Sluicing and Stranding

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This paper discusses the cross-linguistic inaccuracy of Merchant's (2001,2004,2008,to appear) claim that the possibility of P-stranding under *wh*-extraction predicts the possibility of P-omission in sluicing remnants. Merchant's proposal requires a transformational derivation where *wh*-movement precedes deletion, hence his claim, if correct, would provide an argument for a deletion-based analysis of sentence fragments, rather than a 'direct generation' account like those advocated in constraint-based theories (Ginzburg & Sag 2000; Culicover & Jackendoff 2005).

Merchant's strong claim predicts the behavior of all prepositions in all languages. Although Merchant (2001) admits the possibility of variation (p. 100) and briefly discusses a few other prepositions (p. 103), the evidence he offers for his claim involves only what he calls the 'clearest cases'. That is, his sample of eighteen non-preposition-stranding languages contains the analog of the preposition *with* (with the exception of French). Moreover, all his examples involve a simple (bare) *wh*-phrase (e.g. *who*, whose correlate in the licensing clause is *someone*). In this paper, we offer empirical arguments against Merchant's claims. These come from various language-internal, typological, historical, and psycholinguistic data.

English-Internal Evidence

English has a number of prepositions that resist P-stranding (see Culicover 1999 and Coppock 2008), e.g. *since*, *notwithstanding*, *versus*, *astride*, *except (for)*, *barring*, and a number of others whose status is more controversial. Yet all these prepositions may be present within the correlate clause, but absent from the remnant clause:

(1) They will all leave town *barring certain circumstances/except for one guest/astride a certain horse*, but we don't know **which**.

Hence these examples (see Fortin, 2007) are problematic for any deletion-based theory like Merchant's, which requires P-stranding prior to deletion.

Typological Evidence

Examples like (2) argue that languages without P-stranding, such as German, exhibit no general ban on P-omission in sluicing remnants, contrary to Merchant's claim:

(2) Grethe hat an eine Reise gedacht, aber sie weiss nicht (an) welche (Reise)
Grethe has about some trip thought, but she knows not (about) which (trip)

Others have observed similar problems with Merchant's generalization, but have attempted to reconcile their data with Merchant's analysis by suggesting rules of P-deletion (e.g. Stjepanovic 2008). But since such rules are specific to sluicing and without independent justification, they provide no satisfactory reconciliation of such discrepancies, which must be assessed as evidence against the ellipsist position. Much the same is true of the discussions in the literature regarding data from Brasilian Portuguese (Lasnik 2007), Spanish (Almeida 2005; Vicente 2006, 2008; Almeida and Yoshida 2007; Rodrigues et al. 2009), Bahasa Indonesia (Sato 2007; Fortin 2007), and Polish (Szczegielniak 2008). Some of these proposals (Szczegielniak included) offer a rule of cleft-based pseudo-sluicing (*...but I don't know who ~~it was with whom I talked~~*) to produce sluice-like remnants that violate Merchant's claimed generalizations. Much the same is true of the discussions in the literature regarding data from Brasilian Portuguese (Lasnik 2007), Spanish (Almeida 2005; Vicente 2006, 2008; Almeida and Yoshida 2007), Bahasa Indonesian (Sato 2007; Fortin 2007), and Polish (Szczegielniak 2008). Some of these proposals (Szczegielniak included) offer a rule of cleft-based pseudo-sluicing We examine and refute Szczegielniak's proposal for Polish, showing that there are sluicing remnants that cannot undergo clefting and hence that pseudo-sluicing cannot adequately explain the relevant counterexamples. We discuss a similar set of issues regarding the Spanish data discussed by Rodrigues et al.

In Polish and several other languages that we survey, we find another critical effect (commented on by some of the researchers just mentioned as 'D-Linking' effects): a more informative *wh*-expression enables P-omission in sluicing, as shown in (3) vs. (4):

(3) Wyszła z kims, ale nie wiem *(z) kim.
(She) left with someone, but not (I) know *(with) whom.

(4) Wyszła z jakąs kobietą, ale nie wiem (z) jaką (kobietą).
(She) left with some woman, but not (I) know (with) what (woman).

We discuss related data from French and Russian. The effect of increased complexity (Hofmeister 2007, Hofmeister and Sag 2010) is evident in much of the cross-linguistic data. Assuming that the complexity of the correlate in the sluicing antecedent clause (which is highly correlated with the complexity of the remnant) plays a role similar to the complexity of the filler in filler-gap constructions, then, following Hofmeister and Sag's proposal, we may treat both examples with simple correlates and those with complex correlates as grammatical (i.e. allowed by the grammar), explaining the variable **acceptabiliy** of such examples in terms of independently motivated aspects of memory and retrieval, rather than grammar. The data sets to be accounted for by grammar therefore do not correlate stranding in *wh*-extraction with P-ommission in sluicing remnants.

Historical Evidence

We also examine the history of English sluicing. P-stranding with wh-phrases begins in the first half of the Middle English period (1150-1500). However, P-omission in sluicing remnants is unattested until Early Modern English (1500-1800), indicating roughly a 300-year lag between the advent of preposition stranding and the first records of P-omission in sluicing remnants. This is unlikely to merely be an accidental gap in the attested data, given the variety of the available texts. Our data come from the Corpus of Middle English Prose and Verse and the Early Modern English part of the Helsinki Corpus.

Psycholinguistic Evidence

Our hypothesis about P-omission in sluicing is that it has nothing to do with the possibility of P-stranding in *wh*-extraction (essentially a binary option). Rather, the foregoing considerations suggest that processing factors interact to determine the graded acceptability of sluicing examples with P-omission. To test this idea, we investigated the controlled acceptability of sluicing examples by native speakers of Polish. Datasets like those in (5) probed the interaction of complexity due to preposition length (1 syllable or 2) and P-omission in the sluicing remnant:

(5) a. Poszła do kogoś, ale nie pamiętam kogo.
(she) went to somebody.GEN but not (I) remember who.GEN
'She went to somebody, but I dont remember who.'

b. Poszła do kogoś ale nie pamiętam do kogo.
(she) went to somebody.GEN but not (I) remember to who.GEN
'She went to somebody, but I dont remember to who.'

c. Poszła zamiast kogoś, ale nie pamiętam kogo.
(she) went instead of somebody.GEN but not (I) remember who.GEN
'She went instead of somebody, but I dont remember who.'

d. Poszła zamiast kogoś, ale nie pamiętam zamiast kogo
(she) went instead-of somebody.GEN but not (I) remember instead-of who.GEN
'She went instead of somebody, but I dont remember instead of who.'

Likewise, the dataset in (6) probed complexity due to the form of the correlate in the antecedent clause (matching that of the remnant) and P-omission in the remnant clause:

(6) a. Pracowaliśmy nad jakimś projektem, ale nie pamiętam jakim (projektem)
(we) worked on a project.INST but not (I) remember what (project).INST
'We worked on a project, but I dont remember what (project).'

b. Pracowaliśmy nad jakimś projektem, ale nie pamiętam nad jakim (projektem)
(we) worked on a project.INST but not (I) remember on what (project).INST
'We worked on a project, but I dont remember on what (project).'

c. Pracowaliśmy nad czymś, ale nie pamiętam czym
(we) worked on something.INST but not (I) remember what.INST
'We worked on something, but I dont remember what.'

d. Pracowaliśmy nad czymś, ale nie pamiętam nad czym
(we) worked on something.INST but not (I) remember on what.INST
'We worked on something, but I dont remember on what.'

The two experiments produced similar results. In each dataset, examples with P-omission were judged less acceptable than those where the preposition was retained. And in both datasets, this reduction in acceptability was significantly greater when the antecedent clause was less complex (either via decreased preposition complexity or decreased complexity of the correlate). The acceptability space is thus graded and structured exactly as predicted by our hypothesis that processing factors interact to determine a systematic pattern of acceptability, with more complex contexts facilitating the processing of remnants that are harder to interpret, namely those without overt prepositions.

Conclusion

The analysis of sluicing given in Ginzburg and Sag 2000, based on the following construction (recasting into Sign-Based Construction Grammar and simplifying somewhat) provides a syntatic relation between the remnant and the correlate (the salient utterance in the prior context), and hence provides an account of case dependencies thought to motivate deletion:

(7) **Direct Sluicing Construction:**

$$\textit{dir-sluice-cl} \Rightarrow \left[\begin{array}{ll} \text{MTR} & \left[\begin{array}{ll} \text{SYN} & \text{S}[\textit{fin}] \\ \text{SEM} & \lambda\{\pi_i\}[\Phi] \\ \text{STORE} & \{\,\} \\ \text{CNTXT} & \left[\begin{array}{ll} \text{MAX-QUD} & \lambda\sigma[\Phi] \\ \text{SAL-UTT} & [\text{SYN}\ [\text{CAT}\ X]] \end{array}\right] \end{array}\right] \\ \text{DTRS} & \left\langle \left[\begin{array}{ll} \text{SYN} & [\text{CAT}\ X] \\ \text{STORE} & \{\pi_i\} \end{array}\right] \right\rangle \end{array}\right]$$

But in the GS00 account, the omission of the P in the remnant has nothing to do with the possibility of P-stranding in *wh*-extraction. It thus predicts the available data considerably better than the deletion-based account advocated by Merchant and many others.

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