# Experimental evidence from German for a *short source* approach to apparent clausemate condition obviations in multiple sluicing

**Background:** Multiple sluicing (MS) is a clausal ellipsis configuration involving two or more adjacent wh-interrogative phrase remnants (e.g., Takahashi 1994, Abels & Dayal 2017, 2021). MS obeys a *clausemate condition* (CC), which demands that the wh-remnants correlates in the antecedent clause must occupy the same finite clausal domain (Takahashi 1994, Merchant 2001, Lasnik 2014, Abels & Dayal 2017; compare (1) and (2), in which correlates are boldfaced). Nevertheless, acceptable apparent violations of the CC are attested (see, e.g., Nishigauchi 1998, Lasnik 2014, Grano & Lasnik 2018, Barros & Frank 2021). One such exceptional case is a biclausal configuration with a bound pronominal subject in the embedded clause, see (3). This pronoun is clausemate with the second correlate in the embedded clause in the antecedent.

(1)  [$_{CP}$ Mary said [$_{CP}$ that **every student** enrolled **in some seminar**]], but God knows which student in which seminar.

(2)  * [$_{CP}$ **Every student** said [$_{CP}$ that Mary enrolled **in some seminar**]], but God knows which student in which seminar.

(3)  [$_{CP}$ **Every queen$_i$** mentioned [$_{CP}$ that **she$_i$** had wished **for some painting**]], but I just don't know which queen for which painting.

A promising recent account of the CC comes from Barros & Frank 2021 (B&F), who offer a semantic account based on discourse-centering. They argue that the CC arises from there being a "shifty subject" in the embedded clause in the antecedent that displaces the attention from the most prominent discourse referent in the matrix clause. When there is no shifty subject, as in (3), the CC is thus obviated. However, an alternative possibility is that (3) does not involve a CC violation whatsoever, as the wh-remnants refer to *she* and *for some painting*, which occupy the same clause. From the perspective of the 'silent structure' approach to sluicing (Ross 1969, Merchant 2001), this amounts to saying that (3) involves a *short source*, i.e., an elided monoclause that is thus syntactically non-isomorphic to its biclausal antecedent, rather than a *full source* (compare (4) and (5), where grey = ellipsis) (Abels & Dayal 2021).

(4)  …which queen had wished for which painting                                    **[short source]**

(5)  …which queen mentioned that she had wished for which painting          **[full source]**

**New contribution:** The current study aims to provide a more robust empirical foundation for recent claims made about the CC, both from B&F, Abels & Dayal, and others (e.g., Grano & Lasnik 2018). In particular, it reports a formal experimental acceptability study on configurations such as (3) in German. German was chosen for two reasons: i) previous literature (Merchant 2006, Winkler 2013) and the first author's previous work has shown that MS in basic configurations is judged as fully acceptable in German, unlike in English, where degradation in acceptability is reported (Merchant 2001, Lasnik 2014); and ii) one can exploit the overt morphological case-marking in this language to unambiguously signal to the hearer which wh-remnant corresponds to which phrase in the antecedent (for instance, a dative-marked wh-remnant clearly signals a correspondence to a dative-marked phrase in the antecedent).

Note that the CC is superficially reminiscent of scope-island effects: i.e., the fact that Quantifier Raising is finite clause-bound (Farkas & Giannakidou 1996, Grano & Lasnik 2018). In an effort to determine if this similarity is more than simply a coincidence, the experiment also tests to see if manipulating the quantification status of the first correlate affects whether the CC holds or not. Specifically, target sentences used either a universally quantified NP as the first correlate in the antecedent clause (thus generating a pair-list reading, $\forall{>}\exists$) or an existentially quantified one (thus generating a single-pair reading, $\exists{>}\exists$).

To test the possibility that short sources play a role in obviating the CC, and to see if scope plays a significant role, the experiment employed a 2×2 design, with the independent variables being SOURCE: *short source* (wh-remnants case-matching the nominals in the embedded clause) and *full source* (wh-remnants case-matching one indefinite in the matrix and one indefinite in the embedded clauses), and INTERPRETATION: the antecedent clause suggests either a *single-pair* or *pair-list* interpretation. 32 German native speakers judged 24 critical items and 72 fillers on a 7-point Likert scale. A pair of example target sentences is presented below.

(6)  Klara hat {jedem/einem}     Autor gesagt, dass er      über einen Promi
     Klara has every.DAT/some.DAT author said    that he.NOM about a.ACC celebrity
     schreiben soll,    aber ich weiß nicht genau, …
     write      should but I   know not   exactly

   a. welcher     Autor über welchen    Promi.                    **[short source]**
      which.NOM author about which.ACC celebrity

   b. welchem    Autor über welchen    Promi.                     **[full source]**
      which.DAT author about which.ACC celebrity

**Results:** An ordered logistic regression model yielded a highly significant effect ($z$=-3.86, $p$<.001) for SOURCE, where higher ratings were obtained for *wh*-remnants case-matched with the antecedent elements in the embedded clause. There was no significant effect for INTERPRETATION ($z$=-1.52, $p$=.128); thus, antecedents allowing either a pair-list (PL) or a single-pair (SP) interpretation yielded the same results. (Since this latter variable is not the primary focus of the present study, we refrain from discussing it further here.)

**Discussion:** These results clearly demonstrate that, even when the subject of the embedded clause is a bound pronoun, the CC cannot be (seemingly) obviated when no grammatical short source is available. This strongly favors the idea that the CC is **not** obviated in examples such as (2), contrary to B&F's claims. It must be mentioned, however, that B&F offer a number of cases from English for which no short source is available, and yet the CC appears to be obviated. Assuming B&F are correct that no short source is available (which is debatable), we tentatively appeal to Molimpakis's (2019) idea that ellipsis is a noisy channel to overcome this impasse. Her claim is that, in certain situations, speakers will judge an ellipsis configuration as acceptable despite its non-elliptical counterpart being ungrammatical. This happens because the place where the grammatical violation occurs, namely the ellipsis site, is silent, and therefore speakers overlook the fact that a grammatical constraint has been violated. This situation emerges much more readily in English biclausal MS configurations than in their German counterparts because there are fewer grammatical markers indicating what the ellipsis site must look like in English due to the lack of overt case marking.

**Conclusion:** Barros & Frank (2021) advance a discourse-based solution for the clausemate condition in multiple sluicing. Looking beyond English and using experimental methods, this appears not to be the case. Instead, we propose that true obviations to the CC arise as the by-product of a processing phenomenon. This suggests that the CC has a syntacticosemantic explanation.

**Selected references:** Abels, K. & V. Dayal. 2021. On the syntax of multiple sluicing and what it tells us about wh-scope taking. To appear in *Linguistic Inquiry* (direct.mit.edu/ling/online-early) ◊ Barros, M. & R. Frank. 2021. Attention and locality: On clause-boundedness and its exceptions in multiple sluicing. To appear in *Linguistic Inquiry* (lingbuzz/006303) ◊ Grano, T. & H. Lasnik. 2018. How to neutralize a finite clause boundary: Phase theory and the grammar of bound pronouns. *Linguistic Inquiry* 49, 465499. ◊ Molimpakis, E. 2019. Accepting preposition-stranding under sluicing cross-linguistically; a noisy-channel approach. PhD thesis, University College London.