Mapping Remnant and Correlate in Persian Stripping

Stripping ellipsis, processing, ambiguity

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Introduction. Experimental studies in sluicing and stripping constructions in English have shown that there is a strong preference for the remnant to contrast with the most local possible correlate, i.e. the object (Carlson 2014, Harris 2015). However, the non-local (subject) nouns become more salient correlates when they are marked for focus or are semantically parallel with the remnant (Carlson 2014, Harris & Carlson 2017). In this study, we examine how Persian speakers disambiguate stripping constructions (Toosarvandani 2015; Rasekhi 2018, 2019), as in (1), in which the remnant *moāven* (assistant) can contrast with either the subject *modir* ('manager') or the object *monshi* ('secretary'). Persian has two characteristics that are not found in English: scrambling and marking definite/specific object (with *-ra*). In this study, we investigate how the absence/presence of *-ra* marking affects interpretation of ambiguous sentences (morphological parallelism) and whether word order/scrambling has a role in disambiguation (structural parallelism). To test how morphological and structural parallelism affect pairing the remnant with its correlate in the antecedent clause, we conducted two experiments.

Experiment 1: We manipulated the degree of morphological and structural parallelism between the matrix and the ellipsis clause by manipulating *–ra* marker (with & without *-ra* marker) and word order (canonical: SOV, canonical marked: SO-raV, scrambled: O-raSV) in a 3x2 design. We hypothesized a preference for morphological parallelism, in which there is a strong preference for the correlate-remnant pair to share a similar morphological shape that would override any preference for the most local correlate. An Internet questionnaire was completed by 60 native speakers of Persian, who rated items like (1) on their naturalness, and then answered a comprehension question (choosing between a Subject interpretation, an Object interpretation, Both, or Neither). Results were modeled as (G)LMERs and the findings (Fig. 1) showed that Canonical SOV order was equally acceptable with both Ambiguous and *ra*-marked remnants. However, *ra*-marking improved acceptability ratings for Canonical Marked and Scrambled conditions (p's < 0.001). The analysis of answers for comprehension questions (removing Neither responses for convenience; < 4% data loss) (Fig. 2) showed that unmarked remnants were compatible with either Subject or Object contrasts, but that Object contrast was strongly preferred when the remnant was *–ra* marked. However, participants chose the Subject contrast more often when the remnant was ambiguous and the antecedent was *–ra* marked. The results suggest that despite a general bias towards Object contrasts with *ra*-marked remnants, comprehenders used Morphological Parallelism to resolve ambiguous remnants, pairing two nouns that were (not) *–ra* marked as the remnant and correlate.

Experiment 2: In the previous experiment, participants had to choose an interpretation for the remnant. In this study, participants were instructed to write the remnant to avoid (i) imposing potentially implausible relations into the sentence and (ii) the 'both' and 'neither' response options. In addition, the animacy of the nouns in the antecedent clause was controlled to allow only an animate (subject) remnant or an inanimate (object) remnant. An online sentence completion task was completed by 17 Persian speakers. The results were modeled as X^2 test. As shown in Fig. 3, there was an interaction between Object/Inanimate remnant and the three sentence types ($X^2(2) = 8.21$, $p < 0.001$). There was also an interaction between having *-ra* marked remnant and word order ($X^2(2) = 32.67$, $p < 0.001$). As shown in (3), the findings show that *-ra* marking was only provided when there was a *-ra* marked noun that could serve as the correlate in the antecedent clause (supports Morphological Parallelism). In Canonical and Canonical *-ra* marked conditions, there is a bias towards Object contrast while in Scrambled condition, there is a bias towards Subject contrast. This suggests that remnant tends to contrast with the most local correlate (supports Locality effect).

Conclusion. The findings show that both morphological parallelism and locality effect play a role in pairing the remnant and correlate. The remnant takes *-ra* marking (object contrast) when its antecedent is *-ra* marked (morphological parallelism). However, in the absence of *-ra* marking, locality effect prevails.

(1) modir monshi estekhdām kard vali moāven na
manager secretary hire did but assistant not
a. 'The manager hired a secretary but the manager did not hire an assistant.' (Object reading)
b. 'The manager hired a secretary but the assistant did not hire a secretary.' (Subject reading)

(2) Possible variations of (1) with regard to *–ra* marking and scrambling

Antecedent clause							
a. Canonical: SOV	modir	monshi	estekhdām	kard	vali	_____	na
	manager	*secretary*	*hire*	*did*	*but*		*not*
b. Canonical *–ra* marked: SO-raV	modir	monshi-**ra**	estekhdām	kard	vali	_____	na
	manager	*secretary*	*hire*	*did*	*but*		*not*
c. Scrambled: O-raSV	monshi-**ra**	modir	estekhdām	kard	vali	_____	na
	manager	*secretary*	*hire*	*did*	*but*		*not*

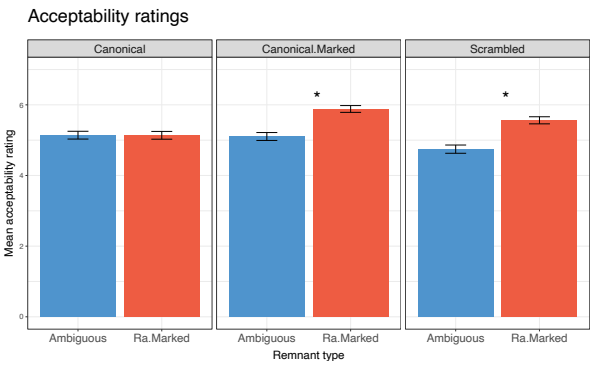

Figure 1: Acceptability ratings

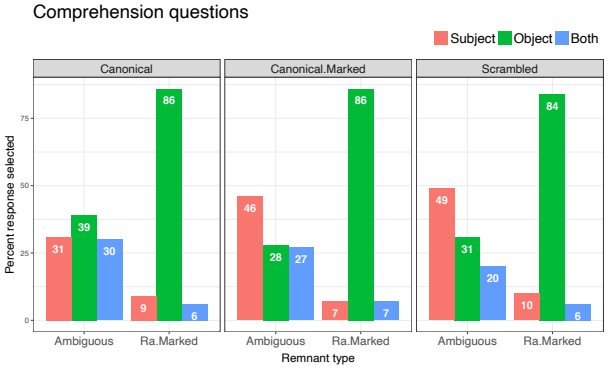

Figure 2: Comprehension questions

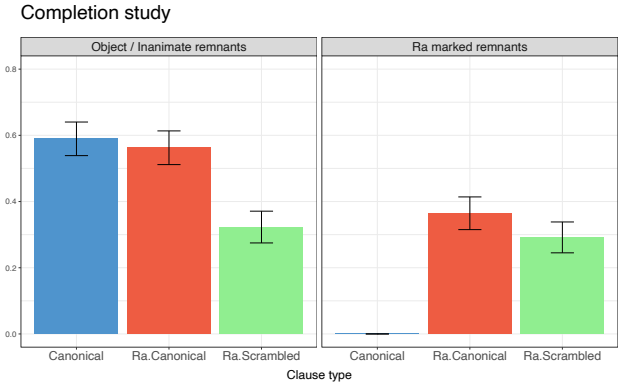

Figure 3: Completion study

(3) Summary of the results (experiment 2)

	Canonical		**Ra.Canonical**		**Ra.Scrambled**	
	Object	Subject	Object	Subject	Object	Subject
Ra-marked	0%	0%	36%	0%	29%	0%
Not *ra*-marked	59%	41%	20%	44%	3%	68%

Selected References: Carlson (2014). Predicting contrast in sentences with and without focus marking. *Lingua*, 150, 78-91. **Harris (2015).** Structure modulates similarity-based interference in sluicing: An eye-tracking study. *Frontiers in Psychology*, 6. Encoding and navigating linguistic representations in memory. **Harris & Carlson (2017).** Information structure preferences in focus-sensitive ellipsis: How default persist. *Language and Speech,* 61,480-512. **Rasekhi (2018).** *Ellipsis and information structure: Evidence from Persian*. Ph.D. Dissertation, Stony Brook University. **Rasekhi (2019).** Stripping structures with negation in Persian. *Advances in Iranian Linguistics*, John Benjamins Publishing Company.