

## Swiping in Child English

(keywords: swiping, preposition stranding, acquisition)

**1. Introduction:** In this study, we evaluate two competing syntactic analyses of *Swiping* (Merchant 2002), by using data from a novel source: the acquisition of English. Our findings from child English lend support to the view that swiping crucially involves preposition-stranding (P-stranding) in its derivation.

**2. Two Approaches to Swiping:** English allows a peculiar type of elliptical *wh*-questions that can be found only under sluicing, in which the *wh*-object of the preposition appears not after the preposition but before it, as illustrated in (1) (Ross 1969, Rosen 1976). Merchant (2002) calls this construction *Swiping*.

A recent detailed analysis by Merchant (2002) argues that swiping sentences are derived through *wh*-movement involving pied-piping of a preposition, followed by head movement of the *wh*-word to the preposition in the PF component (see (2)). This “pied-piping analysis” provides a straightforward account for the fact that only “minimal” *wh*-elements (such as *who*, *what*, *when* and *where*) can participate in swiping: In order to adjoin to the preposition, which is a head, the *wh*-element must also be a head, due to Structure Preservation. Yet, it offers no account of its cross-linguistic variation: The languages that allow swiping (English, Danish, and Norwegian) are limited to those that permit P-stranding.

Capitalizing on this cross-linguistic generalization, Hasegawa (2006) and Nakano & Yoshida (to appear) propose an analysis of swiping in which the swiping construction is derived through the combination of P-stranding and a rightward movement of PP, as illustrated in (3). Such “P-stranding analysis” is quite appealing in that it opens up a way to capture the cross-linguistic variation noted above. Yet, this approach has difficulty in explaining why swiping is restricted to “minimal” *wh*-operators. Since both the pied-piping and P-stranding analyses have their own strengths and weaknesses, the evaluation of these two approaches awaits evidence from a different source. Given this situation, we present evidence from the time course of child language acquisition.

**3. Prediction for Child English:** Under the pied-piping analysis, the syntactic knowledge required for pied-piping constitutes a proper subset of the knowledge required for swiping. Therefore, we predict (A). In contrast, under the P-stranding analysis, the syntactic knowledge required for P-stranding constitutes a proper subset of the knowledge required for swiping. From this, we obtain the prediction (B).

(A) English-learning children should acquire pied-piping with *wh*-movement significantly earlier than or at around the same time as swiping.

(B) English-learning children should acquire P-stranding with *wh*-movement significantly earlier than or at around the same time as swiping.

**4. Transcript Analysis:** In order to determine which of the two acquisitional predictions is correct, we analyzed 20 longitudinal corpora for English from the CHILDES database (MacWhinney 2000), which provide a total sample of more than 434,000 lines of child speech. For each child, we located the first clear uses of (i) swiping, (ii) *wh*-movement involving pied-piping, and (iii) *wh*-movement involving P-stranding. The CLAN program Combo was used, together with complete files of prepositions and *wh*-words in English, to identify potentially relevant child utterances. These were then searched by hand and checked against the original transcripts to exclude imitations, repetitions, and formulaic routines. The age of acquisition was taken as the first clear use, followed soon after by repeated use (Stromswold 1996, Snyder 2007).

The results were as follows. A single child (Aran) exhibited productive use of swiping sentences. His first clear use of swiping was at the age of 2(years);07(months). Despite his productive use of swiping, Aran showed no single use of pied-piping with *wh*-movement throughout his corpus. In contrast, P-stranding with *wh*-movement was frequently observed in Aran’s speech. The first clear use of P-stranding appeared at the age of 2;05. A statistical analysis revealed that Aran acquired P-stranding significantly earlier than swiping ( $p < .0001$ , by Binomial Test), along the line of the prediction (B). This finding, combined with the complete lack of pied-piping, lends support to the P-stranding approach to swiping, and puts a further explanatory burden on the pied-piping analysis.

**5. Conclusion:** Our findings make two major contributions. On the empirical side, the results provide acquisitional evidence concerning swiping, which was not previously available. On the theoretical side, they suggest that the time course of acquisition is more consistent with the P-stranding analysis of swiping, and poses a new problem to the pied-piping analysis. A broader implication is that the time course of acquisition is potentially an important ground to evaluate competing syntactic analyses.

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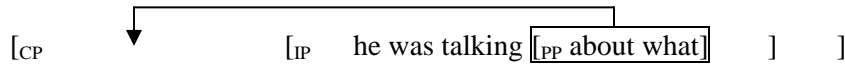
(keywords: swiping, preposition stranding, acquisition)

### Data:

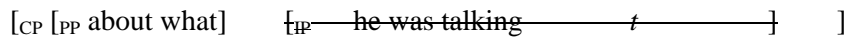
(1) John fixed it, but I don't remember what with.

(2) (John was talking, but I don't remember ...)

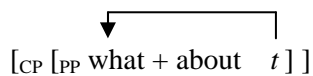
a. *wh-movement + pied-piping:*



b. *sluicing (IP-deletion) in PF:*

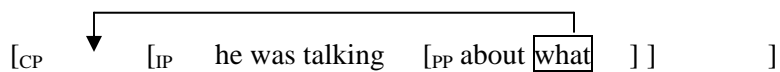


c. *head movement in PF:*

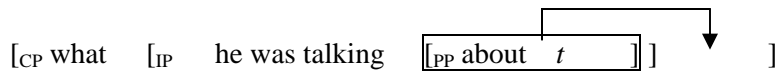


(3) (John was talking, but I don't remember ...)

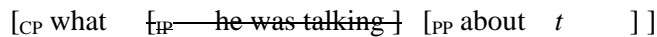
a. *wh-movement + P-stranding:*



b. *rightward movement of PP:*



c. *sluicing (IP-deletion) in PF:*



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