

## Swiping without Sluicing

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In sluiced clauses, English allows a *wh*-expression to be inverted around its preposition in a process called *swiping*, as in (1a) (Merchant 2002). I show, contrary to previous work, that swiping is not limited to ellipsis contexts: it is also permitted when the inverted (swiped) *wh*-PP is coordinated with another *wh*-phrase, as shown for both matrix and embedded contexts in (1b-c), both from the internet.

- (1) a. *I know he was dancing, but I can't remember **who with**.*  
       b. ***Where and who by** was the US destroyer Maddox attacked?*  
       c. *To be honest, I don't know **where and who with** he recorded Fewer Moving Parts...*

I argue that English syntax is able to generate swiped structures in *all* questions involving *wh*-PPs, including 'simple' (non-sluiced, non-coordinated) *wh*-questions such as (2). But I further argue that swiping in simple *wh*-questions is ruled out at the prosody-syntax interface.

- (2) \****Who with** did you work?*

**Prosodically-constrained syntax.** A swiped derivation is always in competition with its pied-piped and P(reposition)-stranded equivalent, though here I focus on the competition between the swiped and pied-piped derivations only. The two options are evaluated at PF according to prosodic criteria (c.f. Büring 2013). The criterion considered here is essentially Richards's (2010) *Condition on wh-prosody*, couched as a constraint against maximal prosodic phrases ( $\varphi_{\max}$ s) intervening between the *wh*-word and its associated complementizer (C). The effect of swiping is to insert a PP, which occupies its own  $\varphi$ , between the *wh*-word and C. In simple *wh*-questions, therefore, the swiped derivation will have a  $\varphi_{\max}$  intervening between the *wh*-word and C while the pied-piped derivation will not. As a result, the swiped derivation loses out and is unavailable. Under sluicing, the complementizer is elided (Radford & Iwasaki 2015) and the constraint is rendered inactive. Therefore both derivations remain available. Finally, in coordinated *wh*-questions (CWQs), a special  $\varphi$  is inserted that groups the material in each conjunct together. The addition of this  $\varphi$  renders the swiped derivation just as congruent with the anti-intervention constraint as the pied-piped derivation, so both are available.

**The syntax of swiping.** I broadly follow van Craenenbroeck's (2010) analysis of swiping, shown in (3). The *wh*-PP first moves to a lower projection of the CP layer, then the *wh*-word moves out to a higher projection. The C relevant for the anti-intervention constraint would be C<sub>2</sub>. Crucially, the preposition and the *wh*-word do not form a constituent.

- (3) [CP<sub>1</sub> [DP *who*]<sub>i</sub> C<sub>1</sub><sup>0</sup> [CP<sub>2</sub> [PP *with* t<sub>i</sub>]<sub>k</sub> *did*+C<sub>2</sub><sup>0</sup> [TP *you work* t<sub>k</sub> ]]]?

**$\Phi$ s and swiping.** I assume that syntactic constituents must match prosodic constituents ( $\varphi$ s) (Selkirk 2006). This means that in (3), the *wh*-word and the preposition each form separate  $\varphi$ s ((4a)), while in pied-piping derivations, they form a single  $\varphi$  ((4b)). Therefore the pied-piped structure in (4b) beats its swiped equivalent in (4a), because in (4a) the *wh*-word and C are intervened by a maximal  $\varphi$ .

- (4) a. \* [DP *Who*]<sub>i</sub> [PP *with* t<sub>i</sub> ] *did John work?*    b. [PP *With* [DP *who(m)* ] ] *did John work?*  
       [ $\varphi_{\max}$  *wh* ] [ $\varphi_{\max}$                 ] C                                [ $\varphi_{\max}$                 *wh*                ] C

In sluices, C is elided, and so there is no way of evaluating the derivations according to the

anti-intervention constraint. Both swiping and pied-piping are therefore available. Finally, CWQs exhibit a special prosodic signature that is associated with *non-constituent coordination* (NCC). Essentially, the non-constituent string containing the *wh*-word and the preposition ('*who with*') is grouped together in a single  $\varphi$ . The  $\varphi$  coterminous with the PP is therefore *no longer a maximal  $\varphi$* . Since *who* and C in (5a) are no longer intervened by a maximal  $\varphi$ , the sentence no longer runs afoul of the anti-intervention constraint, and so both the swiped (5a) and pied-piped (5b) structures are equally available.

- (5) a. *I don't know where and*  $\left[ \begin{array}{c} \text{[DP } who \text{]}_i \text{ [PP with } t_i \text{]} \\ \text{[}_{\varphi\text{-max}} \text{ [}_{\varphi} \text{ wh } \text{]} \text{ [}_{\varphi} \text{ ]} \end{array} \right] \text{ } \emptyset_C \text{ he recorded it.}$   
 b. *I don't know where and*  $\left[ \begin{array}{c} \text{[PP with [DP whom]} \text{]} \\ \text{[}_{\varphi\text{-max}} \text{ wh } \text{]} \end{array} \right] \text{ } \emptyset_C \text{ he recorded it.}$

**The prosody of non-constituent coordination.** Where does the additional  $\varphi$  in CWQs come from? Firstly, we assume that English CWQs necessarily involve NCC (Gracanin-Yuksek 2007). Secondly, we observe that NCC structures have a particular prosodic signature: all the material in each coordinated non-constituent string is grouped into a single  $\varphi$ . Given these premises, it follows that *who with* in (5a) is inevitably grouped into a single  $\varphi$ , thus obviating the 'intervention' of the no-longer-maximal  $\varphi$  coterminous with the PP *with*. The rest of the presentation justifies the existence of a prosodic signature associated with NCC in CWQs. One piece of evidence is that the same prosodic pattern arises in Right Node Raising (RNR), which also involves NCC. In (6), both *John loved* and *Mary hated* are non-constituent strings that form Intonation Phrases (IPs) (Selkirk 2002). I therefore take this as evidence that NCC forces its coordinated strings to be grouped into prosodic constituents ((7) shows that the coordinated non-constituents may be small enough to form  $\varphi$ s rather than IPs).

- (6) *John LOVES, but Mary HATES, the films of Woody Allen.*  
 (7) *Get me two big and three small cookies.*

Secondly, aggressively non-D-linked phrases (ANDLPs, e.g. *the hell*) cannot occur in sluices unless accompanied by swiping, as in (8) (Sprouse 2006). We can interpret this as a ban on ANDLPs at the right edge of  $\varphi$ s. The extra  $\varphi$  in (9), inserted adjacent to an ANDLP thanks to NCC, therefore explains the ungrammaticality of (9a).

- (8) a. *He was talking, but I can't remember*  $\left[ \varphi \text{ to who(m)} \right] \left[ \varphi \text{ (*the hell)} \right] \text{ to be honest.}$   
 b. *He was talking, but I can't remember*  $\left[ \varphi \text{ who} \right] \left[ \varphi \text{ (the hell) to} \right] \text{ to be honest.}$   
 (9) a. *\*When and*  $\left[ \varphi \left[ \varphi \text{ to who} \right] \text{ the hell} \right] \text{ did Chomsky give that talk?}$   
 b. *When and*  $\left[ \varphi \left[ \varphi \text{ who} \right] \text{ the hell to} \right] \text{ did Chomsky give that talk?}$

**Conclusion.** The syntax freely generates swiped structures, but swiping is prosodically constrained: in simple *wh*-questions, the swiped structure competes with the unswiped one and loses because  $\varphi_{\text{max}}$  intervenes between the *wh*-word and C. In CWQs, the prosodic signature of NCC ensures that there is no such intervention, and so swiping remains available.

**Selected references.** Büring, D. (2013). Syntax, information structure and prosody. In *The Cambridge Handbook of Generative Syntax*. van Craenenbroeck, J. (2010). *The syntax of ellipsis: Evidence from Dutch dialects*. OUP. • Gracanin-Yuksek, M. (2007). *About sharing*. PhD. dissertation, MIT. • Merchant, J. (2002). Swiping in Germanic. In *Studies in comparative Germanic syntax*. • Radford, A. & Iwasaki, E. (2015). On Swiping in English. *NLLT* 33(2). • Richards, N. (2010). *Uttering Trees*. MIT Press. • Selkirk, E. (2006). Strong minimalist Spell-Out of prosodic phrases. In *GLOW Workshop on Prosodic Phrasing*. Universitat Autònoma Barcelona. • Selkirk, E. (2002). Contrastive FOCUS vs. presentational focus: Prosodic evidence from right node raising in English. *Proc. of the 1st Int'l Speech Prosody Conference*.