Revisiting rebinding: An alternative to MaxElide

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Abstract

Using Takahashi & Fox (2005) as an exemplar, Griffiths (2017) argues that analyses of English ellipsis that make recourse to a *MaxElide* constraint (or a theoretical reduction thereof) are misguided, and that one must look beyond MaxElide to explain the distribution of acceptability in the elliptical rebinding constructions that MaxElide was originally invoked to explain. Griffiths offers a novel analysis which attributes the unacceptability observed in the rebinding dataset to an inability to satisfy a more restrictive, reflexive version of Takahashi & Fox's (ibid.) *Parallelism* condition on ellipsis recoverability. This condition is a blend of Rooth's (1992b) focus licensing condition and Merchant's e-GIVENness condition. The current article presents a highly condensed summary of Griffiths (2017).

1. Introduction

Takahashi & Fox (2005) (T&F) propose that the meaning of an ellipsis site can only be recovered if *Parallelism* is satisfied (3). Parallelism is built from weakened definitions from Rooth (1992a, b) (see 1 and 2).

(1)   For ellipsis to be recovered in an ellipsis site E there must exist a constituent β that reflexively dominates[1] E and which satisfies the Parallelism condition in (3). This constituent is called the *parallelism domain* (PD). (cf. Rooth 1992b)

(2)   A phrase β 'Contrasts Enough' with a phrase α iff:[2]

    a.   for all assignments g, the ordinary semantic value of α with respect to g (henceforth $[\![\alpha]\!]^{o}$) is an element of the focus semantic value of β with respect to g (henceforth $[\![\beta]\!]^{f}$);

    b. α and β don't overlap syntactically. (cf. Rooth 1992a, b)

(3)   *Parallelism*
    β must Contrast Enough with an antecedent constituent (AC). (modified from T&F 2005:229)

Assuming that alphabetic variance across distinct λ-expressions yields their semantic equivalence (Sag 1976), the elided VP in (4) Contrasts Enough with its antecedent VP, as (5) shows.[3] Because it satisfies Parallelism, the elided VP is the *parallelism domain* (PD).

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

(5) $[\![\alpha]\!]^{o} = \lambda x.\ x$ kiss John, $[\![\beta]\!]^{f} = \{\lambda y.\ y$ kiss John$\}$
    $[\![\alpha]\!]^{o} \in [\![\beta]\!]^{f}$, therefore Parallelism is satisfied in (4).

In (6), the elided and antecedent VPs both contain variables, as the LF for (6) in (7) shows. These variables are bound from VP-external positions by different λ-binders. T&F refer to such variables as *rebound*. The variables in the elided and antecedent VPs in (7) are free within them, and therefore the denotations of these variables may vary across assignments when being compared to determine if Parallelism holds.

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[1] XP reflexively dominates YP if XP dominates YP or XP = YP. (Takahashi & Fox 2005:237)

[2] The relation of Contrasting Enough described in (2) is my term for T&F's weakened form of Rooth's (1992a) relation of Appropriate Contrast. Appropriate Contrast is more restrictive than Enough Contrast because Appropriate Contrast also requires that the ordinary semantic values of α and β are different for all assignments g.

[3] In examples: greyout 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 caps represent information-structurally triggered accent placement; acute accents on vowels represent neutral stress; italics denote post-prominence deaccentuation; subscripted 'F' adorns semantically F-marked items.

Because two distinct variables will not be mapped to the same element in a domain for all assignments g (Sag 1976), the first clause of (2), and hence Parallelism, is violated. Thus, the elided VP in (6) does not satisfy Parallelism. This situation obtains for all utterances whose ellipsis site contains a rebound variable. I henceforth refer to such utterances as *rebinding utterances* (RUs).

(6)   I know who$_1$ JOHN will [kiss t_1], and also who$_2$ MARY *will* [kiss t_2] .

(7)   I know who [$_\alpha$ λx John$_F$ will [$_{VP}$ kiss x]] and also who [$_\beta$ λy Mary$_F$ will [$_{VP}$ kiss y]]

The smallest possible PD in an RU is therefore the smallest phrase β that contains both the rebound variable **and** its λ-binder (henceforth, the *rebinding phrase*). Although the elided VP in (6) does not satisfy Parallelism, ellipsis is recoverable in (6) because the rebinding phrase β in (7) satisfies it:

(8)   *For the LF for (6) in (7):*
        $[\![\alpha]\!]^o = \lambda x.$ John will kiss x, $[\![\beta]\!]^f = \{\lambda y.$ Mary will kiss y, $\lambda y.$ John will kiss y, … $\}$
        $[\![\alpha]\!]^o \in [\![\beta]\!]^f$, therefore Parallelism is satisfied in (6)

According to T&F's analysis, ellipsis is recoverable in (9), as the rebinding phrase β and its antecedent α have the same denotation (roughly, $\exists x.$ *John kissed x*) and therefore β Contrasts Enough with α, hence satisfying Parallelism. To account for this RU's unacceptability, T&F introduce an exogenous constraint on licensing ellipsis. They claim that, if multiple phrases that are morphosyntactically licensed for ellipsis (henceforth, XPs) are necessarily contained in the same PD,[4] 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* (10), following Merchant (2008).

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

(10)   *MaxElide* (Takahashi & Fox 2005:229)
        Elide the biggest deletable constituent reflexively dominated by PD.

Under the MaxElide approach, (9) is unacceptable because minimal elision (VP ellipsis) occurs within the PD (i.e. β), which flouts MaxElide. If maximal elision (TP ellipsis) occurs instead (see 11), MaxElide is satisfied. Notice that MaxElide is satisfied in (7) because the presence of the intervening focused item *Mary* precludes TP ellipsis.

(11)   We heard that [$_\alpha$ John'll kíss someone], but we don't yet know [$_\beta$ WHO$_1$ [$_{TP}$ he will [$_{VP}$ kiss t_1]]].

I demonstrate in §2 that, in addition to being an *ad hoc* constraint (why is maximal elision only required in PDs, and not everywhere maximal elision is possible?), MaxElide is descriptively inadequate, both over- and undergenerating English RUs. Considering that T&F appeal to MaxElide because their Parallelism condition treats unacceptable RUs such as (9) as semantically recoverable, the failure of MaxElide suggests that their version of Parallelism is incorrect, and that a more restrictive version of Parallelism – one which treats RUs such as (9) as straightforwardly unrecoverable – is needed. In §3, I offer such a version of Parallelism and show that it accurately captures the distribution of acceptability across the RU dataset. Adopting my version of Parallelism has a number of broad implications. While these implications cannot be addressed in this short paper, I outline their nature as part of my concluding remarks in §4 and direct the reader to Griffiths (2017), where they are discussed in detail.

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

2. Problems with the MaxElide approach to rebinding

In this section I show that, even when buttressed by additional assumptions, T&F's MaxElide analysis both over- and undergenerates, ruling out acceptable RUs and ruling in unacceptable ones. (Note that additional criticism of T&F's analysis can be found in Messick 2015 and Messick & Thoms 2016. Criticism of Messick & Thoms 2016 is provided by Nakamura 2016, Griffiths 2017, and Merchant 2018).

2.1. *When intervening focus has no effect*

According to the MaxElide approach, VP ellipsis is permitted in (6) because an intervening focus precludes TP ellipsis. Under this analysis, one expects that VP ellipsis is also permitted in RUs similar to (9) when an intervening focus precludes TP ellipsis. This expectation is not met, as the examples in (12) show (12b is modified from Lasnik & Park 2013:240).

(12) a. ??MARY kissed a HIPSTER, but I don't know who$_1$ [$_{TP}$ JOHN *did* [$_{VP}$ kiss t_1]].

 b. *MARY sung a song about LOVE, but I don't know what$_1$ [$_{TP}$ JOHN *did* [$_{VP}$ sing a song about t_1]].

The MaxElide approach overgenerates in this instance, ruling in these degraded/unacceptable RUs.

2.2. *Focused restrictors*

Consider the RUs in (13), in which the NP restrictor of the bracketed A′-moved phrase is contrastively focused (these examples are modified from Schuyler 2001).

(13) 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] .

The LFs for the elliptical clauses in these RUs, which are given in a generalised form in (14), each exhibit a rebinding configuration to which MaxElide applies. Resultantly, TP ellipsis is favoured over VP ellipsis, which should make the RUs in (13) unacceptable, contrary to observation. Thus, without further assumptions being added, MaxElide undergenerates in this instance.

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

To account for the acceptability of these RUs, T&F (2005:235) follow Sauerland (1998) and assume that if an element in a head of an A′-chain is focused then focus is optionally present within the lower copies. Further assuming that A′-movement proceeds successive cyclically through vP, T&F argue that MaxElide is satisfied in (13) because the presence of focus in the intermediate copy of A′-movement precludes TP ellipsis, as the copy-theoretic representation of (13a) in (15) shows.

(15) I know which GIRL he kissed, but not ⟨which BOY⟩ he did [$_{vP}$ ⟨which BOY⟩ [kiss ⟨which boy⟩] .

This solution has two shortcomings. Firstly, it is not restrictive enough. It predicts that MaxElide can be satisfied in all VP ellipsis RUs in which the head of the A′-chain contains a focused element, as all such RUs should be capable of having focused intermediate copies that block higher TP ellipsis. As the unacceptable example in (16) shows (repeated from 9), this prediction is not borne out.

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

Secondly, the notion that covert foci block ellipsis is rather implausible. T&F assume during most of their

paper that intermediate copies of A′-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 summarise: even with additional assumptions in place, T&F's analysis cannot account for the acceptability of RUs in which the NP restrictor inside the head of the A′-chain is contrastively focused.

2.3. Rebinding utterances that display cross-clausal A′-movement

Consider the RUs in (17), in which cross-clausal A′-movement occurs.[5]

(17)   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 §2.2 above, T&F assume during most of their paper that intermediate copies of A′-movement are ignored at LF. Under this assumption, the elliptical clauses for the utterances in (17) each exhibit the LF rebinding configuration schematised in (18):

(18) $\ldots [_{PD} \lambda y \ldots [_{VP} \ldots [_{VP} \ldots y \ldots]]]$

Because the two elidable VPs in (18) 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 RUs in (17) should be unacceptable, as lower VP ellipsis is observed. MaxElide therefore undergenerates here.

2.4. Unacceptable rebinding utterances that satisfy MaxElide

Consider the RUs in (19) to (21). These RUs involve relativisation (19a, 20, 21a-b), tough-movement (19b), and A′-movement that forms a Saxon genitive DP (19c)[6] and an *as*-comparative clause (21c).[7]

(19)   (*From Messick 2015*)

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[5]Additional comments are required about A′-extraction from infinitival VP ellipsis here. Firstly, my consultants reported no difference in acceptability between object and subject control configurations (compare (17c) and (i) below). Secondly, VP ellipsis is prohibited in adjunct infinitival TPs regardless of whether the elided VP hosts an A′-trace, as a comparison of (ii) and (iii) shows (see Johnson 2001 for discussion). Lastly, T&F (2005:233) report that A′-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 & Thoms (2016:325) note, *agree* therefore patterns dissimilarly to raising predicates such as *likely* (see 17b) and control verbs like *hope* (see 17c). 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 DP-gap, rather than an elided VP. In other words, they reanalyse *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] .

[6]For evidence that possessors move from within the complement of D into SpecDP in Saxon genitives, see Munn (1995), Radford (2000), and Alexiadou (2005).

[7]In the case of (20) and (21c), it is worth comparing these examples to their acceptable non-elliptical counterparts in (i) and (ii) below which, while tautologous, can be used as evasive answers to *which girls should John kiss?* and *how many girls does John like?* respectively (cf. Schuyler 2001: fn. 6).

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

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

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]].

(20)   * John should KISS [every girl]$_1$ *he should* [kiss t_1] .   (Schuyler 2001)

(21)   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] !

(22)   …[$_{PD}$ λy …[$_{\underline{XP}}$ …y …]]

Each of these RUs exhibits a rebinding configuration that fits the LF schema in (22). In (22), there is only one elidable phrase in the PD. Higher TP ellipsis is unavailable in the PDs for the relativisation cases in (19) to (21) 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 utterances above because of the presence of intervening focus. Because there is only one elidable phrase in the PDs of these RUs, MaxElide is satisfied in each case. The observed unacceptability of these RUs therefore demonstrates that the MaxElide approach overgenerates in this instance, as it incorrectly predicts that these RUs are acceptable.

These data do not provide direct evidence against the MaxElide approach, however. It might be the case that these utterances are unacceptable because they violate an independent constraint unrelated to rebinding. In particular, it might be the case that these RUs are unacceptable because they flout a general preference for maximising anaphoricity, such as Williams' (1997:603) Don't Overlook Anaphoric Possibilities condition:

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

DOAP has an undeniable effect on utterances similar to those in (19–21). For instance, DOAP clearly affects (24), which is the same as (19a), minus (19a)'s relative clause. This utterance is only considered fully acceptable if the deaccented object is pronominalised, in accordance with DOAP.

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

Despite DOAP's observable effect on utterances similar to (19–21), the unacceptability of (19–21) cannot be related to DOAP, as there is nothing to anaphorise in (19b) and (21b-c): these RUs satisfy DOAP and yet remain unacceptable. This observation confirms that the cause of (19–21)'s unacceptability is related to rebinding, not anaphorisation. This point is reinforced by comparing the unacceptable example in (19a) to the acceptable utterance in (25) below. Both utterances violate DOAP, but only the former displays a rebinding configuration.

(25)   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 (19–21), the inability of MaxElide to capture these data greatly undermines it. The efficacy of the MaxElide approach is further diminished by the analysis offered in §3, which straightforwardly captures all of the rebinding data discussed so far, including (19) to (21).

To summarise §2: The leniency of their Parallelism condition demands that T&F introduce an exogenous constraint to rule out unacceptable yet seemingly recoverable RUs. I demonstrated in this section that the constraint to which they appeal – MaxElide – is not only *ad hoc* but descriptively inadequate. The inefficacy of MaxElide indicates that the assumption that originally motivated it, which is that ellipsis is

recoverable in RUs such as (9), is incorrect. This being the case, it seems sensible to pursue an analysis that appeals to constraints on recoverability to rule out unacceptable RUs. I offer such an analysis in §3.

3. Analysis

3.1. *Generalising over the rebinding dataset*

From the examples presented in §1 and §2, it appears that RUs form a rather heterogeneous dataset. My first task in this section is therefore to provide an observationally-adequate generalisation over the rebinding data. Once such a generalisation is obtained, the remaining task will be to theoretically derive it.

  I claim that a valuable generalisation over RUs can only be obtained if we concentrate on their LFs. However, to formulate an adequate LF generalisation, we must first adopt a more refined view of how certain long-distance dependencies are interpreted at the LF interface. In particular, the 'classic' view of how syntactic A′-chains are interpreted at LF (cf. Heim & Kratzer 1998) assumed in the discussion so far must be supplanted by Fox's (2002) 'Trace Conversion' view. Although both views treat top copies of A′-chains as immediately c-commanding a λ-binder, the classic view treats lower copies as bare variables (26b) whereas the Trace Conversion view treats them as definite descriptions (26c).[8]

(26) a. [which boy]$_1$ . . . $\langle$which boy$_1\rangle$ . . . $\langle$which boy$_1\rangle$
      b. which boy λx . . . x . . . x
      c. which boy λx . . .   the boy x . . .   the boy x

Adopting this more articulated conception of how A′-chains are interpreted at LF, I now offer the following generalisation over the RU dataset:

(27) *Generalisation over rebinding utterances*
      A prerequisite for ellipsis being permitted in an RU is that:
      (i)   the λ-binder of the rebound variable asymmetrically c-commands an F-marked item at LF, **or**
      (ii) the rebound variable is contained in an elided TP.

This generalisation states that (27i–ii) are necessary but insufficient conditions for ellipsis being permitted in RUs. As I will demonstrate shortly (and as the reader can confirm), the generalisation in (27) separates the acceptable RUs discussed in §1 and §2 from the unacceptable ones to a high degree of accuracy. However, the reader will notice that there are still some RUs that fit the description in (27i) but are nonetheless unacceptable (the RUs discussed in §2.1 fit this description). An explanation for why some RUs fit (27i) but are nonetheless unacceptable is provided towards the end of the next subsection.

  In schematic terms, (27) states that RUs that fit one of the LF schemata in (28) are acceptable, whereas those that fit the LF schemata in (29) are unacceptable.

(28) a. . . . [λx . . . [. . . Y$_F$ . . .   [$_{XP}$ . . . x . . .]]] . . .   *intervening focus*
      b. . . . [λx . . .   [$_{XP}$ . . . [Y$_F$ x] . . .]] . . .   *elided focus*
      c. . . . [λx . . .   [$_{TP}$ . . . x . . .]] . . .   *sluicing*

(29) * . . . [Y$_F$ . . . [λx . . . [$_{\{VP/N'\}}$ . . . x . . .]]] . . .   *superordinate focus*

Exemplar RUs for each schema are provided below. RUs in which a focused element intervenes between the ellipsis site and the head of the A′-chain, such as (6) (repeated below) fit the 'intervening focus' schema

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[8]In (26b-c), the intermediate copy undergoes vacuous semantic composition with its sister (Lechner 1998, Rett 2006:364, Ruys 2015). Evidence that the intermediate A′-copies are visible at LF comes from 'binding reconstruction' configurations. It should also be noted that the generalisation offered in (27) captures RUs that display 'scope reconstruction' only if intermediate copies are treated as higher-order variables that range over either generalised quantifiers (e.g. Cheirchia 1995, Rullman 1995, Ruys 2015) or determiners (Erlewine 2014). See Griffiths (2017) for details.

in (28a), as (6)'s LF in (30) shows. (Note that, for ease of exposition, I continue to ignore variables derived from intermediate A′-copies in LF representations.)

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

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

If the NP restrictor of the A′-moved phrase in RUs such as (13a) (repeated in 31a) and (31b) is focused, then, according to Trace Conversion, its copy in the ellipsis site is also focused, as the LFs for (31a-b) in (32) show. Such configurations fit the 'elided focus' schema in (28b) and therefore satisfy (27i), as the λ-binder c-commands an F-marked item at LF.

(31)   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]].

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

Conversely, because only the top copy of the operator/quantifier in an A′-chain is visible at LF (according to Trace Conversion), the presence of focus on this element in will not yield a configuration which satisfies (27i). RUs that display this configuration, such as (33a), fit the bad 'superordinate focus' schema in (29), as the LF for (33a) in (33b) shows.

(33)   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 RUs that fit the bad 'superordinate focus' schema are (34a) and (34b) (the latter repeated from 19c). In both cases, the closest c-commanding F-marked item to the rebound variable also c-commands the λ-binder at LF (see 35).

(34)   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's* [t_1 boyfriend] .

(35)   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]]]

The question now arises about how to theoretically derive the generalisation in (27). Because (27) is disjunctive, I suggest that (27i) and (27ii) are reflexes of distinct recoverability conditions on ellipsis. I suggest that rebinding is more permissive in TP ellipsis configurations (as stated in 27ii) because TP ellipsis is subject to a QUD-based recoverability condition to which rebinding is irrelevant (following Ginzburg & Sag 2000, Reich 2002, Barros 2014, Barros & Kotek 2017, among others; though see Barros & Kotek 2018 for sceptical remarks). While this rather bold claim cannot be defended in this short paper, it is defended at length in Griffiths (2017). Conversely, I suggest that rebinding is more restricted in VP and N′-ellipsis contexts (as implied by 27i) because these forms of ellipsis are subject to a focus-sensitive recoverability condition. For the remainder of this paper, I concentrate solely on deriving (27i).

3.2.   *Deriving the generalisation in (27i) (and its exceptions from §2.1)*

As mentioned in §1, I pursue the straightforward idea that RUs that satisfy independent morphosyntactic constraints on ellipsis are acceptable when recoverable and unacceptable when unrecoverable. In this section, I offer an analysis that operationalises this idea. The analysis has three ingredients: (i) a strengthened version of T&F's Parallelism constraint that reinstates Rooth's (1992a,b) idea that Appropriate contrast is at the core of VP ellipsis licensing (36), (ii) an existential-closure operation (37), and (iii) a general constraint

on Hamblin-style Alternative Semantic composition (38).[9]

(36)   *Parallelism*   (strengthened version):
Modulo $\exists$-closure, β must Contrast Appropriately with an antecedent constituent (AC) **and** AC must Contrast Appropriately with β.

(37) $\exists$-*closure*
For the sake of determining whether β Contrasts Appropriately with AC and *vice versa*, existentially close free variables in AC and β.

(38) λ-*intervention*
* [... $\overbrace{\lambda}$ ...], iff λ is derived by Trace Conversion

Why 'Appropriate Contrast' and why $\exists$-closure? By redefining Parallelism using the notion of *Appropriate Contrast* (see fn. 2), T&F's proposal that Parallelism can be based on a weakened notion of contrastivity (namely, *Enough Contrast*, see 2 and 3) is rejected and Rooth's (1992b) original proposal is reinstated. The effect of this change is this: only phrases containing both the ellipsis site and and an F-marked item can potentially satisfy Parallelism. The $\exists$-closure operation in (37) allows for phrases that contain both an F-marked item and rebound variable but <u>not</u> the variable's binder to potentially satisfy Parallelism. To provide an example, reconsider (6) and its LF (both repeated below).

(6)   I know who$_1$ JOHN will [kiss t_1], and also who$_2$ MARY *will* [kiss t_2] .

(7)   I know who person λx [$_\alpha$ John$_F$ will [$_{VP}$ kiss the person x]] and also who person λy [$_\beta$ Mary$_F$ will [$_{VP}$ kiss the person y]]

Armed with the $\exists$-closure operation, the TP labelled 'β' in (7) above can be used to satisfy Parallelism. Once $\exists$-closure applies to α and β (see 39), β Contrasts Appropriately with α and *vice versa* (see 40), which satisfies the Parallelism condition in (36).

(39) $[\![\alpha]\!]^o$ = John$_F$ will kiss the person y *after $\exists$-clo* = $\exists y.$ John$_F$ will kiss the person y
       $[\![\beta]\!]^o$ = Mary$_F$ will kiss the person y *after $\exists$-clo* = $\exists y.$ Mary$_F$ will kiss the person y

(40) $[\![\exists x.$ John$_F$ will kiss the person $x]\!]^o$ $\neq [\![\exists x.$ Mary$_F$ will kiss the person $x]\!]^o$, and
       $[\![\exists x.$ John$_F$ will kiss the person $x]\!]^o$ $\in [\![\exists x.$ Mary$_F$ will kiss the person $x]\!]^f$, and
       $[\![\exists x.$ Mary$_F$ will kiss the person $x]\!]^o$ $\in [\![\exists x.$ John$_F$ will kiss the person $x]\!]^f$

This situation obtains for all RUs that fit the 'intervening focus' and 'elided focus' schemata in (28a) and (28b). In the case of RUs that fit the 'elided focus' schema, the ellipsis site itself makes for a potential PD, as it contains an F-marked element at LF.

Why λ-intervention? The λ-intervention rule in (38) states that λ-binders formed by Fox's (2002) Trace Conversion operation (i.e. λ-binders derived through syntactic movement) are interveners to Hamblin-style alternative semantic composition (Hamblin 1973, Rooth 1985, 1992a), which is represented by the squiggly arrow in (38). The motivation for (38) comes from Shan's (2004) critique of using variables in semantics. Shan demonstrates that no tenable rule of Predicate Abstraction (Heim & 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.
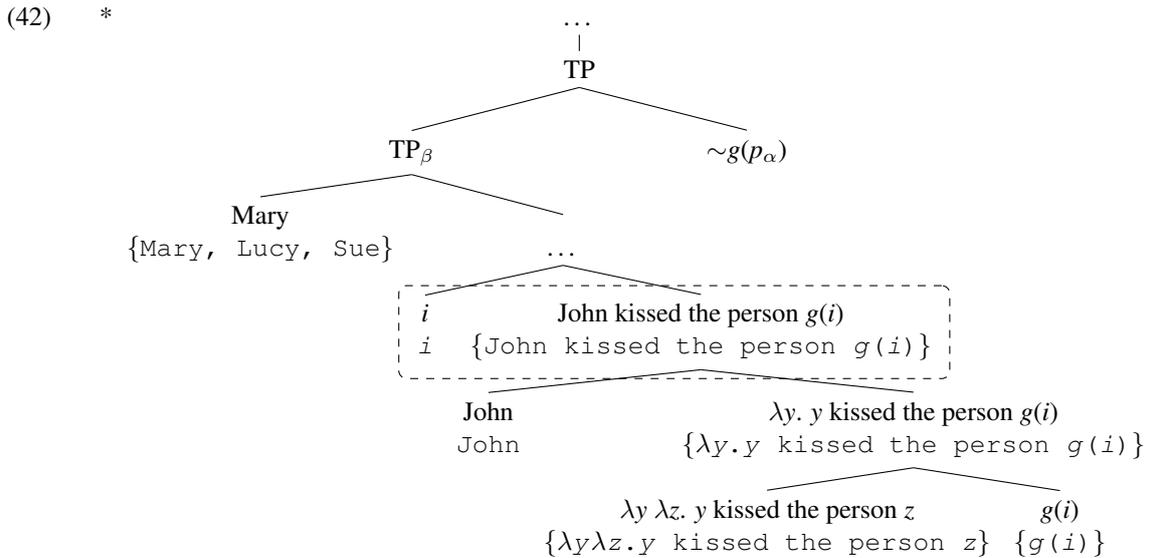
Although attempts have been made to make Predicate Abstraction compatible with Hamblin-style

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[9]When combined, (36) and (37) bear a striking resemblance to Merchant's (2001) *e*-GIVENness condition. Note however that the *e*-GIVENness condition is not equivalent to (36), as *e*-GIVENness is implicitly founded on the notion of Enough Contrast, whereas (36) is founded on Appropriate Contrast. Consequently, Merchant's condition leads to the undergeneration of RUs in precisely the same way that T&F's version of Parallelism does. See Griffiths (2017) for details.

alternative semantics (see, for instance, Romero & 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 (38) is indeed a general constraint on semantic composition. The λ-intervention constraint explains why rebinding utterances that fit the 'superordinate focus' schema in (29) are unacceptable. To take one example, consider (34a), which is repeated with its LF in (41) below.

(41)   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 [$_{VP}$ kiss the person y]]]
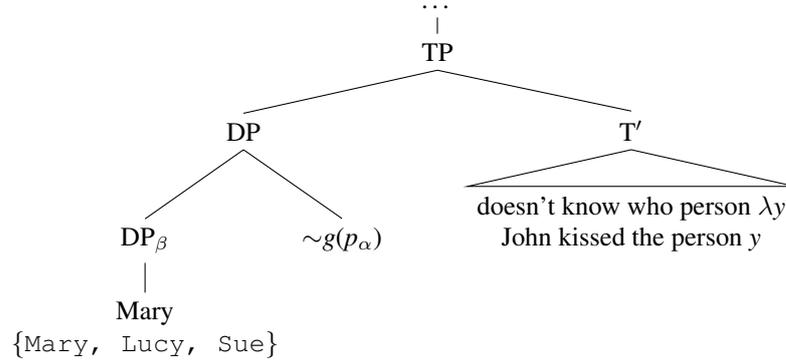
Recall that, according to (36), a relation of Appropriate Contrast must be established between (a phrase containing) the ellipsis site and an antecedent. This ellipsis-containing phrase must therefore contain an F-marked element. Consequently, the best candidate for a PD in (41) is β, which contains the F-marked element *Mary*. However, a focus semantic value cannot be procured for β, as (42) shows (where focus semantic values are given in `typewriter` font). This is because alternative semantic composition cannot proceed past the maximal projection of the embedded TP (see the dashed box in 42), as an application of Predicate Abstraction is required and no tenable rule of Predicate 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 (41). Because no other PDs are available in (41), ellipsis is therefore unrecoverable.

(42)   *

It should be emphasised that the λ-intervention observed in (42) is not unique to elliptical utterances. It is also impossible to use the configuration in (42) to obtain a contrastive interpretation for the F-marked element in the non-elliptical counterpart to (41a) in (43). 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 (44) shows. The configuration in (44) is clearly useless for recovering ellipsis, however, as the sister of $\sim$ would not contain the ellipsis site, as is required to satisfy Parallelism.

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

(44)

$$\cdots$$
$$|$$
TP

DP   T′

DP$_\beta$ $\sim g(p_\alpha)$

|

Mary

{Mary, Lucy, Sue}

doesn't know who person λy
John kissed the person y

Why strengthen Parallelism? The strengthened version of Parallelism in (36) states that a reflexive relation of Appropriate Contrast must obtain between β and its antecedent phrase. Parallelism must be strengthened in this way in order to provide a straightforward explanation for why the exceptions to the generalisation in (27i) – namely, the RUs from §2.1 – are degraded/unacceptable.

Let us reconsider the degraded RU from (12a) in §2.1 and its acceptable non-elliptical counterpart. One observes that, from an information-structural perspective, the utterance in (45b) is most intuitively understood as a response to the question posed in (45c).

(45)   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 (45b)*

As a response to the question in (45c), the first coordinand in (45b) is a paradigmatic 'contrastive-topic' configuration (Büring 2003). In (45b), the prosodic accent on *Mary* serves to convey that the speaker is answering an alternative question to the one posed in (45c), namely an alternative derived by substituting the subject *John* in (45c) for a salient alternative individual (namely, *Mary*). The second coordinand in (45b) is interpreted as a repetition of the eliciting question in (45c).

According to Büring (2003), Constant (2014), and others, the focus semantic value for the first coordinand in utterances such as (45a) and (45b) is a set of set of propositions:

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

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

If one returns to re-examine the ACs discussed so far in this paper, 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 set of elements of type τ, as in (46). The exceptional status of the antecedent clause in (46) therefore indicates that, in addition to its ordinary semantic value, the focus semantic value of AC in (45a) is relevant to ellipsis recoverability.

It is this observation that motivates the strengthened, reflexive version of Parallelism in (36). This version of Parallelism correctly predicts that ellipsis is unrecoverable in examples such as (45a). Due to λ-intervention, the most suitable candidate for PD in (45a) is the TP labelled '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 $[\![\alpha]\!]^{\text{f}}$ are sets of propositions (see 46). $[\![\beta]\!]^{\text{o}}$ is not a set of propositions, however: it is simply a proposition. Thus, $[\![\beta]\!]^{\text{o}} \notin [\![\alpha]\!]^{\text{f}}$ (see 47). Parallelism is therefore not satisfied in (45a).[10]

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[10]To ensure that a contrastive-topic interpretation is obtained in utterances such as (45b), Constant (2014:93) claims that $\in$ can be supplanted by $*\in$, which means '*somewhere within*' (see Quine 1963: §15). Although this *ancestral membership* relation may be available for interpreting contrastive topics, I argue that it is unavailable – or at least extremely difficult to retrieve – for the purposes

(47) $[\![\text{Mary}_{CT} \text{ kissed a hipster}_F]\!]^o$ = Mary kissed a hipster
  $[\![\text{Mary}_{CT} \text{ kissed a hipster}_F]\!]^f$ = see (46)
  $[\![\exists x. \text{ John}_F \text{ kissed the person } x]\!]^o$ = John kissed someone (after $\exists$-closure)
  $[\![\exists x. \text{ John}_F \text{ kissed the person } x]\!]^f$ = {John kissed someone, Mary kissed someone, ...}
  (after $\exists$-closure)
  $[\![\text{Mary}_{CT} \text{ kissed a hipster}_F]\!]^o$ $\in$ $[\![\exists x. \text{ John}_F \text{ kissed the person } x]\!]^f$
  $[\![\exists x. \text{ John}_F \text{ kissed the person } x]\!]^o$ $\notin$ $[\![\text{Mary}_{CT} \text{ kissed a hipster}_F]\!]^f$

To summarise §*3*: Coupled with λ-intervention, which is a general semantic constraint that arises from the absence of a tenable rule of Predicate Abstraction for alternative semantic composition, the strengthened Parallelism condition in (36) is capable of explaining why the generalisation over non-clausal ellipsis in RUs from (27i) holds: RUs that do not fit the description in (27i) are unrecoverable. It also explains why some RUs that fit (27i) are acceptable, while others are not. In other words, the analysis offered in §3.2 is descriptively adequate, unlike T&F's MaxElide analysis.

4.   Concluding remarks

In this paper I demonstrated that Takahashi & Fox's (2005) MaxElide analysis both over and undergenerates English rebinding utterances and is therefore descriptively inadequate. Instead of attempting to modify the MaxElide rule to increase its empirical coverage, I instead argued that the assumption that underlies its invocation, which is that, *ceteris paribus*, rebinding utterances satisfy the Parallelism condition on ellipsis recoverability, is incorrect. I offered a strengthened Parallelism condition which successfully accounts for the distribution of acceptability across the RU dataset introduced in §1 and §2. It states that certain RUs are unacceptable because they are unrecoverable, not because they violate a constraint which demands maximal elision.

My analysis makes recourse to λ-*intervention*, which prevents alternative semantic composition beyond a λ-binder. Because this constraint is rather restrictive, the reader might be concerned that adopting it will lead to the undergeneration of elliptical constructions that display rebinding configurations derived from other long-distance dependencies such as QR and rebound variable pronoun binding. I show in Griffiths (2017) that this concern is misplaced, and that the analysis outlined in §3 handles such RUs perfectly well.

As mentioned in §3, adopting my analysis also commits one to the notion that clausal and non-clausal ellipsis are subject to different recoverability conditions. In Griffiths (2017), I demonstrate that this implication is borne out by the data. In that paper I show that the dissimilar behaviour of exceptive questions (i.e. questions headed by *wh*-phrases such as *who else* or *which other person*) under TP and VP ellipsis (see 48) can only be explained if TP and VP ellipsis are subject to distinct recoverability conditions.

(48)   We know that John kissed MARY, but we don't know who ELSE (* *he did*).

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