Beyond MaxElide: An Investigation of Ā-Movement from Elided Phrases

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Using Takahashi and Fox 2005 as an exemplar, this article argues that analyses of English ellipsis that make recourse to a MaxElide constraint (first introduced in Merchant 2008) are untenable, and that one must look beyond MaxElide to explain the distribution of acceptability in the "rebinding" elliptical constructions that MaxElide was originally invoked to explain. A novel analysis is outlined that attributes the unacceptability observed in the rebinding dataset to an inability to satisfy a more restrictive, reflexive version of Takahashi and Fox's parallelism condition on ellipsis recoverability. More broadly, the success of this analysis supports the notion that clausal and nonclausal ellipsis are governed by distinct recoverability conditions. This article therefore provides support for a nonunitary approach to the semantic licensing of ellipsis.

Keywords: Alternative Semantics, contrastive focus, MaxElide, parallelism, rebinding, VP-ellipsis

1 Introduction

This article contributes to the ongoing debate about how ellipsis is licensed. It focuses on English utterances such as (1), in which Ā-extraction yields an LF representation in which a λ-binder outside an ellipsis site binds a variable within it (2).[1] Takahashi and Fox (T&F, 2005) refer to variables in such configurations as *rebound*.[2] Extending this terminology, I will refer to phrases that contain both rebound variables and their λ-binders as *rebinding phrases*. Utterances that display rebinding phrases, such as (1), are *rebinding utterances*.

[1] In examples: shading represents phonological suppression (i.e., ellipsis); underlining on labels for phrases (e.g., VP) denotes that such phrases are phonologically, morphologically, and syntactically licensed for ellipsis; small capitals represent information-structurally triggered accent placement; acute accents on vowels represent neutral stress; italics denote postfocal deaccentuation; subscripted *F* adorns semantically F-marked items.

[2] *Rebinding* contrasts with *cobinding*, which occurs when the ellipsis site and its antecedent phrase contain a variable bound by the same c-commanding binder.

(i) I know who λy [[Fred$_F$ likes y] and [Mary$_F$ does [$_{VP}$ like y]]]

(1) I know who JOHN will kiss and also who$_1$ MARY *will* [kiss t_1] .

(2) ... who λy MARY will [$_{VP}$ kiss y]

T&F state that ellipsis is recoverable (i.e., semantically licensed) if the parallelism condition in (3) is satisfied. According to (3), β is a PD in (4). This is because the ordinary semantic value of α (roughly, $\exists x.$ *John will kiss x*) is a member of the focus semantic value of β (roughly, $\{\exists y.$ *John will kiss y*$\}$).

(3) *T&F's (2005) parallelism condition on ellipsis* (informal version)
Let β be a phrase that reflexively dominates[3] an ellipsis site E. E is recoverable only if the ordinary semantic value of an antecedent phrase α is an element of the focus semantic value of β. βs that satisfy this condition are *parallelism domains* (PDs).

(4) *We heard that [$_\alpha$ John will kíss someone], but we don't yet know [$_\beta$ WHO$_1$ *he will* [kiss t_1]].

To account for (4)'s unacceptability, T&F propose that, if all independent constraints on ellipsis are satisfied, maximal elision must occur in PDs.[4] This requirement, named *MaxElide* after—and clearly inspired by—Merchant's (2008; circulated in 2001) very similar constraint, accounts for the observation that rebinding utterances such as (4) are unacceptable.[5] Under the MaxElide approach, (4) is unacceptable because minimal elision (VP-ellipsis) occurs within the PD, which violates MaxElide. If maximal elision (TP-ellipsis) occurs instead (5), MaxElide is satisfied.

(5) We heard that John will kíss someone, but we don't yet know WHO$_1$ [he will kiss t_1] .

I demonstrate in this article that, in addition to being an ad hoc constraint (why is maximal elision required only in PDs, and not everywhere maximal elision is possible?), MaxElide both over- and undergenerates English rebinding utterances and is therefore descriptively inadequate. Considering that T&F appeal to MaxElide because their parallelism condition treats unacceptable rebinding utterances such as (4) as semantically recoverable, the failure of MaxElide suggests that their condition is too lenient and should be replaced with a more restrictive condition that treats rebinding utterances such as (4) as straightforwardly unrecoverable.

I suggest that the main problem with T&F's parallelism condition is that it allows rebinding phrases to be PDs. My argument against the notion that rebinding phrases can ever satisfy the recoverability condition on ellipsis, which is explicated in section 3, can be summarized as follows:

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[3] XP reflexively dominates YP if XP dominates YP or XP = YP (T&F 2005:237).

[4] The morphosyntactic conditions on ellipsis licensing are irrelevant to the discussion presented in this article. In each example considered, ellipsis is syntactically licensed (according to either Lobeck's (1995) or Merchant's (2001) conditions) and morphologically licensed (according to Chung's (2006) condition).

[5] Although the original version of MaxElide from Merchant 2008 is more frequently adopted in the literature than T&F's formulation (198 vs. 115 search hits on Google Scholar, as of early January 2018), I concentrate exclusively on T&F's formulation of MaxElide here because (a) research that focuses specifically on rebinding utterances (e.g., Hartman 2011, Messick and Thoms 2016, Wu 2017) adopts it and (b) T&F's formulation of MaxElide is stated in more general terms than Merchant's.

Premise 1

λ-binders derived from Ā-movement are interveners for Hamblin-style alternative semantic composition (Hamblin 1973, Rooth 1985, 1992b): focus semantic values cannot be procured for phrases that contain such λ-binders (following Shan 2004 and Kotek 2016).

Premise 2

For a phrase containing an ellipsis site to satisfy the recoverability condition on ellipsis, it must have a focus semantic value (following Rooth 1992a).

Conclusion

Because rebinding phrases contain λ-binders by definition, they do not have a focus semantic value. Consequently, they cannot be used to satisfy the recoverability condition on ellipsis, contra T&F.

Repercussion

Because no phrase is available to satisfy the recoverability condition on ellipsis in rebinding utterances such as (4) (see section 3 for arguments that this is the case), ellipsis is unrecoverable. Consequently, the utterance in (4) is judged to be unacceptable.

Although it suffices to show that rebinding utterances that allegedly violate MaxElide are actually merely unrecoverable, this argument alone does not constitute a viable alternative to T&F's analysis. This is because adopting this argument and keeping the parallelism condition in (3) yields an analysis that incorrectly predicts that ellipsis is never recoverable in rebinding utterances. As I explicate in section 3, this result obtains because neither phrases that contain free variables nor phrases that contain their λ-binders satisfy (3). To remedy this situation, I propose in section 3 to reinstate Rooth's (1992a) recoverability condition on ellipsis and I also propose that free variables may be existentially (∃) bound for the sake of satisfying this recoverability condition, in the spirit of Merchant's (2001) *e*-GIVENness condition.

When my argument for treating rebinding phrases as unrecoverable and my appeal to ∃-closure are combined, they yield a theory of ellipsis recoverability that predicts that, for ellipsis to be recoverable in a rebinding utterance, a phrase containing the ellipsis site must contain an F-marked element (to satisfy Rooth's recoverability condition) and must not contain a λ-binder derived from syntactic movement (so that a focus semantic value can be procured for the phrase in question). To rephrase this in schematic terms, my theory predicts that ellipsis is potentially recoverable in rebinding utterances that fit either of the schemata in (6) but unrecoverable in rebinding utterances that fit the schema in (7).

(6) a. ... $[\lambda y$ ... $[$ ... Z_F ... $[\underline{XP}$ ... y ... $]]]$ ...   (intervening focus)
    b. ... $[\lambda y$ ... $[\underline{XP}$ ... $[Z_F\ y]$ ... $]]$ ...   (elided focus)

(7) *... $[Z_F$ ... $[\lambda y$ ... $[\underline{XP}$ ... y ... $]]]$ ...   (superordinate focus)

The VP-ellipsis data discussed above bear this prediction out. The unacceptable rebinding utterance in (4) fits (7), while the acceptable example in (1) fits (6a). I will show that this prediction extends to all rebinding utterances, with one crucial exception.

The exception is sluicing. If one assumes that sluicing involves *wh*-movement in English (Ross 1969, Merchant 2001, and many others; contra Ginzburg and Sag 2000, among many others), all sluices are incorrectly predicted to be unrecoverable. This is because sluices such as (5) fit the schema in (7).

Ginzburg and Sag (2000) claim that the propositional meaning of fragmentary responses (including sluices) is recovered by recourse to the pragmatic *question under discussion* (QUD; Roberts 2012). Reinterpreted as a claim about how clausal ellipsis is recovered, this position has since been defended in the Minimalist literature (Reich 2002, Barros 2014, Barros and Kotek 2018). I claim that the inability of my analysis to capture sluicing provides additional evidence that this position is correct. I maintain that clausal ellipsis is different from all other forms of ellipsis as far as recoverability is concerned: in English, an elided TP must satisfy a QUD-based constraint on recoverability, whereas elided phrases of other syntactic types must satisfy the recoverability condition developed and defended in section 3. In section 4, I use the differing acceptability of exceptive questions (i.e., clauses headed by *wh*-phrases such as *who else* or *which other girl*) in TP- and VP-ellipsis environments as supporting evidence for this division.

In short, this article does five main things: (a) it demonstrates that the MaxElide approach to rebinding is untenable, (b) it argues that unacceptable rebinding utterances are semantically unrecoverable (thus making MaxElide superfluous), (c) it provides a descriptively adequate analysis of rebinding utterances, (d) it provides support for the idea that clausal ellipsis is semantically recovered in a different way than all other forms of ellipsis, and (e) it provides empirical support for the notion that Predicate Abstraction and Hamblin-style alternatives don't mix. In other words, it claims that, by addressing the narrow question of how best to analyze the rebinding data, one can address two wider questions: whether ellipsis is recovered in a uniform way (as, e.g., Merchant (2001) claims) or not (see Jacobson 2016, Weir 2017), and how alternatives should be modeled semantically.

I should also make clear from the beginning that, because much of the previous syntactic research on rebinding has focused on rebinding configurations derived from overt Ā-movement (Schuyler 2001, Takahashi and Fox 2005, Merchant 2008; see also Nakamura 2016 and references therein), the analysis offered in section 3 is built around these configurations. In other words, any mention of "rebinding" or "rebound variables" in the main body of this article (sections 2–4) should be understood as shorthand for "rebinding derived from overt Ā-movement" or "variables rebound by a λ-binder derived from overt Ā-movement." Although I will make no serious attempt to extend my analysis to rebinding configurations derived from other syntactic dependencies, I nonetheless provide cursory remarks in section 5 about how the analysis seems, at least for simple datasets, to extend to all of them. In that section, I discuss Quantifier Raising (QR), bound variable pronouns, and string-vacuous movement.[6]

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[6] Because the literature on the LF import of A-movement is so vast and varied (see Sportiche 2006 for a useful overview), I do not attempt to extend my analysis to (possible) rebinding configurations derived from A-movement. This must remain a task for future research.

The remainder of the article proceeds as follows. In section 2, I outline the mechanics of T&F's (2005) analysis and then critique it. Through reviewing T&F's analysis, I introduce most of the rebinding data that the analysis offered in section 3 will capture.

In section 3.1, I offer a generalization that captures the distribution of acceptability across the rebinding dataset introduced in section 2. This generalization, which utilizes Fox's (2002) Trace Conversion operation and semantic approaches to reconstruction (see Ruys 2015 for an overview), is a generalization over LFs. In sections 3.2 and 3.3, I outline my analysis and show how it derives the semantic generalization offered in section 3.1. I also explain why it applies to ellipsis in particular and not also to deaccented domains.

In section 4, I defend the idea that clausal ellipsis is semantically recovered in a different way than all other forms of ellipsis. In section 5, I discuss how the analysis from section 3 might be extended to account for rebinding configurations derived from other syntactic dependencies. The article is summarized in section 6.

2 Rebinding Utterances: Takahashi and Fox's (2005) MaxElide Analysis

This section outlines and critiques T&F's (2005) analysis of rebinding. Because this analysis is built on Mats Rooth's theory of focus, an acquaintance with Rooth's (1992a) theory of focus licensing and ellipsis recoverability is required. I therefore introduce Rooth's theory in section 2.1 before turning to T&F's analysis in section 2.2.

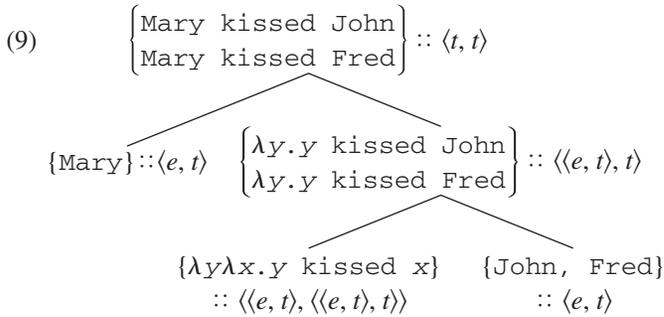### 2.1 VP-Ellipsis Is Licensed under Appropriate Contrast: Rooth 1992a

According to Rooth (1992b), an F-marked item must enter into a particular semantic relationship with a discourse-salient antecedent to be interpreted as contrastively focused. Rooth suggests that, for a contrastive interpretation to obtain, the ordinary semantic value of an antecedent phrase α (henceforth, $[\![\alpha]\!]^o$) must be an element of the focus semantic value of a phrase β (henceforth, $[\![\beta]\!]^f$) that reflexively dominates the F-marked item, for all assignments g. Furthermore, α and β cannot overlap syntactically, and $[\![\alpha]\!]^o$ cannot be equal to $[\![\beta]\!]^o$. If these conditions are satisfied, then β is said to *contrast appropriately* with α.[7]

(8) A phrase β contrasts appropriately with a phrase α iff
    a. for all assignments g, the ordinary semantic value of α with respect to g is an element of the focus semantic value of β with respect to g;
    b. α and β do not overlap;
    c. for all assignments g, the ordinary semantic values of α and β are different.
    (Rooth 1992b:81nn4,8)

Rooth (1985) calculates the focus semantic value for any given phrase in the Alternative Semantics compositional system (Hamblin 1973), which proceeds in parallel with ordinary seman-

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[7] To account for certain patterns of focus and deaccentuation, Rooth (1992b) also allows $[\![\alpha]\!]^o$ to entail an element of $[\![\beta]\!]^f$ (a process referred to as "implicational bridging"). Following T&F (2005), the recoverability condition defended in section 3 makes no recourse to entailment. For this reason, I ignore the import of implicational bridging throughout.

tic composition. In Roothian Alternative Semantics, all regular denotations are treated as sets of denotations. Unfocused items are singleton sets, whereas focused items (among other alternative-inducing elements) are sets that include their ordinary denotation plus their salient alternatives in the domain of discourse. From a simple extensional type-theoretic perspective, this treatment lifts expressions of an arbitrary type τ to $\langle \tau, t \rangle$. In Alternative Semantics, phrases are concatenated using Hamblin's (1973) pointwise Functional Application rule. In this system, the focus semantic value of the proposition '*Mary kissed* JOHN' is constructed as in (a) (where the salient alternative to *John* is *Fred*, and focus semantic values are presented in typewriter font).

(9)

$$
\begin{Bmatrix} \texttt{Mary kissed John} \\ \texttt{Mary kissed Fred} \end{Bmatrix} :: \langle t, t \rangle
$$

$\{\texttt{Mary}\} :: \langle e, t \rangle$ $\begin{Bmatrix} \lambda y. y \texttt{ kissed John} \\ \lambda y. y \texttt{ kissed Fred} \end{Bmatrix} :: \langle\langle e, t \rangle, t \rangle$

$\{\lambda y \lambda x. y \texttt{ kissed } x\}$ $\{\texttt{John, Fred}\}$
$:: \langle\langle e, t \rangle, \langle\langle e, t \rangle, t \rangle\rangle$ $:: \langle e, t \rangle$

In Rooth's system, the constraint on contrastive construal in (8) is enforced by the "squiggle" operator $\sim$, which associates β with a variable that corefers with α. To give an example, the F-marked item *Bill* is construed as contrastively focused in (10a) because the ordinary semantic value of the antecedent *John* is an element of *Bill*'s focus semantic value (see (10b–c)). Similarly, *Bill* is construed as contrastively focused in (11a) because the ordinary semantic value of the antecedent phrase *John will leave* is an element of the focus semantic value of the phrase that contains *Bill*, namely, *Bill will leave* (see (11b–c)).

(10) a. John left – and BILL left, too.

b.
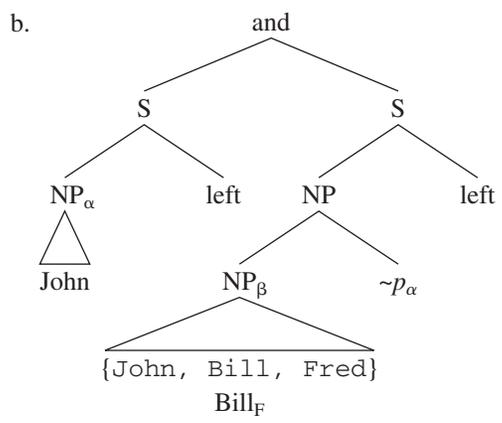
c. $\llbracket \text{John} \rrbracket^o \in \llbracket \text{Bill} \rrbracket^f$; therefore, *Bill* is interpreted as contrastive.

(11) a. John will leave – and BILL$_F$ will leave, too.

b.

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                      and
              ┌────────┴────────┐
            S_α                  S
          ┌──┴──┐           ┌────┴────┐
   John will leave        S_β        ~p_α
                      ┌─────┴─────┐
                  ┌─────────────────┐
                  │ Bill will leave │
                  │ John will leave │
                  └─────────────────┘
                     Bill_F will leave
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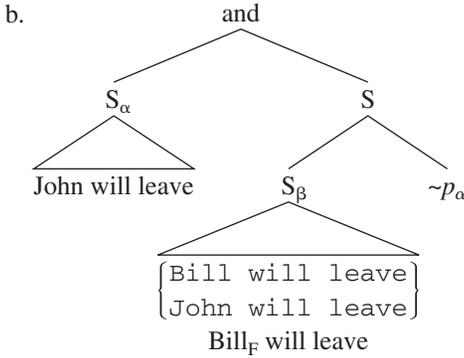
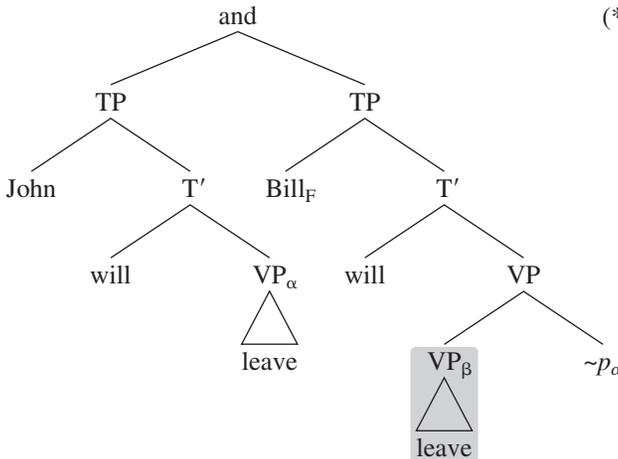c. ⟦John will leave⟧° ∈ ⟦Bill$_F$ will leave⟧^{f}; therefore, *Bill* is interpreted as contrastive.

Rooth (1992a) claims that this constraint on interpreting F-marked items as contrastive foci in (8) also governs the recoverability of VP-ellipsis. Under his approach, we can licitly elide *leave* in (11a) if we want (hence deriving *John will leave and Bill will, too*) because ellipsis is recoverable in this configuration. *Leave* is reflexively dominated by β, β contrasts appropriately with α, and VP-ellipsis is therefore semantically licensed.

Because Rooth's conception of appropriate contrast requires the phrases being compared to have different ordinary semantic values (per (8c)), the ∼ operator must always adjoin to a phrase that contains both the ellipsis site and an F-marked item in ellipsis contexts. Put differently, Rooth claims that the ∼ operator never adjoins to the ellipsis site itself, as it does in (12). A relation of appropriate contrast is not obtained in (12) because $⟦VP_α⟧° = ⟦VP_β⟧°$ for all assignments *g*.

(12)   and   (* in Rooth's (1992a) analysis)

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                      and
              ┌────────┴────────┐
            TP                   TP
          ┌──┴──┐            ┌────┴────┐
       John    T'          Bill_F     T'
             ┌──┴──┐             ┌─────┴─────┐
           will   VP_α          will         VP
                   △                      ┌───┴───┐
                 leave                  VP_β      ~p_α
                                         △
                                       leave
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To summarize: Rooth (1992a) ties the recoverability of VP-ellipsis to contrastivity. Under his analysis, an elided VP is recoverable if contained in a phrase that contrasts appropriately with an antecedent.

2.2 Contrasting Enough: Takahashi and Fox 2005

2.2.1 Contrasting Enough Leads to MaxElide   Aside from one crucial difference, T&F's (2005) parallelism condition is identical to Rooth's licensing condition. The difference is that T&F jettison (8c). Let us refer to this weakened relation as *contrasting enough*.

(13) A phrase β contrasts enough with a phrase α iff
   a. for all assignments g, the ordinary semantic value of α with respect to g is an element of the focus semantic value of β with respect to g;
   b. α and β do not overlap.

Under the more lenient contrast relation in (13), ellipsis sites themselves can be used to satisfy recoverability—something that Rooth's theory prohibits (see (12)). Put differently, adopting (13) allows ellipsis to be recovered in an utterance such as (14a) via the configuration in (14b), in which the $\sim$ operator adjoins directly to the ellipsis site. Ellipsis is recoverable in (14a) because VP$_\beta$ contrasts enough with VP$_\alpha$. As (14c) shows, $[\![\text{VP}_\alpha]\!]^\text{o}$ is an element of $[\![\text{VP}_\beta]\!]^\text{f}$ (assuming that alphabetic variance across λ-expressions yields their equivalence; see Sag 1976). It just so happens that, because $[\![\text{VP}_\beta]\!]^\text{f}$ is a singleton set, $[\![\text{VP}_\alpha]\!]^\text{o}$ is the *only* element in $[\![\text{VP}_\beta]\!]^\text{f}$.

(14) a. Sue will love Paris, and FRANK will [love Paris] , too.

   b.
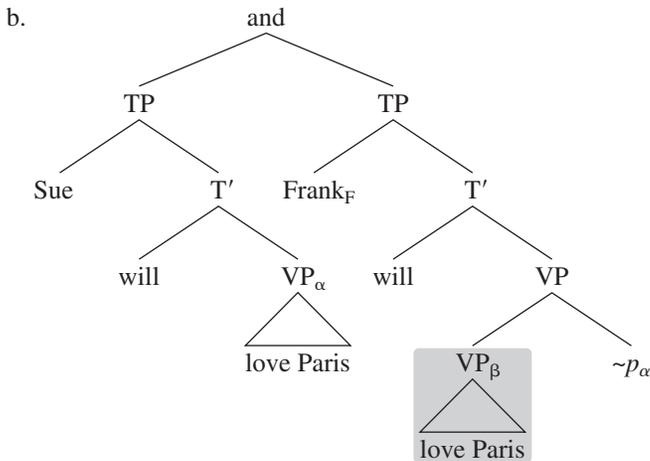
   c. $[\![\lambda x.\ x \text{ love Paris}]\!]^\text{o} \in [\![\lambda y.\ y \text{ love Paris}]\!]^\text{f}$. Ellipsis is licensed in VP$_\beta$.

Rephrased in Roothian terms, T&F's parallelism condition is given in (16). The definitions in (15) and (16) retain certain terminology used by T&F: *parallelism domain* refers to the sister of $\sim$, while *antecedent constituent* refers to the phrase with which $\sim$'s second argument corefers. Importantly, *contrast enough* in (16) refers to the more lenient version of *appropriate contrast* given in (13).

(15) For ellipsis to be recovered in an ellipsis site E, there must exist a constituent β that reflexively dominates E and that satisfies the parallelism condition in (16). This constituent is called the *parallelism domain* (PD).

(16) *T&F's (2005) parallelism condition on ellipsis* (formal version)
β must contrast enough with an antecedent constituent (AC).

Although the elided VP in (14a) satisfies T&F's parallelism condition and is therefore a PD (see (14b)), elided VPs in rebinding utterances do not satisfy the condition and are therefore never PDs. This because the Ā-trace in a rebinding utterance such as (1) (repeated below) is interpreted as a variable at LF. Although bound from a c-commanding position outside the VP, this variable is free within it (see (17)). Because the denotation of free variables varies under different assignments, $[\![VP_\alpha]\!]^o$ will not be an element of $[\![VP_\beta]\!]^f$ for all assignments g in (17) (see Sag 1976), and consequently the elided VP does not contrast enough with its antecedent, violating the parallelism condition in (16).[8]

(1) I know who JOHN will kiss and also who$_1$ MARY *will* [kiss t_1] .

(17) *
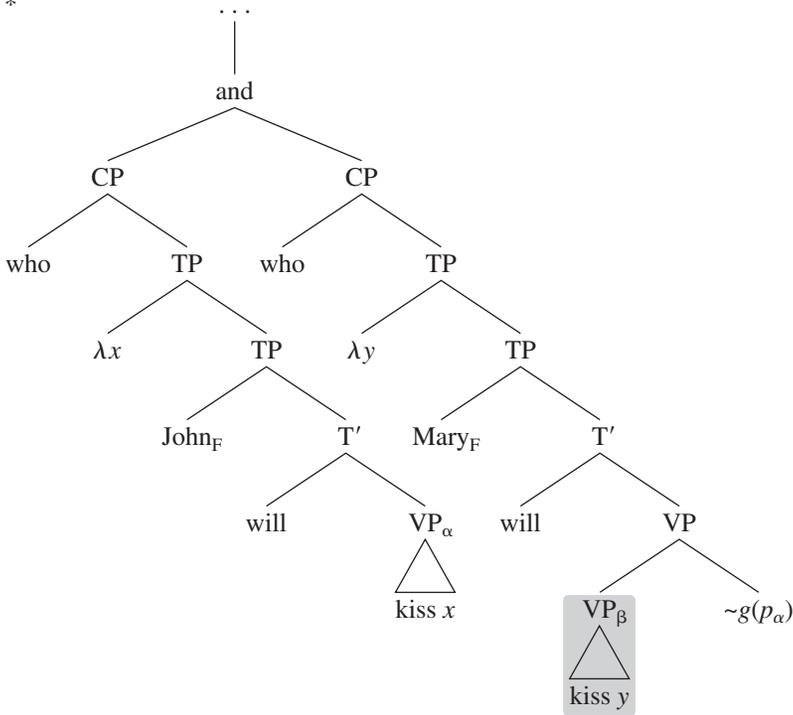
For T&F, ellipsis is recoverable in (1) because the ~ operator may instead adjoin to TP, which contains both the ellipsis site and the binder of the variable within it (see (18)). In this

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[8] Notice that the tree representation in (17) is more explicit about the role of assignment functions in Roothian Alternative Semantics. An attempt to establish a relation of enough contrast between VP_β and VP_α is mediated through VP_β's relationship to p_α *under a particular assignment g* for p_α. Because this assignment is global, it determines the assignment for variables in both VP_α and VP_β. The parallelism condition in (16) is not satisfied in (17) if, for a particular assignment (e.g., g^3), x and y are assigned to distinct individuals in D_e.

scenario, the domains being used to determine recoverability contain bound (rather than free) variables, and therefore the problem observed in (17) is circumvented. Thus, in T&F's terms, TP is a PD.

(18)
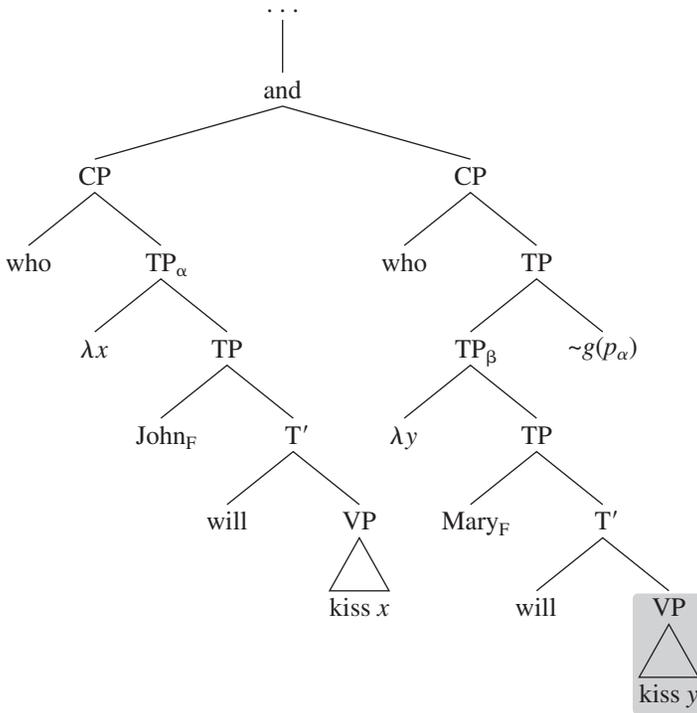
As mentioned in section 1, the rebinding utterance in (4) (repeated below) is recoverable. This is because the ordinary semantic value of α (roughly, $\exists x$. *John will kiss x*) is a member of the focus semantic value of β (roughly, $\{\exists y$. *John will kiss y\}$). This example is recoverable according to T&F's analysis because their parallelism condition permits PDs and ACs to have the same ordinary semantic value, contra Rooth 1992a.

(4) *We heard that [$_\alpha$ John will kíss someone], but we don't yet know [$_\beta$ WHO$_1$ *he will* [kiss t_1]].

To account for (4)'s unacceptability, T&F introduce an exogenous constraint on licensing ellipsis. They claim that, if multiple phrases that are morphosyntactically licensed for ellipsis (XPs) are necessarily contained in the same PD, elision of an XP that dominates another XP is preferred to elision of an XP that is dominated by another XP. This constraint is called MaxElide, following Merchant (2008).

(19) *MaxElide*
Elide the biggest deletable constituent reflexively dominated by PD.
(T&F 2005:229)

Armed with MaxElide, one may state that (4) is unacceptable because, within the PD β, VP-ellipsis occurs when TP-ellipsis could have occurred, which violates MaxElide. When an intervening focus removes the potential for TP-ellipsis in a rebinding utterance with a similarly-sized PD (as in (1), repeated again here), MaxElide is satisfied.

(1) I know [$_\alpha$ who JOHN will kiss] and also [$_\beta$ who$_1$ MARY *will* [kiss t_1]] .

As mentioned in section 1, MaxElide is clearly an ad hoc constraint. Putting this aside, I will now assess MaxElide's efficacy according to its empirical coverage. I will show that, even when buttressed by additional assumptions, the "MaxElide approach" both over- and undergenerates, ruling in unacceptable rebinding utterances and ruling out acceptable ones.

2.2.2 When Intervening Focus Has No Effect   According to the MaxElide approach, VP-ellipsis is permitted in (1) because an intervening focus precludes TP-ellipsis. Under this analysis, one expects that VP-ellipsis is also permitted in rebinding utterances similar to (4) when an intervening focus precludes TP-ellipsis. This expectation is not met, as (20a–b) show ((20b) is modified from Lasnik and Park 2013:240).

(20) a. *MARY kissed a HIPSTER, but I don't know who$_1$ [$_{TP}$ JOHN *did* [$_{VP}$ kiss t_1]].
    b. *MARY sang a song about LOVE, but I don't know what$_1$ [$_{TP}$ JOHN *did*
       [$_{VP}$ sing a song about t_1]].

The MaxElide approach therefore overgenerates in this instance, ruling in these unacceptable rebinding utterances.

2.2.3 Focused Restrictors   Consider the rebinding utterances in (21) and (22), in which the NP restrictor of the bracketed Ā-moved phrase is contrastively focused.

(21) a. I know which GIRL he kissed, but not [which BOY]$_1$ *he did* [kiss t_1] .
    b. I know which DOGSBODY to fire and also [which MANAGER]$_1$ to [fire t_1] .
    c. I know every GIRL Joe kissed and also [every BOY]$_1$ *he did* [kiss t_1] .

(22) A: Which colors does John like?
    B: Well, BLUE he likes, and GREEN$_1$ *he does* [like t_1], too.
    (see Schuyler 2001:13)

The LFs for the elliptical clauses in these utterances, which are given in a generalized schematic form in (23), each exhibit a rebinding configuration in which MaxElide applies. As a result, TP-ellipsis is favored over VP-ellipsis, which should make the rebinding utterances in (21) and (22) unacceptable, contrary to observation. Thus, unless further assumptions are added, MaxElide undergenerates in this instance.

(23) . . . [$_{DP}$ *Op* NP$_F$] [$_{PD}$ λy . . . [$_{TP}$ . . . [$_{VP}$ . . . y . . .]]]

To account for the acceptability of these rebinding utterances, T&F (2005:235) follow Sauerland (1998) and assume that if an element in a head of a movement chain is focused, then focus is optionally present within the lower copies. Further assuming that Ā-movement proceeds

successive-cyclically through vP, T&F argue that MaxElide is satisfied in (21) and (22) because the presence of focus in the intermediate copy of Ā-movement precludes TP-ellipsis.

(24) I know which GIRL he kissed, but not ⟨which BOY⟩ he did [$_{vP}$ ⟨which BOY⟩ [kiss ⟨which boy⟩]] .   (copy-theoretic representation of (21a))

This solution has two shortcomings. First, it is not restrictive enough. It predicts that MaxElide can be satisfied in all VP-ellipsis rebinding utterances in which the head of the movement chain contains a focused element, as all such utterances should be capable of having focused intermediate copies that block higher TP-ellipsis. As the unacceptable examples in (25) show, this prediction is incorrect.

(25) a. *We heard that [$_\alpha$ John will kíss someone], but we don't yet know [$_\beta$ WHO$_1$ *he will* [kiss t_1]].   (from (4))
     b. *I know WHO John likes, but not WHAT$_1$ *he does* [like t_1] .

Second, the notion that covert foci block ellipsis is rather implausible. T&F assume during most of their paper that intermediate copies of Ā-movement are ignored by LF, which means that the postulated covert foci are semantically invisible. Furthermore, these foci are invisible to PF, as they are not pronounced. If they are invisible to both interfaces, then it is highly unlikely that these intermediate covert foci can affect the application of ellipsis in any way.

To summarize: even with additional assumptions in place, T&F's MaxElide analysis cannot account for the acceptability of rebinding utterances in which the NP restrictor inside the head of the movement chain is contrastively focused.

2.2.4 Rebinding Utterances That Display Cross-Clausal Ā-Movement   Consider the utterances in (26), in which cross-clausal Ā-movement occurs.[9]

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[9] Additional comments are required about Ā-extraction from infinitival VP-ellipsis here. First, my consultants reported no difference in acceptability between object and subject control constructions (compare (26c) and (i) below). Second, VP-ellipsis is prohibited in adjunct infinitival TPs regardless of whether the elided VP hosts an Ā-trace, as a comparison of (ii) and (iii) shows (see Johnson 2001 for discussion). Third, T&F (2005:233) report that Ā-extraction from an elided VP is impossible when the infinitival clause that contains the elided VP is the complement of certain verbs (their example uses *agree*). As Messick and Thoms (2016:325) note, *agree* therefore patterns dissimilarly to raising predicates such as *likely* (see (26b)) and control verbs such as *hope* (see (26c)). From a random selection of 12 control verbs presented to them, my consultants reported that most pattern with *hope* (these include *afford*, *can't stand*, *decide*, *need*, *offer*, *prepare*, *refuse*, *try*), while the remainder are slightly degraded (this set includes *ask*, *beg*, *begin*). Thus, it seems that the unacceptability of (iv) is somewhat exceptional. I suggest that reanalysis is responsible for this anomaly: speakers prefer to incorrectly parse the silence that follows *agree to* in (iv) as a DP gap, rather a VP ellipse. In other words, they reanalyze *agree to* as verb plus preposition.

(i) I know who JOHN wants her to kiss and also who$_1$ [BILL *wants her to* [kiss t_1]].
(ii) *I know who JOHN stopped to ask and also who$_1$ [BILL *stopped to* [ask t_1]].
(iii) *JOHN stopped to ask for directions, and BILL *also stopped to* [ask for directions] .
(iv) *I don't know which puppy you SHOULD agree to adopt, but I know [which one]$_1$ you should NOT *agree to* [$_{VP}$ adopt t_1] .

(26) a. I know who Jo thinks he'll kiss and also who$_1$ Bo *thinks he will* [kiss t_1] .

 b. I know who Jo's likely to kiss and also who$_1$ POLLY's *likely to* [kiss t_1] .

 c. I know who BILL hopes to kiss and also who$_1$ Bob *hopes to* [kiss t_1] .

As mentioned in section 2.2.3, T&F assume during most of their paper that intermediate copies of Ā-movement are ignored at LF. Under this assumption, the elliptical clauses for the utterances in (26) each exhibit the LF rebinding configuration schematized in (27).

(27) . . . [$_{PD}$ λy . . . [$_{VP}$ . . . [$_{VP}$ . . . y . . .]]]

Because the two elidable VPs in (27) are both necessarily contained in the same PD, MaxElide is satisfied only if the higher VP is elided. Consequently, the MaxElide approach incorrectly predicts that the utterances in (26) should be unacceptable, as lower VP-ellipsis is observed. MaxElide therefore undergenerates here.

2.2.5 Unacceptable Rebinding Utterances That Satisfy MaxElide Consider the utterances in (28)–(30), which are based on observations made in Schuyler 2001 and Messick 2015. These utterances involve relativization ((28a), (29), (30a–b)),[10] *tough*-movement (28b), and Ā-movement that forms a Saxon genitive DP (28c)[11] and an *as*-comparative clause (30c).[12]

(28) a. *Sue KNOWS the girl {*Op*/who} Joe kissed, but she doesn't RESPECT *the girl {Op/ who}*$_1$ *he did* [kiss t_1] .

 b. *Sometimes he's DIFFICULT to please, but most of the time he's EASY [$_{CP}$ *Op*$_1$ *to* [please t_1]] .

 c. *John LIKES Beth's boyfriend, but Pete HATES [*Beth*$_1$*'s* [t_1 boyfriend]] .

(29) *John should KISS [every girl]$_1$ *he should* [kiss t_1] .

(30) a. *Sue KNOWS the person *Op* to ask, but she doesn't RESPECT *the person Op*$_1$ *to* [ask t_1] .

 b. *John will STEAL what Susan is selling: he'd never BUY *what*$_1$ *she is* [selling t_1] !

 c. *John LIKES as many girls as *Op*$_1$ [*he does* [like t_1]]!

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[10] An anonymous reviewer points out that Merchant (2004) first discusses such constructions. While Merchant (2004) states that utterances like (i) lack a sloppy interpretation, it is unclear whether he judges such utterances as acceptable on their strict interpretation. For Messick (2015), my consultants, and myself, these utterances are unacceptable regardless of their strict or sloppy interpretation.

 (i) Fred READ the books he was supposed to read. *He also REVIEWED [*the ones*]$_1$ *he was* [supposed to read t_1] . (modified from Merchant 2004:3)

[11] For evidence that possessors move from within the complement of D^0 into Spec,DP in Saxon genitives, see Munn 1995, Radford 2000, and Alexiadou 2005.

[12] In the case of (29) and (30c), it is worth comparing these examples to their nonelliptical counterparts in (i) and (ii), which, while tautologous, can be used as evasive answers to *Which girls should John kiss?* and *How many girls does John like?*, respectively (see Schuyler 2001:11n6).

 (i) John should KISS every girl he should KISS.

 (ii) John LIKES as many girls as he LIKES.

Each of these rebinding utterances exhibits a rebinding configuration that fits the LF schema in (31).

(31) . . . [$_{PD}$ λy . . . [$_{\underline{XP}}$ . . . y . . .]]

In (31), there is only one elidable phrase in the PD. Higher TP-ellipsis is unavailable in the PDs for the relativization cases in (28)–(30) because sluicing is not syntactically licensed in English relative clauses (Lobeck 1995, Merchant 2001), whereas higher VP-ellipsis outside of the PD is unavailable in all of the rebinding utterances above because of the presence of intervening focus. Because there is only one elidable phrase in the PDs of these rebinding utterances, MaxElide is satisfied in each case. The observed unacceptability of these rebinding utterances therefore demonstrates that the MaxElide approach overgenerates in this instance, as it incorrectly predicts that these rebinding utterances are acceptable.

These data do not provide direct evidence against the MaxElide approach, however. It might be the case that these rebinding utterances are unacceptable because they violate an independent constraint unrelated to rebinding. Indeed, both anonymous reviewers of this article highlight the possibility that these rebinding utterances are unacceptable because they flout a general preference for maximizing anaphoricity, such as Williams's (1997:603) Don't Overlook Anaphoric Possibilities condition.

(32) *Don't Overlook Anaphoric Possibilities* (DOAP)
       Opportunities to anaphorize text must be seized.

I suspect that the reviewers mention DOAP because of its undeniable effect on utterances similar to those in (28)–(30). For instance, DOAP clearly affects (33), which is the same as (28a), minus (28a)'s relative clause. This utterance is only considered fully acceptable if the deaccented object is pronominalized, in accordance with DOAP.

(33) Sue KNOWS the girl who Joe kissed, but she doesn't RESPECT {*her* / ?*the girl*}.

Despite DOAP's observable effect on utterances similar to (28)–(30), it is easily shown that the unacceptability of these examples is unrelated to DOAP. First, there is nothing to anaphorize in (28b) and (30c): these utterances satisfy DOAP and yet remain unacceptable. Second, satisfying DOAP by pronominalizing the Saxon genitive possessor does not improve (28c), as (34) shows.

(34) John LIKES Beth's boyfriend, but Pete HATES {**Beth's* / **hers*}.

These observations confirm that the cause of (28)–(30)'s unacceptability is related to rebinding, not anaphorization. This point is reinforced by comparing the unacceptable example in (28a) with the acceptable one in (35). Both utterances violate DOAP, but only the former displays a rebinding configuration.

(35) Sue KNOWS the girl who kissed Joe, but she doesn't RESPECT *the girl who*$_1$ t_1 *did* [kiss Joe] .

In the absence of an independent explanation for (28)–(30), the inability of MaxElide to capture these data greatly undermines it. The efficacy of the MaxElide approach is further dimin-

ished by the analysis offered in section 3, which straightforwardly captures all of the rebinding discussed so far, including (28)–(30).

To summarize: The MaxElide approach predicts that ellipsis is permitted in rebinding configurations in which (a) the entire PD is deaccented and (b) the PD contains only one elidable phrase. When relative clauses, *tough*-constructions, Saxon genitive DPs, and *as*-comparatives display such configurations, unacceptability ensues, contrary to expectation. Because no independent explanation for the observed unacceptability is forthcoming, it seems justified to use these observations as evidence against the MaxElide approach.

2.3 Concluding Remarks on Takahashi and Fox 2005

By critiquing T&F's analysis, I demonstrated that replacing the notion of appropriate contrast with the weaker notion of contrasting enough introduces an issue of how to account for the unacceptability observed across the rebinding dataset. I showed that T&F's solution to this issue, which is to introduce a MaxElide constraint, is untenable. This criticism extends to any analysis that uses MaxElide (or some theoretical reduction thereof).

3 Analysis

Having shown that T&F's (2005) analysis of rebinding is infeasible, I now offer a novel analysis for the distribution of acceptability across the rebinding dataset. I begin in section 3.1 by providing a semantic generalization over the rebinding dataset and by outlining my analysis in general terms. In section 3.2, I introduce a generic ∃-closure rule and demonstrate how it helps to capture the rebinding data. In section 3.3, I operationalize the idea that λ-binders derived from Ā-movement are focus interveners. Throughout this section, I provide concrete examples of how my analysis captures the rebinding dataset.

3.1 Deriving the Rebinding Generalization

From the examples presented in sections 1 and 2, it appears that rebinding utterances form a rather heterogeneous dataset. My first task in this section is therefore to provide a descriptively adequate generalization over the rebinding data. Once such a generalization is obtained, the remaining task will be to theoretically derive it.

I claim that a valuable generalization over the rebinding data can only be obtained by concentrating on their LFs. However, formulating an adequate LF generalization requires first adopting a more refined view of how certain long-distance dependencies are interpreted at the LF interface. In particular, the semantic import of syntactic Ā-chains must be considered more carefully. The discussion in sections 1–2 mostly adopted a classical view of how Ā-chains are interpreted at LF, according to which the tail of the chain is interpreted as a variable that is λ-bound in a position immediately c-commanded by the chain's head (see Heim and Kratzer 1998).

(36) a. [which boy]$_1$ . . . ⟨which boy$_1$⟩ . . . ⟨which boy$_1$⟩
     b. which boy λx x

In contrast to this view, Fox (2002) argues that the tail of an Ā-chain is interpreted at LF as a definite description (rather than a simple variable; see (37)), and he introduces a Trace Conversion operation to achieve this. Given that Merchant (2001:214–215) has provided support for this analysis from utterances that display rebound variable pronouns (see section 5.2 for further discussion), I henceforth subscribe to it.

(37) a. [which boy]$_1$ . . .   ⟨which boy$_1$⟩   . . .   ⟨which boy$_1$⟩
     b. which boy λx . . .   the boy x . . .   the boy x

One observes that, in (37), the semantic import of the intermediate Ā-copy is also taken into consideration and is treated as expressing the same semantic information as the tail Ā-copy. Pronominal binding relations reveal that intermediate Ā-copies are visible to LF in rebinding utterances. In (38a), for example, the anaphor *himself* is locally bound in accordance with Principle A of the binding theory (Chomsky 1981) only in its intermediate position (see (38b)).[13] In (38b), the intermediate copy undergoes (partly) vacuous semantic composition with its sister (Lechner 1998, Rett 2006:364, Ruys 2015).

(38) a. I know which pictures of himself JOHN thinks Sally will sell and also which
        pictures of himself BILL *thinks she will* [$_{vP}$ ⟨which pictures of himself⟩
        [$_{VP}$ sell ⟨which pictures⟩]] .   (copy-theoretic representation)
     b. . . . which pictures of himself λy Bill$_F$ thinks Sally will [$_{vP}$ the pictures of himself
        y [$_{VP}$ sell the pictures y]]

The rebinding utterance in (39) is ambiguous between a *de re* reading in which the *wh*-phrase scopes over *want*, and a *de dicto* reading in which the *wh*-phrase takes narrow scope under *want*. Because the *de dicto* reading is obtained by "scopal reconstruction" of the *wh*-phrase to an intermediate position, an accurate generalization over the rebinding dataset must take "scopal reconstruction" rebinding LFs into account.

(39) I know how many books BILL wants to buy, and also [how many]$_1$ ELIZABETH *wants*
     [$_{CP}$ t_1 *to* [buy t_1]].
     a. I know the number n such that there are n books that Elizabeth wants to buy.
                                                                  (*de re* reading)
     b. I know the number n such that Elizabeth wants it to be the case that there are n
        books she buys.   (*de dicto* reading)

I adopt a semantic approach to scopal reconstruction (e.g., Chierchia 1995, Cresti 1995, Rullmann 1995, Lechner 1998, Ruys 2015), according to which reconstructed readings are derived by interpreting nonhead copies as higher-order variables that function as generalized quantifiers

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[13] Note that, to ensure that the lowest copy of movement in (38a) does not violate Principle A at LF, sideward syntactic movement is required; see Nunes 2004.

of type $\langle\langle e, t\rangle, t\rangle$. This analysis is schematized in (40) (see Ruys 2015 for a useful summary of the technical details). Under this account, the *de dicto* reading of (39) fits the schema in (40b).[14]

(40) a. [which boy]$_1$ ... $\langle$which boy$_1\rangle$ ... $\langle$which boy$_1\rangle$
     b. which boy $\lambda P_{\langle\langle e,t\rangle,t\rangle}$ ... $P_{\langle\langle e,t\rangle,t\rangle}$ ...
     c. which boy $\lambda P_{\langle\langle e,t\rangle,t\rangle}$ ...   ... $P_{\langle\langle e,t\rangle,t\rangle}$

Having provided a more articulated conception of how Ā-chains are interpreted at LF, I now offer the following generalization over the rebinding dataset:

(41) *Generalization over rebinding utterances*
     A prerequisite of ellipsis being permitted in rebinding utterances is that
     a. the λ-binder of the rebound variable asymmetrically c-commands an F-marked item at LF, *or*
     b. the rebound variable is contained in an elided clause.

This generalization states that (41a–b) are necessary but insufficient conditions for ellipsis being permitted in rebinding utterances. As I will demonstrate shortly (and as readers can confirm for themselves), the generalization in (41) separates the acceptable rebinding utterances discussed in sections 1 and 2 from the unacceptable ones to a high degree of accuracy. However, there are still some rebinding utterances that fit the description in (41a) but are nonetheless unacceptable (e.g., the examples from section 2.2.2). An explanation for the fact that these utterances fit (41a) but are nonetheless unacceptable is provided in section 3.4.

In schematic terms, (41) states that rebinding utterances that fit one of the LF schemata in (42) are acceptable, whereas those that fit the LF schema in (43) are unacceptable. In these schemata, the variable *x* can display any semantic type.

(42) a. ... $[\lambda x$ ... [... Y_F ... $[_{XP}$ ... x ...]]] ...   (intervening focus)
     b. ... $[\lambda x$ ... $[_{XP}$ ... $[Y_F \, x]$ ...]] ...   (elided focus)
     c. ... $[\lambda x$ ... $[_{TP}$ ... x ...]] ...   (sluicing)

(43) * ... $[Y_F$ ... $[\lambda x$ ... $[_{\{VP/N'\}}$ ... x ...]]] ...   (superordinate focus)

Exemplar rebinding utterances for each schema are provided below. Rebinding utterances in which a focused element intervenes between the ellipsis site and the head of the Ā-chain, such as (1) (repeated here) fit the "intervening focus" schema in (42a), as (1)'s LF in (44) shows. (Henceforth, variables derived from intermediate Ā-copies are represented in LFs only when relevant.)

(1) I know who JOHN will kiss and also who$_1$ MARY *will* [kiss t_1] .

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[14] To achieve a scopal reconstruction configuration in which more than one token of the NP restrictor is present at LF, Erlewine (2014) makes recourse to an "inverse" Trace Conversion operation. Whether or not Erlewine's theory is better suited for analyzing scopal reconstruction in rebinding utterances must remain a question for future research. The schema in (40) is sufficient for now.

(44) . . . who person [λx [Mary$_F$ will [$_{VP}$ kiss the person x]]]

If the NP restrictor of the Ā-moved phrase in rebinding utterances such as (21a) (repeated in (45a)) and (45b) is focused, then, according to Trace Conversion, its copy in the ellipsis site is also focused, as the LFs for (45a–b) in (46) show (see Erlewine 2014 for additional benefits of allowing unpronounced F-marked items in ellipsis sites). Such configurations fit the "elided focus" schema in (42b) and therefore satisfy (41a), as the λ-binder c-commands an F-marked item at LF.[15]

(45) a. I know which GIRL he kissed, but not [which BOY]$_1$ *he did* [kiss t_1] .
    b. John likes SUE's boyfriend, but you like [BETH$_1$'s [t_1 boyfriend]].

(46) a. . . . [which boy$_F$ [λy he did [$_{VP}$ kiss the boy$_F$ y]]]
    b. . . . [[Op Beth$_F$] -s [λy [the Beth$_F$ y boyfriend]]]

Conversely, because only the top copy of the operator/quantifier in an Ā-chain is visible at LF (according to Trace Conversion), the presence of focus on this element will not yield a configuration that satisfies (41a). Rebinding utterances that display this configuration, such as (47a), fit the unacceptable "superordinate focus" schema in (43), as the LF for (47a) in (47b) shows.[16]

(47) a. *We know that John kissed a gírl, but we don't yet know [WHICH girl]$_1$ *he did* [kiss t_1] .
    b. . . . [which$_F$ girl [λy he did [$_{VP}$ kiss the girl y]]]

Other rebinding utterances that fit the unacceptable "superordinate focus" schema are (48a) and (48b) (the latter repeated from (28c)). In both cases, the closest c-commanding F-marked item to the rebound variable also c-commands the λ-binder at LF (see (49)).

(48) a. *SUE doesn't know who he kissed, and MARY *doesn't know who*$_1$ *he did* [kiss t_1] , either.
    b. *John LIKES Beth's boyfriend, but Pete HATES *Beth*$_1$*'s* [t_1 boyfriend] .

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[15] Güliz Güneş (pers. comm.) points out that rebinding utterances that display *wh*-degree phrases and fit the "elided focus" schema in (42b) are further constrained: VP-ellipsis cannot be licensed by dummy-*do* (see (i)–(iv)). It appears that the difference between (i)–(ii) and (iii)–(iv) is lexical/syntactic in nature and thus beyond this article's scope.

 (i) *I noticed how FRUSTRATED he looked, but not how FRIGHTENED *he did*.
 (ii) *I know how expensive a CAR she bought, but not how expensive a HOUSE *she did*.
 (iii) I can imagine how FRUSTRATED he'll look tomorrow, but not how FRIGHTENED *he will*.
 (iv) ?I know how expensive a CAR she'll buy, but not how expensive a HOUSE *she will*.

[16] It is worth mentioning that relative clauses that (a) display rebinding configurations and (b) have nonquantified head noun phrases with a focused NP restrictor are unacceptable, as (i) shows (see also Schuyler 2001:12). This observation is captured by the generalization in (41) under the externally headed approach to English relative clauses of this type, such as the matching analysis (Chomsky 1965:137) (see (ii)). Under this analysis, such examples fit the unacceptable "superordinate focus" schema in (43) (see (iii)).

 (i) *I apologized to the TEACHER who I'd insulted, and also to the STUDENT *who I had*.
 (ii) * . . . and also to [$_{DP}$ the [$_{NP}$ [$_{NP}$ STUDENT] [$_{CP}$ [who student]$_1$ *I had* [insulted t_1]]]].
 (iii) . . . and also to [the student$_F$ who student [λx I had [$_{VP}$ insulted the student x]]]

(49) a. ... [Mary$_F$ doesn't know who [λy he did [$_{VP}$ kiss y]]]

b. ... Pete [hates$_F$ [[Op Beth] -s [λy [$_{N'}$ the Beth y boyfriend]]]]

It should be pointed out that, because the Ā-moved possessor in (45b) and (48b) is adjacent to the ellipsis site, it is impossible for utterances such as these to fit the "intervening focus" schema in (42a), as no independent focusable material intervenes between the Ā-moved item and the ellipsis site. Therefore, such utterances are only acceptable if they fit the "elided focus" schema, which requires that the Ā-moved item itself be focused, so that the λ-binder can c-command the Ā-moved item's F-marked copy. As a result, any analysis that can theoretically derive the generalization in (41) (such an analysis will be outlined in sections 3.2–3.4) can account for the fact that the possessor must be focused in (45b). Notice that such an analysis will be extensible, as it will predict that any Ā-moved phrase that immediately precedes a nonclausal ellipsis site from which it extracts must bear focus on its restrictor. This prediction is borne out for another (potential) rebinding configuration, pseudogapping.[17]

(50) a. JOHN likes SUE more than MARY does [BILL$_1$ [like t_1]].

b. *JOHN likes SUE more than MARY *does* [Sue$_1$ [like t_1]].

Now, how is the generalization in (41) to be derived theoretically? Because (41) is disjunctive, I suggest that (41a) and (41b) are reflexes of distinct recoverability conditions on ellipsis. I suggest that rebinding is more permissive in clausal ellipsis configurations (as stated in (41b)) because clausal ellipsis is subject to a QUD-based recoverability condition to which rebinding is irrelevant (following Ginzburg and Sag 2000, Reich 2002, Barros 2014, Barros and Kotek 2018, among others). In section 4, I defend this position. Conversely, I suggest that rebinding is more restricted in VP- and N′-ellipsis contexts (as implied by (41a)) because these forms of ellipsis are subject to a focus-sensitive recoverability condition. For the remainder of section 3, I concentrate on deriving (41a).

3.2 Strengthening the Parallelism Condition

I have demonstrated that T&F's reliance on the relation of enough contrast yields an overly permissive parallelism condition that must be buttressed by exogenous constraints such as Max-Elide. To ensure that it does not overgenerate rebinding utterances, I propose reinstating Rooth's (1985, 1992a,b) relation of appropriate contrast (see (8)) as the foundation of parallelism. For reasons that will become clear in section 3.4, the parallelism condition must be further strengthened

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[17] If indeed pseudogapping is derived via Ā-movement (Jayaseelan 2001, Gengel 2007; contra Baltin 2003), then any analysis that can theoretically derive the generalization in (41) will militate against the syntactic stipulation that remnants of pseudogapping move to a dedicated clause-internal FocP projection. An anonymous reviewer points out that the same might be said for the N′-ellipsis case in (45b): it is feasible that such an analysis can (partly) derive Giannakidou and Stavrou's (1999:305) Contrast Condition on the Licensing of Nominal Subdeletion.

(i) A nominal subconstituent α can be elided in a constituent β only if the remnant of β is not identical to the corresponding part of the antecedent γ of α.

by demanding that the relation of appropriate contrast apply reflexively. For reasons discussed momentarily, the ∃-closure operation in (51) must also be used. This yields the parallelism condition in (52) (henceforth, Parallelism).[18]

(51) ∃-*closure*
For the sake of determining whether β contrasts appropriately with α and vice versa, ∃-bind free variables in α and β.

(52) *Reflexive Roothian parallelism condition on ellipsis*
Modulo ∃-closure, β must contrast appropriately with an antecedent constituent (AC) *and* AC must contrast appropriately with β.

∃-closure allows for phrases that contain an F-marked item and a rebound variable but *not* the variable's binder to be potential PDs. This is because it binds variables in domains in which they would otherwise be free, due to the absence of their regular λ-binders. For instance, the TP labeled "β" in the LF for (1) (repeated below) in (53a) would not be a PD without ∃-closure, as the free variables within this phrase and its antecedent would receive different denotations under certain assignment functions, which violates the first clause of the definition of appropriate contrast (see (8a)). Once ∃-closure applies, this problem disappears: β contrasts appropriately with α and vice versa, and therefore β is the PD (see (53b–c)).

(1) I know who JOHN will kiss and also who$_1$ MARY *will* [kiss t_1] .

(53) a. I know who person λx [$_\alpha$ John$_F$ will kiss the person x] and also who person λy [$_\beta$ Mary$_F$ will [$_{VP}$ kiss the person y]]
   b. *After ∃-closure*
      $[\![\alpha]\!]^o$ = ∃x. J will kiss the person x
      $[\![\beta]\!]^o$ = ∃y. M will kiss the person y
      $[\![\alpha]\!]^f$ = {∃x. J will kiss the person x, ∃x. M will kiss the person x, . . . }
      $[\![\beta]\!]^f$ = {∃y. M will kiss the person y, ∃y. J will kiss the person y, . . . }
   c. $[\![\alpha]\!]^o \in [\![\beta]\!]^f$ and $[\![\beta]\!]^o \in [\![\alpha]\!]^f$; therefore, Parallelism is satisfied.

This situation obtains for all rebinding utterances that fit the "intervening focus" and "elided focus" schemata in (42a) and (42b). In the case of rebinding utterances that fit the "elided focus" schema, the ellipsis site itself makes for a potential PD, as it contains an F-marked element at LF.

3.3 The λ-Intervention Condition

Because the new parallelism condition in (52) allows rebinding phrases (i.e., phrases that contain λ-binders of rebound variables) to be PDs, it incorrectly predicts that rebinding utterances that

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[18] Because it is reflexive and utilizes an ∃-closure operation, the strengthened parallelism condition in (52) bears a striking resemblance to Merchant's (2001) *e*-GIVENness condition. The two recoverability conditions are not identical, however, as *e*-GIVENness applies to ellipsis sites (rather than to phrases that contain them) and permits ellipsis sites and their antecedents to have identical ordinary semantic values (which (52) does not).

fit the unacceptable "superordinate" schema in (43) are potentially recoverable. As already indicated, I argue that (52) does not require further modification so that rebinding utterances that fit (43) are correctly ruled out: instead, I claim that rebinding phrases have been treated in previous literature as PDs because the import of a general restriction on semantic composition that impedes the recoverability of ellipsis has been overlooked. This restriction on semantic composition is presented schematically in (54) (see Kotek 2016 for a similar constraint).

(54) λ-*intervention*
  *[. . . $\underbrace{\qquad\quad \lambda \qquad\quad}$ . . .], iff λ is derived by Trace Conversion

This rule states that λ-binders formed by Trace Conversion (i.e., λ-binders derived from syntactic movement) are interveners to Hamblin-style alternative semantic composition (Hamblin 1973, Rooth 1985, 1992b), which is represented by the wavy arrow in (54). The motivation for (54) comes from Shan's (2004) critique of using variables in semantics. Shan demonstrates that no tenable rule of Predicate Abstraction (Heim and Kratzer 1998) can be defined in Hamblin-style Alternative Semantics, which entails that alternative semantic composition is unable to proceed once a λ-binder derived via syntactic movement is encountered. This entails that such binders are focus-semantic interveners.

Although attempts have been made to make Predicate Abstraction compatible with Hamblin-style Alternative Semantics (see, e.g., Romero and Novel 2013), I follow Kotek (2016) and retain the use of variables but simultaneously assume that Shan's observation about Alternative Semantics is valid. In other words, I assume that (54) is indeed a general constraint on semantic composition. Because the λ-intervention constraint explains why rebinding utterances that fit the "superordinate focus" schema in (43) are unacceptable, I treat its utility as additional evidence for its existence.[19] To take one example, consider (48a), repeated with its LF in (55).

(55) a. *SUE doesn't know who he kissed, and MARY *doesn't know who$_1$ he did* [kiss t_1] , either.

  b. [$_\alpha$ Sue$_F$ doesn't know who person λx he kissed the person x], and [$_\beta$ Mary$_F$ doesn't know who person [λy he did [$_{\underline{VP}}$ kiss the person y]]]

Because the ordinary semantic values of the AC and the PD must be different for a relation of appropriate contrast to obtain (even after $\exists$-closure applies), the best candidate for a PD in (55) is β (see the LF in (55b)), which contains the F-marked element *Mary*. However, a focus semantic value cannot be procured for β, as (56) shows. This is because alternative semantic composition cannot proceed past the maximal projection of the embedded TP (see the dashed box in (56)), as an application of Predicate Abstraction is required and no tenable rule of Predicate

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[19] This problem for Roothian Alternative Semantics is also exploited by Kotek (2016), who demonstrates that association with focus operators such as *only* is impossible if the associated phrase contains a λ-expression. In other words, Kotek shows that λ-binders are "interveners" to association with focus, thereby providing empirical support against Romero and Novel's (2013) relatively recent claim to have solved the problem of defining Predicate Abstraction in a system that uses Hamblin alternatives.
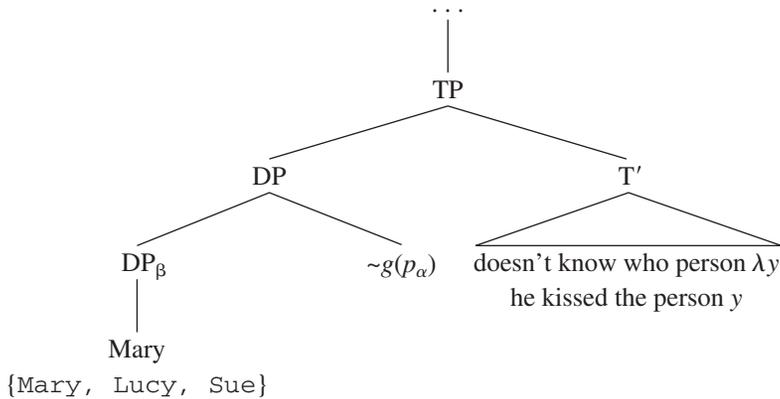
Abstraction is defined in Alternative Semantics (in other words, λ-intervention occurs). Because β must have a focus semantic value in order to contrast appropriately with α and therefore satisfy Parallelism, β is not a suitable PD in (55). Because no other PDs are available in (55), ellipsis is therefore unrecoverable.

(56)
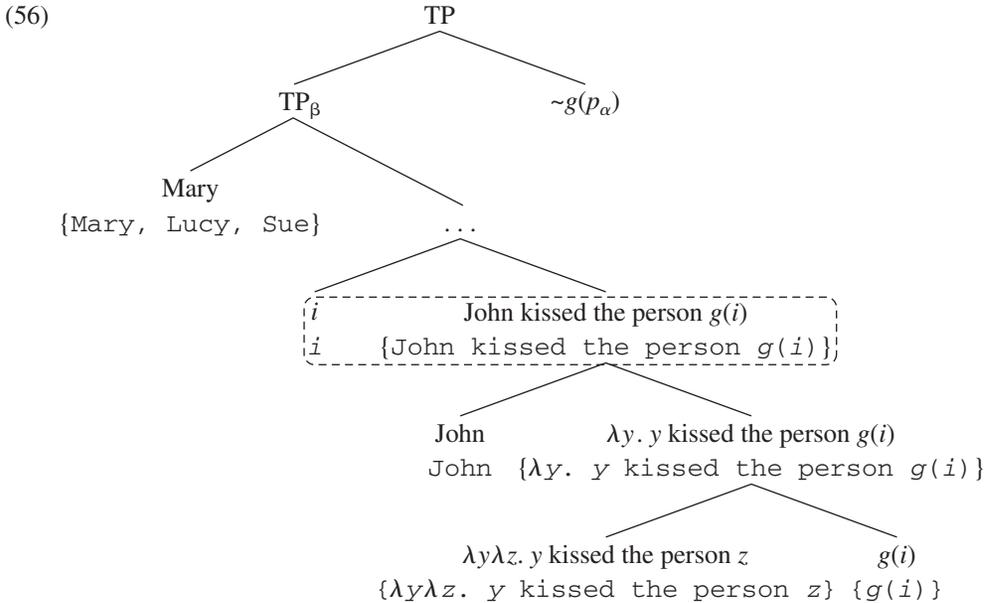
It should be emphasized that the λ-intervention observed in (56) is not unique to elliptical utterances. It is also impossible to use the configuration in (56) to obtain a contrastive interpretation for the F-marked element in the nonelliptical counterpart to (55a) in (57). The F-marked item in this utterance receives a contrastive interpretation because another option is available: the $\sim$ operator can adjoin directly to the F-marked element instead, as (58) shows. The configuration in (58) is clearly useless for recovering ellipsis, however, as the sister of $\sim$ would not contain the ellipsis site, as is required to satisfy Parallelism.

(57) SUE doesn't know who he kissed, and MARY *doesn't know who he kissed*, either.

(58)

```
                              . . .
                               |
                              TP
                _____|_____
               DP                            T′
        _____|_____          _____|_____
     DP_β          ~g(p_α)    doesn't know who person λy
      |                          he kissed the person y
    Mary
 {Mary, Lucy, Sue}
```

To summarize: I propose that rebinding utterances that fit the "superordinate focus" schema in (43) are unacceptable because λ-intervention (see (54)) prevents the procurement of a focus semantic value for what would otherwise be a suitable PD. Without focus semantic values, such phrases cannot contrast appropriately with their antecedents and Parallelism is violated. This yields unacceptability.[20]

3.4 Unacceptable Rebinding Utterances That Fit the Generalization from Section 3.1

The generalization in section 3.1 describes the structural configurations in which ellipsis is potentially recoverable in rebinding utterances. Reasons why one of these structural configurations (namely, the configuration described by (41a)) must obtain were provided in sections 3.2–3.3. However, as mentioned in section 3.1, certain rebinding utterances can fit the description from (41a) and yet still be unacceptable. The examples from section 2.2.2 fall into this category. Keeping to the line of argumentation pursued in sections 3.2–3.3, one expects that such exceptions to (41) should be unacceptable because they violate Parallelism. In this section, I demonstrate that this expectation is met for the rebinding utterances from section 2.2.2. By examining these utterances more closely, I will show why parallelism must be defined reflexively, as in (52).

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[20] One might be concerned that the current analysis is incompatible with the traditional QR analysis of antecedent-contained deletion (ACD; May 1985). This concern is misplaced, however, as acceptable ACD constructions always contain a focused element in the phrase that is dominated by the λ-binder (i). Consequently, once QR and late merger of the relative clause have occurred (Fox 2002) (ii), alternative semantic composition and ∃-closure will deliver a focus semantic value for β that contrasts appropriately with the ordinary semantic value of α, and vice versa (iii).

    (i) JOHN visited every town PETE did.

    (ii) every town λx [$_\beta$ PETE visited the town x] λy [$_\alpha$ John visited the town y]

    (iii) $[\![\exists y.$ John$_F$ visited the town $y]\!]^o \in [\![\exists x.$ Pete$_F$ visited the town $x]\!]^f$, and
        $[\![\exists x.$ Pete$_F$ visited the town $x]\!]^o \in [\![\exists y.$ John$_F$ visited the town $y]\!]^f$, for all assignments g

Note that the current analysis also explains why (iv) is unacceptable. This is because α and β have the same ordinary semantic values after ∃-closure occurs (see (v)), and therefore no relation of appropriate contrast can be established.

    (iv) *John visited every TOWN he did.

    (v) every town$_F$ λx [$_\alpha$ John visited the town$_F$ x] λy [$_\beta$ John visited the town$_F$ y]

Let us reconsider the unacceptable rebinding utterance from (20a) and its acceptable nonelliptical counterpart. One observes that, from an information-structural perspective, the utterance in (59b) is most intuitively understood as a response to the question posed in (59c).

(59) a. *$[_\alpha$ MARY kissed a HIPSTER], but I don't know who$_1$ $[_\beta$ JOHN *did* [kiss t_1]].
     b.   MARY kissed a HIPSTER, but I don't know who$_1$ JOHN *kissed* t_1.
     c.   Who did JOHN kiss?   (eliciting question for (59b))

As a response to the question in (59c), the first coordinand in (59b) is a paradigmatic "contrastive-topic" configuration (Büring 2003). In (59b), the prosodic accent on *Mary* serves to convey that the speaker is answering an alternative question to the one posed in (59c), namely, an alternative derived by substituting the subject *John* in (59c) for a salient alternative (namely, *Mary*). The second coordinand in (59b) is interpreted as a repetition of the eliciting question in (59c).

According to Büring (2003), Constant (2014), and others, the focus semantic value for the first coordinand in utterances such as (59a) and (59b) is a set of a set of propositions.

(60) $[\![\text{Mary}_{CT} \text{ kissed a hipster}_F]\!]^f = \{\{x \text{ kissed } y \mid y \in D_e\} \mid x \in D_e\}$

$$\left\{ \begin{array}{l} \{\text{Mary kissed a hipster, Mary kissed a punk, \ldots}\} \\ \{\text{John kissed a hipster, John kissed a punk, \ldots}\} \\ \qquad\qquad\qquad \ldots \end{array} \right\}$$

If one reexamines the ACs discussed so far in this article, one observes that the focus semantic value for each is a set of elements of type τ (e.g., $\{P, Q, \ldots\}$) and not a set of a set of elements of type τ, as in (60). The exceptional status of the antecedent clause in (60) therefore indicates that, in addition to its ordinary semantic value, the focus semantic value of the AC in (59a) is relevant to ellipsis recoverability.

It is this observation that motivates the strengthened, reflexive version of the parallelism condition in (52). This version correctly predicts that ellipsis is unrecoverable in examples such as (59a). Due to λ-intervention, the most suitable candidate for the PD in (59a) is the TP labeled "β." Although β contrasts appropriately with α in this scenario, α does not contrast appropriately with β. Due to the presence of the contrastive topic in α, the members of $[\![\alpha]\!]^f$ are sets of propositions (see (60)). $[\![\beta]\!]^o$ is not a set of propositions, however: it is simply a proposition. Thus, $[\![\beta]\!]^o \notin [\![\alpha]\!]^f$ (see (61)). Parallelism is therefore not satisfied in (59a).[21]

(61) $[\![\text{Mary}_{CT} \text{ kissed a hipster}_F]\!]^o$ $\quad=\quad$ Mary kissed a hipster
     $[\![\text{Mary}_{CT} \text{ kissed a hipster}_F]\!]^f$ $\quad=\quad$ see (60)
     $[\![\exists x. \text{John}_F \text{ kissed the person } x]\!]^o$ $\quad=\quad$ John kissed someone $\qquad$ (after $\exists$-closure)

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[21] To ensure that a contrastive-topic interpretation is obtained in utterances such as (59b), Constant (2014:93) claims that $\in$ can be supplanted by $^*\in$, which means 'somewhere within' (see Quine 1963:sec. 15). Although this *ancestral membership* relation may be available for interpreting contrastive topics, I argue that it is unavailable for the purposes of satisfying Parallelism.

$$\llbracket \exists x.\ \text{John}_F \text{ kissed the person } x \rrbracket^f \quad = \quad \{\text{John kissed someone, Mary kissed someone,}$$
$$\dots \} \qquad \qquad \text{(after } \exists\text{-closure)}$$
$$\llbracket \text{Mary}_{CT} \text{ kissed a hipster}_F \rrbracket^o \quad \in \quad \llbracket \exists x.\ \text{John}_F \text{ kissed the person } x \rrbracket^f$$
$$\llbracket \exists x.\ \text{John}_F \text{ kissed the person } x \rrbracket^o \quad \notin \quad \llbracket \text{Mary}_{CT} \text{ kissed a hipster}_F \rrbracket^f$$

To summarize: Ellipsis is more difficult or impossible to recover in environments in which the antecedent phrase is information-structurally complex. This fact should not be treated as coincidental, and it can be straightforwardly captured by the reflexive recoverability condition in (52).[22]

3.5 Summary of Section 3

I have now provided my explanation of the generalization in (41a) in full. I have shown in sections 3.2–3.4 that, when coupled, the parallelism condition in (52) and the λ-intervention condition in (54) capture all the rebinding data discussed so far, except for sluicing. Thus, in terms of empirical coverage, the current analysis is superior to the MaxElide approach. In section 3.1, I suggested that rebinding is irrelevant to sluicing (and TP-ellipsis more generally) because TP-ellipsis is subject to a distinct recoverability condition to which rebinding is irrelevant. In the next section, I explicate and provide empirical support for this claim.

4 Sluicing Is Subject to a QUD-Recoverability Condition, Not Parallelism

Ginzburg and Sag (2000) claim that the propositional meaning of fragmentary responses (including sluices) is recovered by recourse to the pragmatic *question under discussion* (QUD; Roberts 2012). Reinterpreted as a claim about how clausal ellipsis is recovered, this position has since been defended in the Minimalist literature (Reich 2002, Barros 2014, Barros and Kotek 2018). I claim that the inability of my analysis to capture sluicing provides additional evidence that this position is correct. I maintain that clausal ellipsis is different from all other forms of ellipsis as far as recoverability is concerned: in English, an elided TP must satisfy a QUD-based constraint

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[22] In (i), successive-cyclic Ā-movement of the *wh*-phrase yields two intermediate variables in the elliptical clause (see (ii), where NP restrictors are ignored). Because QR is clause-bound, the indefinite phrase in the antecedent clause must receive a wide scope interpretation via existential binding. Consequently, the intermediate variables in the elliptical clause have no counterparts in the antecedent clause. Messick and Thoms (2016) propose that this mismatch is responsible for (i)'s unacceptability, as *scopal parallelism* (Griffiths and Lipták 2014), which demands that variables in the elliptical and antecedent clauses be bound from parallel positions, is not satisfied. Aside from the fact that there is no clear conceptual reasoning behind scopal parallelism (why should the precise structural configuration of LFs matter to recovering the *meaning* of an ellipsis site?), Messick and Thoms's analysis fails to explain why (59a) is unacceptable, as nothing prevents successive-cyclic QR from occurring in the antecedent clause, which would satisfy scopal parallelism (see (iii)). Because the current analysis's explanation of (59) extends straightforwardly to (i), it is therefore favored over Messick and Thoms's analysis. See Nakamura 2016 for a critique of other aspects of Messick and Thoms's analysis.

  (i) *JOHN claims that Mary kissed a HIPSTER, but we don't know who PETE *does*.

  (ii) [∃x. John_F claims that Mary kissed x], but I don't know [who λy Pete_F does [$_{VP}$ claim [$_{CP}$ y that Mary [$_{vP}$ y [$_{VP}$ kissed y]]]]]

  (iii) [a hipster λx. Mary_F [$_{vP}$ x [$_{VP}$ kissed x]]], but I don't know [who λy John_F did [$_{vP}$ y [$_{VP}$ kiss y]]]

                                                                       (where *a hipster* undergoes QR)

on recoverability, whereas elided phrases of other syntactic categories must satisfy the parallelism condition in (52).[23]

The notion of QUD comes from theories that view conversation as being propelled forward by explicit or implicit (i.e., inferred) questions and partial or complete responses to them (Roberts 2012). Informally speaking, an explicit or implicit question is a QUD at conversational time t if discourse-salient at t. Although many factors are involved in determining discourse-saliency, it suffices for our purposes to know that utterances containing indefinite expressions such as *someone* yield salient implicit *wh*-questions about the indefinite expression (see (62)) (AnderBois 2014, Barros 2014) and that explicit questions make salient the set of questions to which they belong (see (63)).

(62) a. John kissed someone.
     b. Who did John kiss?   (implicit *wh*-question made salient by (62a))

(63) a. What does John like?
     b. {what does John like, who does John like}   (implicit set of *wh*-questions
                                                made salient by (63a))

Barros (2014) argues that sluicing is recoverable in a question Q only if Q is identical to a QUD. Because the questions in (62b) and (63b) are QUDs when raised by the utterances in (62a) and (63a), respectively, sluicing is recoverable in explicit matrix or embedded questions that match these QUDs.

(64) a. John kíssed someone, but I don't know WHO$_1$ [John kissed t_1] .
     b. A: John kíssed someone.
        B: Really? WHO$_1$ [did John kiss t_1] ?
     c. A: I know what John likes.
        B: Oh yeah? WHAT$_1$ [does John like t_1] ?
     d. I know WHAT John likes, and also WHO$_1$ [he likes t_1] .

Crucially, this QUD-based recoverability condition appeals to semantic identity between questions, not to focus semantic values. Consequently, the inability to procure a focus semantic value for a phrase that reflexively dominates the ellipsis site (due to λ-intervention) is irrelevant to the recoverability of clausal ellipsis.

The novel evidence that I employ to support the postulation of distinct recoverability conditions for clausal and nonclausal ellipsis comes from the licensing of TP- and VP-ellipsis in

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[23] An anonymous reviewer characterizes this position as "constructionist," a description I reject. Which form of ellipsis is governed by which recoverability condition is determined by the elliptical construction's information-structural contribution, not by its syntax. Elliptical constructions that function as *answers* (see Jacobson 2016) or repeat pragmatically salient questions are governed by the QUD-recoverability condition, whereas elliptical constructions in which a rhetorical relation of contrast is established (see Kehler 2002) are governed by the parallelism condition in (52). I describe this as a division between "clausal" and "nonclausal" ellipsis in the main text merely because those constructions that are governed by the QUD-recoverability condition typically have a clause-sized ellipsis site (though not in, e.g., Scottish Gaelic *verb-answers*; see Thoms 2016).

exceptive questions (i.e., questions headed by *wh*-phrases such as *who else* or *which other girl*). Sluicing is permitted in such questions (65), whereas, when no focused item follows the *wh*-phrase, VP-ellipsis is not (66).

(65) a. John kissed Máry, but I don't know [who ELSE]$_1$ [he kissed t_1].
    b. John kissed Máry, but I don't know [which OTHER girl]$_1$ [he kissed t_1].

(66) a. *John kissed Máry, but I don't know [who ELSE]$_1$ *he did* [kiss t_1].
    b. *John kissed Máry, but I don't know [which OTHER girl]$_1$ *he did* [kiss t_1].

Because (66a–b) display archetypical VP-ellipsis rebinding configurations, one expects that these rebinding utterances are unacceptable because Parallelism is not satisfied. To see that this expectation is met, let us consider the LF for (66a) in (67b). Following Barros (2014:180), *else* is an anaphoric exceptive modifier that adjoins to *who*'s silent NP restrictor (see (67a)) and serves to ensure that *who* denotes a set of human individuals that does not include a salient individual in the discourse—in this case, *Mary*—as a member. According to Trace Conversion, a copy of this NP restrictor will remain low at LF, accompanying the rebound variable.

(67) a. [$_{DP}$ who [$_{NP}$ else [$_{NP}$ Ø$_{person}$]]]
    b. John [$_\alpha$ kissed Mary$_F$], but I don't know [who not-Mary-person$_F$] λy he did [$_\beta$ kiss the not-Mary-person$_F$ y]

Due to λ-intervention, the only plausible candidate for the PD in (66a) is the ellipsis site itself, which contains an F-marked element at LF, as (67b) shows. Once $\exists$-closure applies, the relevant semantic values for α and β in (67b) are as follows:

(68) α = $[\![\lambda x.\ x\ \text{kiss Mary}]\!]^o \approx$ *kissing Mary*
    β = $[\![\exists y \lambda z.\ z\ \text{kiss the not-Mary-person}_F\ y]\!]^f$
       $\approx$ {*kissing Sue*, *kissing Lucy*, *kissing Paula*}

It is clear that α is not an element of β in (68), and therefore β does not contrast appropriately with α and vice versa. This means that β cannot be the PD. Because Parallelism is not satisfied, the current analysis correctly predicts that (66a) is unacceptable. This analysis extends to (66b).

    Let us momentarily entertain the notion that λ-intervention does not exist. Let us also adopt a recoverability condition that allows the two phrases being compared to have the same ordinary semantic value (e.g., T&F's (2005) version of the parallelism condition or Merchant's (2001) *e*-GIVENness condition). Under such assumptions, a single recoverability condition may govern all forms of ellipsis, including sluicing. If we adopt T&F's parallelism condition, for instance, sluicing in exceptive questions is expected to be unacceptable, just as VP-ellipsis is. Although under this analysis the entire embedded interrogative clause in (65a) is now a plausible PD (see β in (69a)), this clause cannot actually be a PD for the same reason that the elided VP in (66a) cannot: it does not contrast enough with its antecedent, as (69b) shows.

(69) a. [$_\alpha$ John kissed Mary$_F$], but I don't know [$_\beta$ [who not-Mary-person$_F$] λy [$_{TP}$ he did kiss the not-Mary-person$_F$ y]]

b. ⟦John kissed Mary⟧^{o} ∉
⟦who the not-Mary-person$_F$ λy kissed the not-Mary-person$_F$ y⟧^{f} ≈ {*John kissed Sue*, *John kissed Lucy*, *John kissed Paula*}

Problematically for this unified approach to ellipsis recoverability, sluicing in exceptive questions is acceptable, as (65a–b) have already shown. This suggests that none of the parallelism conditions discussed in this article govern the recoverability of clausal ellipsis.

Barros's (2014) analysis of sluicing utterances such as (65a) uses a QUD-recoverability condition. Barros argues that the antecedent clause in (65a) provides a partial answer to an implicit QUD, *Who did John kiss?*, which is represented as its set of partial true answers in (70a). This set remains discourse-salient but is updated to exclude *John kissed Mary* after the antecedent clause is uttered (see (70b)). Because the embedded interrogative clause in (65a) matches semantically with (70b), sluicing is recoverable.

(70) a. {John kissed Mary, John kissed Sue, John kissed Lucy} ≈ *Who did John kiss?*
b. {John kissed Sue, John kissed Lucy} ≈ *Who else did John kiss?*

Barros's analysis cannot be extended to the VP-ellipsis examples in (66), as it would incorrectly predict VP-ellipsis to be recoverable. Consequently, it appears that two distinct recoverability conditions on ellipsis are required to account for the differing behavior of TP- and VP-ellipsis in exceptive questions, which in turn provides support for the notion that clausal and nonclausal ellipsis are governed by distinct recoverability conditions.

To summarize: A significant implication of the analysis advanced in section 3 is that the parallelism condition in (52) governs the recoverability of nonclausal ellipsis but not clausal ellipsis. I have provided new supporting evidence for this idea from the distribution of ellipsis in exceptive questions.[24]

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[24] As an anonymous reviewer points out, the conclusion that clausal and nonclausal ellipsis are governed by distinct recoverability conditions rests on the assumption that sluices fit the unacceptable "superordinate focus" schema in (43). If this assumption is incorrect, and sluices instead fit either of the acceptable schemata in (42), then one can instead conclude that all forms of ellipsis are licensed by the parallelism condition in (52). So can a plausible analysis of sluicing be developed that yields LFs that fit either (42a) or (42b)? To my mind, the most promising analysis that achieves this treats the sluiced *wh*-phrase as an existentially bound choice function (see Cable 2010) that undergoes exceptional PF movement to escape clausal ellipsis (e.g., Richards 2001). This is essentially Fox and Lasnik's (2003) "one-fell-swoop" account of sluicing, but with standard *wh*-movement replaced by PF movement.

(i)   John kíssed someone, but we don't know . . .
a. Narrow syntax: [$_{FocP}$ [$_{TP}$ John kissed WHO]]
b. LF: [$_\beta$ ∃f. [$_{TP}$ John kissed f(person)]]
c. PF: [$_{FocP}$ WHO$_1$ [$_{TP}$ John kissed t_1]]

Because it denotes a set of propositions and contains no λ-binders, β in (ib) fits the acceptable "elided focus" schema in (42b) and can therefore be used to satisfy Parallelism. Thus, this analysis seems promising for a unified approach to the semantic licensing of ellipsis. Unfortunately, this analysis faces problems elsewhere. Like all one-fell-swoop analyses of sluicing (e.g., Fox and Lasnik 2003, Messick and Thoms 2016), it predicts that readings that require scopal reconstruction are absent from sluices (as there are no intermediate copies of *wh*-movement to reconstruct to in (ia)). This prediction is incorrect, as Agüero-Bautista (2007) shows. Because this one-fell-swoop analysis is untenable, I therefore feel justified in maintaining that the English rebinding data lead naturally to the position defended in the main text.

5 Extensions to Other Rebinding Configurations

As mentioned in section 1, the analysis provided in section 3 aims only to capture rebinding configurations created from overt Ā-movement. In this penultimate section, I provide cursory comments on how the analysis applies to rebinding configurations created by other syntactic dependencies. I will show that, at least for the small dataset considered, the analysis is naturally extensible.

5.1 Quantifier Raising

Inverse scope readings are permitted in clauses that display VP-ellipsis, as the examples in (71) show. If such readings are derived by covert Ā-movement (QR), then utterances such as (71a–b) display rebinding configurations (see (72)).[25]

(71) a. A DOCTOR tried to arrest every patient, and a NURSE tried to [arrest every patient] , too.
          (modified from T&F 2005:232)
      b. A HORSE sat in every corner. A PIG did [sit in every corner] , too.
          (where both ($\exists > \forall$) and ($\forall > \exists$) readings are attested for (71a–b))

(72) a. every patient λx [$_\alpha$ a doctor$_F$ tried to arrest the patient x]
          every patient λy [$_\beta$ a nurse$_F$ did [$_{VP}$ tried to arrest the patient y]]
      b. every corner λx [$_\alpha$ a horse$_F$ sat in the corner x]
          every corner λy [$_\beta$ a pig$_F$ did [$_{VP}$ sit in the corner y]]

The analysis from section 3 correctly predicts that ellipsis is recoverable in (71), as β contrasts appropriately with α and vice versa after $\exists$-closure applies. The analysis also predicts that no inverse scope reading is available if the QR chain is fully contained within a deaccented domain. This is borne out, as (73) shows.

(73) a. Mary THINKS that a horse sat in every corner. Sue KNOWS *that a horse did*
          [sit in every corner] .   ($\exists > \forall$), *($\forall > \exists$)
      b. Mary THINKS that a doctor tried to arrest every patient. Sue KNOWS *that a doctor*
          tried to [arrest every patient] .   ($\exists > \forall$), *($\forall > \exists$)

Inverse scope readings for (73a–b) are unattested because ellipsis is unrecoverable. As the LFs in (74) show, the only plausible PDs for these utterances contain λ-binders, and consequently focus semantic values cannot be procured for these phrases. As a result, they cannot be PDs. Because no other PDs are available, Parallelism is not satisfied.

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[25] Importantly, inverse scope readings are typically disallowed when the subject is a referential expression, rather than an indefinite (see (i)). See Asudeh and Crouch 2002 for arguments that this complication is unrelated to the recoverability of ellipsis.

  (i) A HORSE sat in every corner. BOB did [sit in every corner] , too.   *($\forall > \exists$)

(74) a. Mary [$_\alpha$ thinks$_F$ that [every patient] λx a doctor tried to arrest the patient x]
Sue [$_\beta$ knows$_F$ that [every patient] λy a doctor did [$_{VP}$ try to arrest the patient y]]

b. Mary [$_\alpha$ thinks$_F$ that [every corner] λx a horse sat in the corner x]
Sue [$_\beta$ knows$_F$ that [every corner] λy a horse did [$_{VP}$ sit in the corner y]]

From this small and simple QR dataset, it appears that the analysis from section 3 correctly accounts for the availability of inverse scope readings in VP-ellipsis environments. Whether or not the analysis can handle an expanded and more complex QR dataset must remain an issue for future research, however.

5.2 Rebound Variable Pronouns

The observation that a sloppy interpretation is available for (75) shows that elided VPs may contain rebound variable pronouns.

(75) [Every PRISONER]$_i$ misses her$_i$ children and [every WARDEN]$_k$ *does* [miss her$_k$ children] , too.

If rebound variable pronouns are λ-bound (as is commonly assumed), then (75) displays the LF in (76). Since the analysis from section 3 prohibits rebinding phrases from having focus semantic values, the question arises whether or not it can account for the observation that utterances such as (75) are acceptable under a sloppy reading.

(76) [Every prisoner$_F$] λx the prisoner$_F$ x misses the prisoner x's children and [every warden$_F$] λy the warden$_F$ y does [$_{VP}$ miss the warden y's children]

I suggest that (75) is acceptable because the elided VP itself makes for a suitable PD. If VP is the PD, then the presence of the λ-binder is no obstacle to recovering ellipsis.

A bound variable pronoun can optionally bear focus if its binding phrase contains a focused item and if it has an antecedent pronominal correlate (see (77)) (Sauerland 1998, Jacobson 2000). If the semantic correspondent of phonological focus is F-marking (as has been assumed throughout this article), then it appears that bound variable pronouns can be F-marked in the environment exemplified by (77).

(77) [Every prisoner]$_i$ misses her$_i$ children and [every WARDEN]$_k$ misses {HER/her}$_k$ children, too.

Because the analysis in section 3 allows ellipsis sites to host F-marked elements at LF, nothing prevents us from assuming that F-marking is optionally borne by the rebound variable pronoun in (75) even when the phonological reflex of F-marking (i.e., a prosodic accent) is suppressed. I wish to make a stronger claim than this here: namely, that rebound variable pronouns whose binders are focused are themselves *always* F-marked at LF. According to this claim, the LF for (75) is actually (78), not (76).

(78) [Every prisoner$_F$] λx the prisoner$_F$ x misses the prisoner$_F$ x's children and [every warden$_F$] λy the warden y does [$_{VP}$ miss the warden$_F$ y's children]

Under this approach, (75) fits both the acceptable "intervening focus" schema in (42a) and the acceptable "elided focus" schema in (42b). Consequently, the analysis from section 3 correctly predicts that ellipsis is recoverable in (75).

This explanation only applies to configurations in which the rebound variable pronoun and its binding phrase can be F-marked. As mentioned above, if an element in its binding phrase cannot be focused, a bound pronoun cannot be F-marked (79). Problematically, ellipsis is also licensed in constructions such as (79), as (80) shows.

(79) The new warden SUSPECTS that every prisoner will miss her children. The old warden KNOWS that [every {prisoner / *PRISONER}] will miss {her / *HER} children.

(80) The new warden SUSPECTS that every prisoner will miss her children. The old warden KNOWS *that* [*every prisoner*] *will* [miss her children] .

Notice that (80) necessarily receives a strict interpretation, however. Also notice that there is a preference to pronominalize the second token of *every prisoner* to *she*, in accordance with DOAP (see section 2.2.5). From these observations, one may posit that the second sentences in (79) and (80) do not contain rebound variable pronouns after all: instead, these are referential E-type pronouns (Evans 1980). If these are treated similarly to standard referential pronouns for the sake of recoverability (i.e., as free variables under an assignment function, as Merchant (2001: 207) does), then Parallelism is straightforwardly satisfied in (80).

Recourse to E-type pronouns can also capture an additional observation related to sloppy readings. To see what this observation is, first consider the utterance in (81), which only has a strict reading.

(81) I know what MARY bought the teacher that John admires, and also what$_1$ BILL *did* [buy [[the teacher]$_2$ that John admires t_2] t_1] .

The analysis from section 3 appears to predict that ellipsis is unacceptable in (81), contrary to observation. To see why, consider the LF for (81) in (82) (where the import of restrictors is ignored for clarity's sake). The most plausible candidate for the PD here is the TP labeled "β." Problematically, β contains a phrase whose ordinary semantic value was built using Predicate Abstraction: this is the elided relative clause *the teacher that John admires.* This means that no focus semantic value can be procured for β, and so β cannot contrast appropriately with α. As a result, ellipsis should not be licensed in (81) according to the current analysis.

(82) I know what λv [$_α$ Mary$_F$ bought [the teacher that John λx admires x] v], and what λy [$_β$ Bill$_F$ did [$_{VP}$ buy [the teacher λz that John admires z] y]]

This apparent problem is circumvented if the purported relative clause in the ellipsis site in (81) is actually an E-type pronoun (see (83)). Parallelism is satisfied in (83) (as the reader can confirm), and therefore the current analysis correctly predicts that (81)/(83) is acceptable.

(83) I know what MARY bought [the teacher that John admires]$_i$, and also what$_1$ BILL *did* [buy her$_i$ t_1] .

When a relative clause cannot be substituted for an E-type pronoun in utterances similar to (81), the current analysis indeed does predict that unacceptability will arise. This prediction is borne out, as (84) demonstrates. A strict reading of this utterance is available (as an E-type pronoun can be used), whereas a sloppy reading is not.

(84) I know what MARY bought the teacher that she admires, and also what BILL did.
　　Strict reading:　　*also what Bill bought the teacher that Mary admires*
　　Sloppy reading: #*also what Bill$_i$ bought the teacher that he$_i$ admires*

The relative clause must be retained in order to obtain the sloppy reading of (84), as (85) shows. The relative clause's presence prevents the most plausible candidate PD β from receiving a focus semantic value, and this therefore prevents ellipsis from being recovered. This precludes a sloppy reading for (84).

(85) I know what λv [$_\alpha$ Mary$_i$ bought [the teacher λx that she$_i$ admires x] v], and also what λy [$_\beta$ Bill$_k$ did [$_{VP}$ buy [the teacher λz that he$_k$ admires z] y]]

To summarize: From the small dataset discussed here, it appears that the analysis from section 3 correctly accounts for the availability of sloppy readings that arise in VP-ellipsis environments due to the presence of rebound variable pronouns. It also appears that, once Grodzinsky and Reinhart's (1993) Rule I and Fox's (2000:115) Rule H are adopted (or an alternative economy condition on binding; see Reuland 2011:131–136), the analysis can also capture Dahl's (1973, 1974) famous dataset (see Crnič 2017 for details). The analysis also handles Merchant's (2001) "inmate/lifer" cases, in the same manner that Erlewine (2014) does.

5.3 String-Vacuous Movement

At first glance, it appears that the strengthened parallelism condition in (52) undergenerates the utterance in (86a). This is because, for Parallelism (52) to be satisfied, the ellipsis site must contain, or be contained in a phrase that includes, an F-marked item (see (8c)). Furthermore, this phrase cannot include a λ-binder derived from Ā-movement (per the λ-intervention condition). Because no such phrase is observed in (86a) (as its LF in (86b) shows), ellipsis is incorrectly predicted to be unrecoverable. Precisely the same problem arises with the *wh*-adverbial clause in (87a) (this example is modified from Schuyler 2001; I treat the *wh*-adverbial phrase in (87a) as having been base-generated as a TP modifier, following Hartman 2011).

(86) a. Someone kissed Jóhn, but we don't know WHO$_1$ t_1 *did* [kiss John] .
　　b. . . . [who$_F$ person λy the person y did [$_{VP}$ kiss John]]

(87) a. Mary kissed Jóhn. We just don't know WHEN$_1$ t_1 *she did* [kiss John] .
　　b. . . . [when$_F$ time λy the time y she did [$_{VP}$ kiss John]]

Utterances such as (86a) and (87a) are only problematic for the current analysis if the *wh*-phrase undergoes string-vacuous Ā-movement, as assumed in (86) and (87). I suggest that no such Ā-movement occurs, and that the correct representations for these utterances are actually

(88a) and (89a), respectively. Because no Ā-movement occurs, no λ-expression is created at LF (see (88b) and (89b)).

(88) a. Someone kissed Jóhn, but we don't know WHO *did* [kiss John] .
    b. [$_\alpha$ Someone kissed John], but we don't know [$_\beta$ who$_F$ did [$_{VP}$ kiss John]]

(89) a. Mary kissed Jóhn. We just don't know WHEN *she did* [kiss John] .
    b. [$_\alpha$ Mary kissed John]. We don't know [$_\beta$ when$_F$ she did [$_{VP}$ kiss John]]

With no λ-intervention, the TP labeled "β" in (88b) and (89b) is free to satisfy Parallelism. Furthermore, β contrasts appropriately with its antecedent α, as their ordinary semantic values differ (β denotes a set of propositions, while α does not).

Evidence for the lack of Ā-movement in (86)–(87) comes from the observation that the *wh*-phrases in these utterances cannot host *wh*-the-hell expressions (see (90)). These expressions may only attach to overtly Ā-moved *wh*-phrases (Brame 1978), as (91) shows. The fact that the *wh*-subject may host a *wh*-the-hell phrase in (91) indicates that, unless prohibited by an independent factor (such as satisfying the parallelism condition on ellipsis recoverability), string-vacuous Ā-movement is optional.[26]

(90) a. Someone kissed Jóhn, but we don't know [WHO (*the hell)] *did*.
    b. Mary kissed Jóhn. We just don't know [WHEN (*the hell)] *she did*.

(91) [Who (the hell)]$_1$ t_1 gave [WHAT (*the hell)] to Sue?

6 Conclusion

Takahashi and Fox's (2005) parallelism condition on ellipsis recoverability cannot account for the distribution of acceptability in rebinding utterances without additional assumptions in place. In an attempt to capture the rebinding dataset, Takahashi and Fox adopt Merchant's (2008) MaxElide condition, an exogenous constraint on ellipsis. I demonstrated that Takahashi and Fox's MaxElide analysis is empirically inadequate, both ruling in unacceptable rebinding utterances and ruling out acceptable ones. By doing this, I also showed that all MaxElide analyses (or theoretical reductions thereof) are untenable.

Having rejected MaxElide, I argued that the distribution of acceptability across the rebinding dataset can be captured by a strengthened parallelism condition founded on Rooth's (1992a) notion of appropriate contrast. In other words, I argued that unacceptable rebinding utterances are unrecoverable (i.e., not semantically licensed). I also claimed that rebinding phrases (i.e.,

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[26] Unlike in (89a) in the main text, the *wh*-adverbial in (i) (taken from Hartman 2011:378) clearly undergoes Ā-movement from a position adjoined to TP to Spec,CP (as evidenced by T-to-C movement). Because this Ā-movement yields a λ-expression, which in turn yields an LF that fits the unacceptable "superordinate focus" schema (see (ii)), the unacceptability of (i) is explained under the current approach: no focus semantic value can be procured for β in (ii). See Hartman 2011 for an alternative analysis of the difference in acceptability between (89a) and (i).

(i) *I know Anna is going to resign. The question is: WHEN *is she* [going to resign] ?

(ii) . . . [$_\beta$ when$_F$ time λ*y* the time *y* she is [$_{VP}$ going to resign]]

phrases that contain rebound variables and their λ-binders) never satisfy this strengthened parallelism condition. This is because focus semantic values cannot be procured for rebinding phrases, since there is no tenable Predicate Abstraction rule in Hamblin-style Alternative Semantics (Shan 2004) that can concatenate the λ-binder and its sister. I demonstrated that this analysis straightforwardly captures the distribution of acceptability in those rebinding constructions that display nonclausal ellipsis.

An important implication of this analysis was that clausal ellipsis (e.g., sluicing, fragment answers) and nonclausal ellipsis are subject to distinct recoverability conditions. I provided empirical support for this view from TP- and VP-ellipsis in exceptive questions. Although the purview of my analysis was rebinding configurations derived from overt Ā-movement, I also showed how the analysis can be extended to rebinding configurations derived from other syntactic dependencies, including QR and rebound variable pronouns. If it withstands future scrutiny, this article provides new evidence that (a) MaxElide does not exist (Messick and Thoms 2016), (b) λ-binders created via Trace Conversion (Fox 2000) are focus interveners (Kotek 2016), and (c) clausal ellipsis and nonellipsis are subject to distinct recoverability conditions (Weir 2017).

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