# Refining MaxElide

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In this paper, we explain the grammaticality of the following sentences (1-3). The previous research (Takahashi & Fox 2005, Merchant 2008b) attempted to account for (1-2) with the MaxElide constraint, but none has managed to explain why (3A') is ungrammatical (Potsdam 1997, Hartman 2011).

**MaxElide**: Let us consider how the previous literature explained the grammaticality of (1-2). For a constituent to be elided, the semantically identical antecedent must be found. Takahashi & Fox (2005) define the licensing condition, dubbed "parallelism domain (PD)", as presented in (4). They propose that another constraint operate in ellipsis, called MaxElide, which forces PF to delete the largest possible constituent within the PD. In (1), the VP contains a free variable, as shown in (5), so it cannot be PD. The TP is PD as all the variables are bound and identical to the antecedent clause. When MaxElide applies, TP is the biggest constituent within PD, which explains why (1) allows sluicing, but disallows VP-ellipsis.

**Intervening Focus & PF-deletion**: Takahashi & Fox (2005) observe that the MaxElide effect is circumvented when intervening focus exists. Notice that the matrix verb, *DENIED*, is focused in (2), and that the matrix VP is PD, as shown in (6). MaxElide would choose the matrix VP to be the target of ellipsis. However, PF cannot delete the focused material, so the biggest constituent it can delete would be the lower VP. Therefore, deletion of the lower VP becomes possible. The intervening focus blocks the complete deletion of the licensed higher VP constituent, but only *partial* deletion is available at PF. An immediate question arises as to what constrains the lower VP to be deleted at PF. In other words, what prevents the embedded clause from being elided? Takahashi & Fox noticed the puzzle, but left it unresolved, stipulating that other syntactic constraints on ellipsis must be observed.

**Redefining MaxElide**: To resolve this puzzle, we propose that an elliptical feature (henceforth, [E], Merchant 2001, 2008a) enter the derivation with the lower Voice$^0$, as in (7). Thus, [E] in both the Voice$^0$ head instructs PF to delete its sister. Even if the lower VP is not PD, we claim the feature may enter the lower Voice$^0$. Since the morphological make-up of [E] licensing VP-ellipsis is [*u*Voice] (Merchant 2008a), there is no problem that Voice$^0$ bears [E]. However, the entrance of [E] does not necessarily mean that VP-ellipsis occurs. For example, [E] enters Voice$^0$ in (8), but VP-ellipsis cannot take place, because it fails to meet the semantic licensing condition in (4). At PF, the sister XP of [E] is instructed to be deleted. Let us assume that the XP is [E]-marked at PF. When both the VoiceP phases are spelled out, the VP material is shifted to PF with [E]-marking, as shown in (9). We propose that MaxElide is a PF constraint that deletes the largest [E]-marked material. In (9), the largest [E]-marked material cannot be elided at PF due to the intervening focus. PF selects the next largest [E]-marked material, which is the lower VP. Our proposal can also explain (1) whose [E]-marking is given in (10). Since there is no intervening focus, the largest [E]-marked material must be elided. Thus, sluicing must take place in (1).

**Root vs. embedded wh-question:** Our analysis can also account for ungrammaticality of (3A'), which is mysterious under Takahashi & Fox (2005). Notice that (2) and (3A') are not different with respect to PD and MaxElide; just as in (2), the TP is PD in (3A'), and the biggest constituent that could be deleted would be the VP due to the intervening focus. This is shown in (11). Thus, VP-ellipsis is predicted to be possible in (3A'), contrary to fact. The difference is that (2) involves embedded *wh*-questions, but (3A') does root *wh*-questions. More specifically, T-to-C movement does not occur in (2), but does in (3A'). Lasnik (1999) and Merchant (2001) argue that T-to-C movement is responsible for the impossibility of TP-ellipsis in Germanic. As shown in (12B'), sluicing cannot occur when C is occupied by an auxiliary. This means that when T undergoes head movement to C in (12B'), it blocks [E] from entering the derivation with C, so TP-ellipsis is unavailable. Thus, Merchant claims that no T-to-C movement takes place in (12B).

**Consequences**: Bearing this in mind, let us return to (3A'). The auxiliary has occupied C, so we assume that [E] does not enter C. We argue the possibility of [E] entering C makes (2) differ from (3A'). Recall that in these examples, the VP is not PD, but the TP is. Thus, [E] in Voice$^0$ does not license deletion of its sister VP, but [E] in C may license that of its sister TP. This is exactly what happens in (2). Intervening focus leads MaxElide to choose the VP to be the largest [E]-marked material at PF. In (3A'), however, [E] cannot enter the derivation with C due to T-to-C movement. Since there is no [E] feature in C, there is no

way that the TP can be instructed to be unpronounced at PF. Therefore, no ellipsis can be licensed in (3A'); VP-ellipsis is impossible since the VP is not PD, and sluicing is impossible since C bears no [E].

(1) Mary was kissing someone, but I don't know who (*she was).
(2) John argued that Mary hit him, but Bill DENIED that she did.
(3) A: What did Harry take a picture of?
B: An elephant!
A': *What did BILL?
(4) Parallelism Domain
PD satisfies the parallelism condition if PD is semantically identical to another constituent AC, modulo focus marked constituents.
(5) … I don't know who [$_{PD=TP}$ λx she was [$_{VP}$ λy y kissing x]. (= 1)
(6) John argued that Mary hit him, but Bill [$_{PD}$ λx x. DENIED that she did [$_{VP}$ λy y hit x].
(7) John argued that Mary hit him, but Bill Voice$^{0}_{[E]}$ DENIED that she did Voice$^{0}_{[E]}$ <hit him>.
(8) *John met Jane in the library, and Bill does Voice$^{0}_{[E]}$ <talk to Jane in the library>.
(9) $_{[E]}$<DENIED that she did $_{[E]}$<hit him>> (=2)
(10) $_{[E]}$<she was $_{[E]}$<kissing>>
(11) What did [$_{PD}$ λx BILL < λy y take a picture of x>]
(12) A: Max has invited someone.
B: Really? Who$_i$ C$_{[E]}$ [$_{TP}$ Max has invited t$_i$]?
B': Really? *Who$_i$ has$_k$ [$_{TP}$ Max t$_k$ invited t$_i$]?

**Selected references.**


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