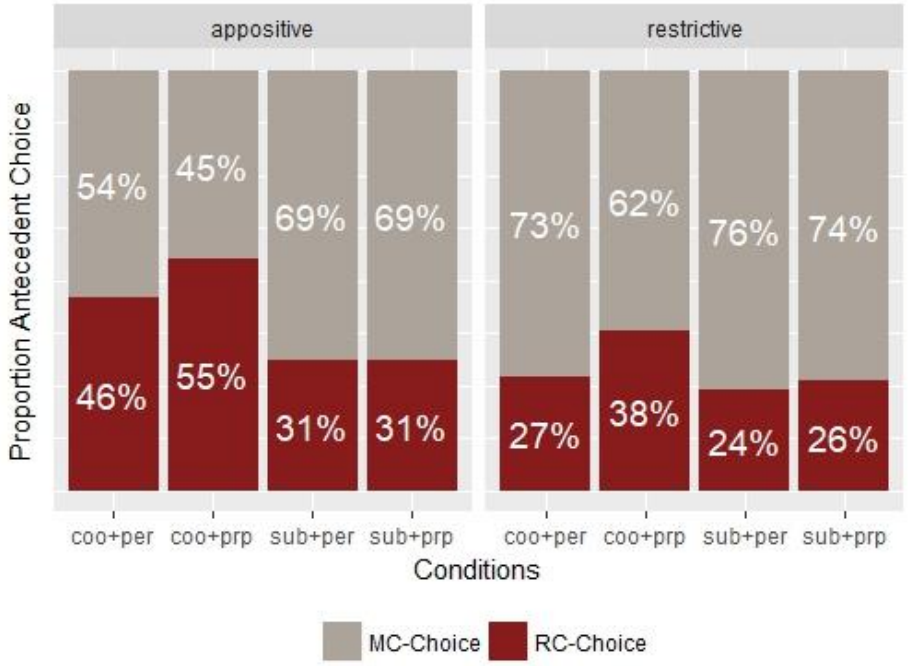

FIGURE 2: EXPERIMENTAL RESULTS BY CONDITION SPLIT BY RC-TYPE (coo = coordinating, sub = subordinating, per = personal, prp = propositional).

(MC = φ_1 RC = φ_2 with respect to Figure 1)

	β	SE	|z|	p
(Intercept)	0.84	0.19	4.51	> .001***
RC-Type	0.66	0.15	4.34	> .001***
Discourse Structure	0.75	0.18	4.21	> .001***
PN-Type	-0.32	0.15	2.06	.0393*
RC x DS	-0.56	0.28	1.98	.0473*
RC x PN	-0.16	0.28	0.55	.581
DS x PN	0.45	0.28	1.60	.1086
RC x DS x PN	0.02	0.68	0.03	.9770

TABLE 1: OUTPUT OF LOGISTIC MIXED-EFFECTS MODEL WITH DEVIATION CODING

References:

[1] Frazier, L., B. Dillon & C. Clifton Jr. (2017). *Language and Speech*
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[3] Jasinskaja, K. (2016). Manuscript. University of Cologne.
[4] Polanyi, L. (1988). *Journal of Pragmatics.*
[5] Syrett, K. & T. Koev (2015). *Journal of Semantics.*