Scope restrictions in multiple sluicing and ellipsis licensing

Summary: We introduce a surprising asymmetry in scope relations in English multiple sluicing, where a pair-list interpretation of a multiple sluice becomes unavailable in certain syntactic configurations. We entertain two prominent theories of ellipsis licensing—one based on syntactic identity and one based on semantic identity—and conclude that the data strongly favors a semantic isomorphism account. We spell out how such an account would capture the data presented here.

Background: Sluicing is the ellipsis of TP in a constituent question, leaving just the *wh*-phrase overt, as in (1). As is standard, we follow Merchant 2001, in assuming sluicing proceeds by *wh*-movement to the left periphery, followed by TP deletion (represented via strike-through).

(1) Jack likes someone, I don't know who$_i$ ~~[$_{TP}$ Jack likes t_i]~~.

Multiple sluicing is illustrated in (2), where more than one *wh*-phrase survives ellipsis of TP (Takahashi 1994). Given the assumption that sluicing involves *wh*-movement and TP-deletion, this suggests that (2) involves overt fronting of two *wh*-phrases. This exceptional movement is possible despite the fact that English lacks multiple fronting in *wh*-questions (see Lasnik 2014).

(2) Some boy likes some girl, but I don't know which boy which girl ~~[$_{TP}$ t_i likes t_j]~~.

Puzzle: This talk focuses on is the observation in (3), where multiple sluicing is unacceptable in (3a), but acceptable in (3b).

(3) a. * Some boy likes every girl, but I don't know which boy which girl.
b. Every boy likes some girl, but I don't know which boy which girl.

Descriptively, we find that inverse scope antecedents are unacceptable in multiple sluicing. Example (3b) is acceptable under a surface reading of the antecedent, where, for each boy, there is some girl that he likes, and the sluice is interpreted as a "pair-list" question, seeking answers naming boy-girl pairs in a *like* relation. An inverse scope interpretation of the antecedent in (3a) is similar to the interpretation of the surface scope in (3b), but multiple sluicing is nonetheless unavailable. A surface scope reading of (3a) is also unavailable because it is incompatible with the presuppositions of the sluiced question, rendering (3a) ungrammatical. Importantly, in the absence of ellipsis, both examples in (3) are acceptable. Hence, the problem with examples like (3a) is an ellipsis-specific phenomenon. An important puzzle remains: how can a multiple *wh*-question be identical to a quantified (*every... some*) statement, for the purposes of ellipsis licensing?

Ellipsis licensing in the literature: There is no consensus as to the nature of the parallelism required for the purposes of ellipsis licensing (see Chung 2013, Barros 2014, Liptak 2015, for recent surveys on this debate). The traditional assumption—that there must be morphosyntactic isomorphism between an elided structure and some linguistic antecedent (Ross 1969, Hankamer and Sag 1976, Fiengo and May 1994, Chung et al. 1995, Fox and Lasnik 2003, among many others)—has been famously challenged by Merchant (2001), who argued for a purely semantic approach to parallelism. More recently, however, many arguments have cropped up in favor of a syntactic component in a hybrid condition, involving both (limited) syntactic isomorphism alongside semantic isomorphism (recalling the move in Rooth 1995). Here, we will show that the contrast in (3a–b) is amenable to a semantic account. We furthermore spell out the theoretical commitments required of the syntactic approach in order to account for the data, and argue that they are problematic, although not contradictory. We conclude that this is an argument in favor of the semantic approach.

A semantic account: There are several implementations of the semantic approach to ellipsis licensing in the literature. Here, we follow Ginzburg and Sag 2000, AnderBois 2011, Weir 2014, Barros 2014, where sluices must be congruent to the Question under Discussion made salient by the antecedent. Following Roberts 1996, we take congruence to be equivalence, so sluicing is licensed if $[\![\text{QuD}]\!] = [\![\text{sluice CP}]\!]$. Now we can see that the semantics of the sluiced pair-list question (4a) is equivalent to the the QuD raised by the antecedent in (3b), given in (4c), but it is not equivalent to the QuD raised by the antecedent of (3a), given in (4b). This is illustrated using a simple model with four individuals, 2 boys (b_1 and b_2) and 2 girls (g_1 and g_2).

(4) a. 'Which boy ~~likes~~ which girl?' $\Leftrightarrow$ which girl does b_1 like? which girl does b_2 like?
$[\![\text{Which boy ~~likes~~ which girl?}]\!] = \{ \{b_1 \text{ likes } g_1, b_1 \text{ likes } g_2\}, \{b_2 \text{ likes } g_1, b_2 \text{ likes } g_2\} \}$

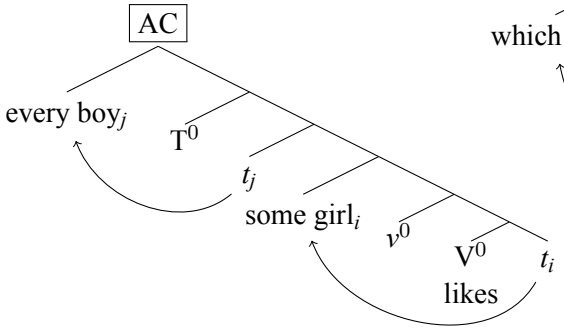
b. 'Some boy likes every girl' $\Leftrightarrow$ which boy likes g_1? which boy likes g_2?
$[\![\text{QuD}]\!] = \{ \{b_1 \text{ likes } g_1, b_2 \text{ likes } g_1\}, \{b_1 \text{ likes } g_2, b_2 \text{ likes } g_2\} \}$

c. 'Every boy likes some girl' $\Leftrightarrow$ which girl does b_1 like? which girl does b_2 like?
$[\![\text{QuD}]\!] = \{ \{b_1 \text{ likes } g_1, b_1 \text{ likes } g_2\}, \{b_2 \text{ likes } g_1, b_2 \text{ likes } g_2\} \}$

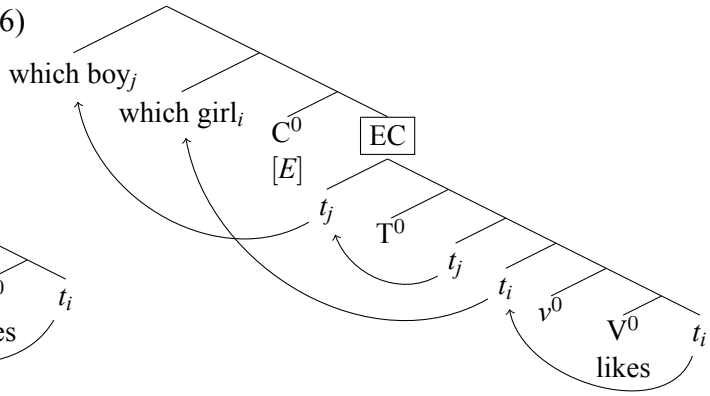
As is now clear, the problem with (3a) is that the *wh*-question in (4a) and the QuD in (4b) have different sorting keys: the antecedent is sorted by *boys*, but the sluice is sorted by *girls*. With (3b), this problem does not arise: both antecedent (4a) and sluice (4c) are sorted by *girls*. Hence, this approach can account for the asymmetry we documented in (3).

Commitments of an LF-isomorphism account: Under a syntactic approach to ellipsis licensing, an obvious question arises: how can a quantified statement be parallel to a multiple *wh*-question? In (5–6), we sketch a possible LF for the antecedent and sluice in (3b). Clearly, they are not identical, as the antecedent contains two quantified statements and the elided clause has no such elements.

(5)



(6)



To fix this problem, one might (a) require further (exceptional) QR of *some boy* and *every girl* out of AC; (b) adopt the copy theory of movement (Fox, 2002) for both QR and *wh*-movement, and leave behind full copies of the moved phrases in (5–6); (c) the determiner-replacement step will ensure that *which, every* and *some* are replaced with *the*, and only the nominal restrictions survive. Now, isomorphism obtains. However, we incorrectly predict that a sentence with any two quantifiers will license multiple sluicing, as long as they have the same nominal domains—including the bad (3a). This sentence will have to ruled out on independent grounds, which we leave open at this point.

Conclusion: A semantic-based account of the ellipsis identity condition can naturally account for the data we document here, while the LF-isomorphism account struggles to do the same. This result bears on theories of ellipsis licensing and identity more generally, contributing to an important debate about the nature of covert operations, their distribution, and their limitations.