On the behavior of PPs under sluicing in Germanic

This paper investigates two related puzzles of sluicing that occur only in the Germanic languages, concerning the behavior of wh-phrases in PPs. The first concerns the distribution of P-stranding under sluicing, and provides strong evidence against the most recent published analysis of the phenomenon, and in favor of a deletion analysis for ellipsis. The second puzzle arises from a set of little-known facts concerns wh-preposition inversion in a subset of the Germanic languages, which suggests that certain types of head-movement in PPs may be conditioned by the presence of ellipsis outside the PP itself.

The most successful recent analysis of sluicing, that of Chung et al. 1995 (CLM), posits that the wh-XP remnant in a sluice like (1) is base-generated in SpecCP, and comes to bind a variable only at LF, after LF copying of a suitable antecedent for the IP-ellipsis (ellipsis indicated by --).

(1)   Ann saw someone, but I don't know [$_{CP}$ who [$_{IP}$ --]]

In this paper, I present evidence from eight Germanic languages (English, Icelandic, Norwegian, Swedish, Danish, German, Dutch, and Yiddish) that indicates that CLM's approach is incorrect, and that the wh-XP in sluicing comes to occupy its surface position as the result of usual wh-movement from an IP-internal position (followed by deletion of the IP at PF). This evidence comes in particular from the distribution of preposition-stranding facts: in English and the Scandinavian languages, which allow P-stranding, sluices like (2) are possible, while in German, Dutch, and Yiddish (the latter data omitted here), such movement is illicit, and corresponding sluices (in (3)) are deviant:

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(2) a.Eng  Peter was talking with someone, but I don't know (with) who.
    b.Nor Peter har    talat   med  naagon;              jag vet  inte (med) vem.
    c.Swe Per   har   snakket med  noen,           men jeg vet  ikke (med) hvem.
    d.Dan Peter har   snakket med  en eller anden, men jeg ved  ikke (med) hvem.
    e.Ice PEtur hefur talaD   viD  einhvern        en  Eg  veit ekki (viD) hvern.
           Peter has    talked  with someone         but I   know not   with who
(3) a.Ger Anna hat   mit   jemandem gesprochen, aber ich weiss nicht, *(mit) wem.
    b.Du  Anna heeft met  iemand   gesproken,  maar ik  weet  niet   ??(met) wie.
           Anna has   with someone  spoken      but  I   know  not       with who
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These constraints follow naturally if the mechanisms involved in the distribution of P-stranding are morphosyntactic, and apply to condition the output of wh-movement out of PPs, but remain mysterious under the in-situ LF-binding account of CLM,which relies on purely semantic binding of Heimian indefinites. Instead, I propose that these facts support the conclusion that ellipsis is deletion in general, and in particular that sluicing is the result of wh-movement followed by IP deletion (cf. Ross 1969), and I show that the facts that motivated CLM's in situ account can and should be accounted for in alternative ways.

The second puzzle arises from the surprising facts illustrated in (4):

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(4) a. Eng  Peter went to the movies, but I don't know who with.
    b. Nor  Per har   gaatt paa kino,    men jeg vet  ikke hvem med.
    c. Dan  Per er    gaaet i  biografen, men jeg ved  ikke hvem med.
            Per has/is gone  to  cinema    but I   know not  who with
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Ross 1969 proposed to deal with the English facts (the extension to the other P-stranding languages has not previously been noted) by allowing his rule of S-deletion to skip over a P. While this successfully predicts that the (optional) wh-preposition inversion (WPI) seen in (4) will be limited to those languages that allow P-stranding in general, it is far too general, falsely predicting that any wh-phrase that can strand a preposition will occur in such

WPI constructions:

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(5) a.  He was talking to one of those guys, but I don't know which (*to).
    b.  A: He was talking to a cop and some witnesses.  B: Can you point out which cop
            (*to)?
    c.  He was talking to somebody's mom, but I don't know whose (*to).
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Clearly, WPI is not conditioned only by prosodic factors, since *what* can appear (*He was talking, but I don't know what about*) but not *which*. Similarly, WPI does not assimilate well to R-pronoun inversion in continental WGmc (cf. Ger *womit*, Du *waarmee* lit. 'where.with', but Ger *Er hat es mit etwas repariert, aber ich weiss nicht wo*(mit)*; Du *Hij heeft het ergens mee gerepareerd, maar ik weet niet, waar*(mee)* 'He fixed it with something, but I don't know what with'), despite suggestions to this effect by van Riemsdijk 1978 and CLM. Instead, the relevant generalization, for English at least, is that WPI is limited to the 'minimal' wh-operators *who*, *what*, *where*, and *when* (also *how long*, for some speakers). The most adequate account of WPI, I will argue, is to take the wh-words that particpate in WPI to be heads that have raised to P ('minimal maximal' Xs, like clitics, in Chomsky's 1995 terms). Head-to-head movement picks out exactly this class (ruling out XP-movement as would be necessary in (5b), and ruling out *which* as in (5a), assuming excorporation is banned).

Finally, I address the remaining question, which has never been discussed, namely: why is it that WPI is possible only under sluicing (cf. **I don't know who with Peter went to the movies*)? Clearly the possibility of WPI must be linked to the absence of prosodic material in IP (possible alternatives to this position can be shown to suffer from more serious defects). Given that reference to phonological properties of the surrounding material is necessary, it seems that the most promising answer to this question is that head movement of the kind proposed plausibly takes place at PF, where the prosodic conditioning can apply. (The head movement can be viewed as triggered by the preference for heavy stress on the most embedded element, P if *who* moves in (4a), in accordance with standard phrasing algorithms for the interaction of focus and nuclear stress (see Schwarzschild 1999, Buering to appear for recent approaches and references).)

The investigation of an intricate set of mostly novel facts from PPs in Germanic under sluicing, then, provides interesting new evidence for two conclusions that have been the subject of considerable recent theoretical scrutiny: that ellipsis is the result of deletion at PF, and that at least certain types of head movement should be located at PF.

Buering, Daniel. To appear. Let's phrase it! Focus, word order, and prosodic phrasing in German double object constructions. In G. Mueller and W. Sternefeld (eds.), *Competition in syntax*. Mouton de Gruyter, Berlin.

Chung, Sandra, William Ladusaw, and James McCloskey. 1995. Sluicing and Logical Form. *Natural Language Semantics* **3**: 239-282.

van Riemsdijk, Henk. 1978. *A case study in syntactic markedness: The binding nature of prepositional phrases*. Foris: Dordrecht.

Ross, John R. 1969. Guess who? In R. Binnick et al. (eds.), *Proceedings of CLS* **5**: 252-286.

Schwarzschild, Roger. 1999. Givenness, AvoidF and other constraints on the placement of accent. *Natural Language Semantics* **7**: 141-177/