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A Remnant Condition for Ellipsis

Matthew Barros and Luis Vicente

1. Introduction

In this paper, we focus on the proper formulation of the identity relations between elided expressions and their antecedents. We focus primarily on *sluicing* (1), i.e., ellipsis of a wh-question to the exclusion of the wh-phrase (the *remnant*); as customary, we use a strike-through to mark elided material. The antecedent clause is the sentence *Jack saw someone* and the *correlate* is the XP in the antecedent that the remnant "corresponds to," in some intuitive sense. Thus, in (1), the correlate for *who* is *someone*.

(1) Jack saw someone, but we don't know who Jack saw.

Many proposals characterize the identity condition on ellipsis as a relation that holds between the unpronounced material in the ellipsis site (struck-through in (1)) and the antecedent —call these *E-site conditions*. Our main claim is that E-site conditions must be supplemented with what we dub the *Remnant Condition* (RC), which regulates identity between the remnant and correlate:

(2) **The Remnant Condition (RC):** Remnants in sluices must have a correlate XP in the antecedent whose semantic type is identical to that of the remnant.

The RC is met in (1), since, under standard assumptions (Karttunen 1977 *et seq*), wh-phrases (*who*) and indefinites (*someone*) may have identical semantic types (namely, $\langle \langle e, t \rangle t \rangle$). In what follows, we compare our proposal to extant identity approaches, and show that our proposal has more empirical coverage and is conceptually simpler. This result raises the question of why the RC should obtain. We discuss some possibilities, and extensions of the RC in other domains, and then conclude.

2. Some Background and Explicit Assumptions

The literature on the identity condition in sluicing can be broken up into three broad categories: syntactic identity proposals (Ross 1969, Chung et al. 1995, Fox & Lasnik 2003, among others), purely semantic identity (Ginzburg & Sag 2000, Hardt 1993, Merchant 2001, Barker 2013, Jacobson 2013, among others), and "hybrid" approaches (both semantic and syntactic identity: Rooth 1992a, Chung 2006, Anderbois 2011, Chung 2013, Barros 2014, Weir 2014, among others). We assume, without argument, that the identity condition on sluicing should be "hybrid" in nature, following much recent work (see just cited hybridist literature for extensive argumentation in support).

The motivation for a semantic characterization of identity comes from evidence presented in Merchant (2001), and much literature following, that the elided structure may be syntactically distinct from the antecedent. We offer such a case below, where a sluiced structure syntactically identical with the

^{*} Affiliation and contact information: Barros (Linguistics, Yale University, mattbarros@gmail.com) and Luis Vicente (Linguistik, Universität Potsdam, vicente@uni-potsdam.de). We want thank Veneeta Dayal, Ken Safir, Jason Merchant, Patrick Elliott, Gary Thoms, Kyle Johnson, Klaus Abels, Jeroen van Craenenbroeck, Malte Zimmermann, Gisbert Fanselow, Orin Percus, and the audiences at WCCFL 33 and GLOW 38. Usual disclaimers apply.

¹ A relevant question is whether a single identity condition can be stated for the various kinds of ellipsis, so that ellipsis phenomena in general may receive a unified analysis. This is obviously a desirable state of affairs, though arguments have been made to the contrary (see in particular Anderbois 2011 for the view that sluicing is subject to distinct identity conditions from verb phrase ellipsis, VPE). In this paper, we avoid tackling this larger issue, and focus on the identity conditions on sluicing.

antecedent violates selectional restrictions. The antecedent is the embedded non-finite clause *meeting him* in (3), though only a finite continuation is syntactically licensed.

- (3) I remember meeting him, but I don't remember when.
 - a. when I met him.
 - b. * when meeting him.

[Merchant (2001:23), ex. (33)]

At the same time, there is evidence in support of the need for some degree of syntactic identity. Since Chung et al. (1995), it is widely assumed that argument structure mismatches in sluices between elided predicates and their correlates in an antecedent are illicit. Merchant (2001, 2013) observes that sluicing disallows voice mismatches (4). We provide the unelided (5) as a control to show that this is an ellipsis effect. Demonstrably, the deviance of (4) cannot be reduced to a failure of semantic identity; Merchant proposes instead to attribute it to the mismatch between the passive/active specifications of the Voice heads in the antecedent and the ellipsis site.

- (4) a. * Someone assassinated JFK, but who he was assassinated by is still a mystery.
 - b. * JFK was assassinated, but who assassinated him is still a mystery.
- (5) a. Someone assassinated JFK, but who he was assassinated by is still a mystery.
 - b. JFK was assassinated, but who assassinated him is still a mystery.

Similarly, the ungrammaticality of (6a) and (6b) can be attributed to the different argument structures of the antecedent and the E-site (the latter can be inferred by the preposition choice of the remnant). As above, we provide non-elliptical controls to show that this is an ellipsis effect. This would be consistent with a syntactic condition militating against lack of syntactic identity. We refer to such effects here as "fixed diathesis" effects, following Chung et al. (2011).

- (6) a. * She loaded something with the hay, but I don't know what she loaded the hay onto.
 - b. * She loaded something onto the truck, but I don't know what she loaded the truck with.
- (7) a. She loaded something with the hay, but I don't know what she loaded the hay onto.
 - b. She loaded something onto the truck, but I don't now what she loaded the truck with.

Additionally, Chung (2006) notes that preposition stranding (P-stranding) is unacceptable in instances of *sprouting*, sluices where the remnant lacks an explicit correlate in the antecedent.²

- (8) Jack is jealous, but I don't know *(of) who.
 - a. * ..., but I don't know who Jack is jealous of.
 - b. ..., but I don't know of who Jack is jealous.

Chung (2006) proposes that this pattern follows from a constraint on sluicing, and perhaps ellipsis in general, that allows the E-site to contain only those lexical items that are also present in the antecedent. In (8a), of is stranded in the ellipsis site without a corresponding correlate in the antecedent, so this condition is violated. This condition has been variously dubbed "No New Words" and "No New Morphemes." We adopt the latter moniker here.

The motivation for a hybrid condition comes from the above paradigms. A purely syntactic condition undergenerates, predicting examples like (3) to be impossible. On the other hand, a purely semantic

² Merchant (2002) already notices this pattern, but he doesn't comment on its significance for theories of identity.

³ Ross's (1969) case-matching generalization and Merchant's (2001) P-stranding Generalization (PSG) have also famously been offered as support for syntactic identity, but the recent picture is not so clear. There are many attested exceptions to the PSG crosslinguistically (Almeida & Yoshida 2007, Rodrigues et al. 2009, Vicente 2008 and references, among many others), and a growing number of exceptions to the case matching generalization (Ince 2009, Thoms 2014, Barros 2014, Vicente 2015). See Vicente (2008), Rodrigues et al. (2009), van Craenenbroeck (2010) for extensive discussion of counterexamples to the P-stranding generalization, and Barros (2014) for the claim that case matching effects do not entail that a syntactic identity condition is needed.

condition would overgenerate, in predicting the illicit cases in (4), (6) and (8) to be licit (see e.g. Chung 2006, Anderbois 2011, Chung 2013, Merchant 2013, Barros 2014, Weir 2014, for discussion of this point). In broad strokes, the tack taken by researchers recently has been to adopt a semantic identity condition along the lines of that proposed in Merchant (2001), with some version of No New Morphemes and Fixed Diathesis as syntactic codicils in the identity condition (see Anderbois 2011, Chung 2013, Weir 2014, in particular for different implementations of this idea). What we show here is that the empirical coverage of both No New Morphemes and Fixed Diathesis can be subsumed under the RC. Furthermore, we introduce new data that don't follow from either extant semantic or syntactic identity conditions, but which can be folded under the RC. This suggests that a proper hybrid theory of ellipsis should consist of a purely semantic E-site condition plus the RC, rather than a combination of semantic and syntactic E-site conditions.

For explicitness, we assume that the semantic component of the identity condition compares the meaning of the Question under Discussion (QuD) made salient by the antecedent to the meaning of the sluiced question itself (Anderbois 2011, Barros 2014, Weir 2014). For our purposes it will do to adopt a standard Hamblin (1973)/Karttunen (1977) semantics for questions, where questions denote a set of propositions, the question's possible answers. To determine the QuD made salient by a given antecedent, we adopt the heuristic in Barros (2014), where the QuD may be paraphrased by treating the correlate in the antecedent as a Wh-phrase. For instance, in (1), the QuD made salient by the antecedent *Jack saw someone* is *Who did Jack see?*. We compare the denotation of this QuD to that of the sluiced question: *Who Jack saw*. Since the QuD and the sluice have identical denotations, semantic identity is met in (1). Our proposal is that the RC is the only additional condition beyond such a semantic component, and that No New Morphemes and Fixed Diathesis are not needed.

3. Accounting for Voice and Argument Structure Mismatches

Consider again the illicit voice and argument structure mismatches in (4) and (6). In order to fold these examples under the RC, we need to say that the remnants are not type-equivalent to their corresponding correlates. To implement this intuition, we are going to capitalize on the fact that all these examples (except for (4b), to which we return below) feature a PP as the remnant and a bare DP as the correlate, so our account hinges on the assumption that PPs and DP have different types. We assume that this much is correct. A plausible semantic type for a PP like by who is that of an event modifier in a Neo-Davidsonian event semantics (that is, type $\langle s,t \rangle$ if we assume Predicate Modification, or $\langle \langle s,t \rangle, \langle s,t \rangle \rangle$ if we assume Functional Application). Since DPs are of type $\langle \langle e,t \rangle,t \rangle$ (alternatively, $\langle e,t \rangle$ or e, if appropriate type-lowering operators are invoked), a violation of the RC obtains.

In order to explain why (4b) is ungrammatical, we first need to make a detour through sprouting and the No New Morphemes generalization. Consider first the following run-of-the-mill sprouting example.

(9) Jack ate, but I don't know what.

In order to satisfy the RC, it must be the case that implicit arguments and modifiers are syntactically represented, so that they can act as correlates. Recent literature on implicit arguments and modifiers points to exactly this conclusion (Landau 2010, Bhatt & Pancheva 2006, Baker & Vinokurova 2010, Thoms 2014, among others), so we will assume without further discussion that (9) is properly represented as (10), where the implicit argument is enclosed in angle brackets. As readers can check, this representation satisfies the RC.

(10) Jack ate \langle something \rangle , but I don't know what.

The next step consists on determining why sprouting doesn't allow P-stranding (8), even though regular sluicing does. We will assume that, unlike their explicit counterparts, implicit arguments are syntactically simplex; again, this is a conclusion that recent literature on implicit arguments independently points at (e.g., Landau 2010 concludes that "their syntactic constitution is more impoverished than that of the better known null categories, explaining why they are not as syntactically active as the latter"). Some supporting evidenc comes from the observation that implicit PPs behave like deep anaphors (which are assumed to be atomic elements, cf. Hankamer & Sag 1976; Depiante 2000) in not allowing subextraction.

(11) Who₁ is Jack jealous *(of t_1).

With this background in place, consider (12a), with the explicit correlate (to) some guests. Here, the remnant may, but need not, strand its preposition inside the ellipsis site. By the RC, this is because either the PP to some guests counts as the correlate (in which case, the remnant must be the PP to which guests), or because the prepositional object some guests may (licensing a P-stranding remnant which guests). The syntactic presence of a fully articulated PP, implicit or otherwise, will license either option as a remnant. On the other hand, if implicit PP correlates are simplex, only the top-level (PP-level) meaning is available as a syntactic correlate, forcing a PP remnant in order to satisfy the RC (we represent simplex implicit PPs with hyphenation between lexical items in the "simplified" PP).

- (12) a. She served the food [$_{PP}$ to [$_{DP}$ some guests]], but I don't know [$_{PP}$ (to) [$_{DP}$ which guests]]. (optionally *some guests* = the correlate, licensing P-stranding in the remnant)
 - b. She served the food $\langle PP \rangle$ to-some-guests, but I don't know $[PP \rangle$ (to) $[DP \rangle$ which guests]. (simplex structure blocks access to *some guests* as a correlate, forcing a PP remnant)

Given this much, it is clear that the ungrammaticality of (4b) can be assimilated to that of (8) and (12b), which in turn falls out as consequence of the RC: the correlate doesn't match the type of the remnant.⁴

4. Existing and New Challenges for No New Morphemes and Fixed Diathesis

4.1. The existing challenge: pseudosluicing

As noted above, *pseudosluicing* (Merchant 1998) constitutes an important challenge for No New Morphemes and Fixed Diathesis.⁵ Evidence for pseudosluicing constitutes a serious challenge to syntactic identity approaches. To give an example of a likely case of pseudosluicing in English, consider (13); see also van Craenenbroeck (2004); Rodrigues et al. (2009); Barros (2014); Gribanova (2013); Barros et al. (2014), and references therein for discussion of other instances of pseudosluicing in a variety of languages.

(13) Sally has a new boyfriend, guess who!

a. * ... guess who she has!b. ... guess who it is!

No New Morphemes and Fixed Diathesis predict pseudosluicing to be impossible. Whatever functional and argument structures one wishes to assume for clefts and copular clauses (see Heycock & Kroch 1998; Mikkelsen 2005, and den Dikken 2009 for some proposals), they are uncontroversially different from those of non-cleft, non-copular clauses. In contrast, the RC allows for pseudosluicing, since *who* and *someone* are of the same semantic type. Additionally, the semantic condition is also met (Barros 2014 and references): the antecedent *Sally has a new boyfriend* raises a QuD paraphraseable as *Who's Sally's new boyfriend?*. Following Mikkelsen (2005), the cleft pronoun *it* is restricted to individuals bearing the property "Sally's new boyfriend," so that the sluiced question, *who it is*, is semantically identical to the antecedent's QuD. Thus, both the semantic condition and the RC are satisfied in (13).

⁴ Implicit in this account is the idea that remnants *require* correlates. We can justify this assumption by noting that it accounts for the fact that sluicing also disallows unaccusative-transitive alternations like (i). Given that the unaccusative antecedent lacks an external causer argument altogether, the remnant is left without a correlate.

⁽i) * The ice melted, but I don't know who melted the ice.

⁵ One should not put much weight on the "pseudo-" prefix in "pseudosluicing." We assume, following Rodrigues et al. 2009, Vicente 2008, van Craenenbroeck 2010, Barros 2014, among many others, that pseudosluicing is true sluicing, and the term simply applies to that subclass of sluices where the elided clause is a copular clause, but not the antecedent.

4.1.1. More pseudosluicing (I): violations of Merchant's P-Stranding Generalization

Merchant (2001) argues that P-stranding under sluicing is possible only in those languages that independently allow P-stranding in unsluiced questions. This pattern, for which we adopt the term *Merchant's Generalization*, is expected if sluicing proceeds via regular Wh-movement before deletion. While several alleged counterexamples have been noted, the growing consensus (Vicente 2008; Rodrigues et al. 2009; van Craenenbroeck 2010; Barros 2014, among many others) is that such violations are illusions arising from the availability of a non-P-stranding, pseudosluicing parse (we refer the reader to the cited literature for arguments in support of this analysis). The following Spanish example illustrates this line of attack.

(14) Juan habló con alguien, pero no sé quién. Juan spoke with someone, but not know who 'Juan spoke with someone, but I don't know who.'

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a. qui\acute{e}n_i \stackrel{\text{ss }t_f}{=}. b. *qui\acute{e}n_i \stackrel{\text{habl\'o con }t_f}{=}. who \stackrel{\text{is }t_f}{=}. who it was.' b. *qui\acute{e}n_i \stackrel{\text{habl\'o con }t_f}{=}. who spoke with.
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The same comments that we offered above apply here: No New Morphemes and Fixed Diathesis incorrectly predict the pseudosluicing parse (and all the ancillary properties that follow from it) to be categorically unavailable; in contrast, the RC does allow pseudosluicing, so long as the remnant and the correlate have identical semantic types.

4.1.2. More pseudosluicing (II): p-or-q antecedents

As (15) shows, sluices whose antecedent is a clausal disjunction (a *p-or-q antecedent*) have no acceptable syntactically identical non-elliptical parse. The only way in which the relevant meaning can be expressed is through a cleft or a copular clause. See Barros (2014) for crosslinguistic evidence that such sluices are, in fact, cases of pseudosluicing. As above, both No New Words and Fixed Diathesis incorrectly predict these sluices to be ungrammatical.

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(15) Something's burning, or Sally's baking again, I don't know which. [Anderbois 2011]
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- a. * ... I don't know which something's burning or Sally's baking again.
- b. ... I don't know which {it is/is the case/is true/etc.}.

We assume here that the correlate in these cases is the entire antecedent disjunction (Anderbois 2011). We also follow Ivlieva (2012) in assuming that such disjunctions receive the semantics of existentially quantified XPs: in this case, quantification takes place over the set of disjoined propositions, so that the antecedent is type $\langle \langle t, t \rangle, t \rangle$. Given this much, the RC is satisfied because the remnant *which* inherits the disjunction as its restriction and as such is assigned the type $\langle \langle t, t \rangle, t \rangle$ (see Barros 2014 for details).

4.1.3. More pseudosluicing (III): left-branch antecedents

An additional source of evidence for pseudosluicing comes from sluices whose remnants have an attributive adjective as their correlate. Merchant (2001) offers (16): his analysis of these cases involves extraction of *how rich* out of its containing DP (17). This should result in a violation of the Left-Branch Condition (Ross 1967), but Merchant assumes this type of violation can be repaired by ellipsis.

- (16) She married a rich man, but I don't know how rich.
- (17) She married a rich man, but I don't know [how rich] (*she married a t_1 man).

Against this background, Barros et al. (2012, 2014) argue that (16) and similar cases are best analyzed as stemming from a sluiced predicational copular clause (18), on the grounds that the remnant

exhibits a series of properties associated with the predicative position of copular clauses. First, these sluices reject a class of adjectives (roughly, those with a non-intersective reading) that are also banned from predicative copular positions; second, in languages where attributive and predicative adjectives inflect differently (here, German), these sluices invariably exhibit the predicative inflection.

- (18) She married a rich man, but I don't know [how rich]₁ (he is t_1).
- (19) a. They hired a {smart / hard} worker, but I don't know how {smart / * hard}.
 - b. The worker is $\{\text{smart} / * \text{hard}\}$.
- (20) a. Elke hat ein-en groß*(-en) Mann geheiratet, aber ich weiß nicht wie groß(*-en). Elke has a-ACC big-ACC man married but I know not how big-ACC
 - b. Der Mann ist groß(*-en). the man is big-ACC

Such sluices, then, present the same challenges as pseudosluices in general do, for No New Morphemes and Fixed Diathesis just the same. The RC in such cases is met under the following assumptions: First, in (18), the DP *a rich man* contains an implicit DegP with *rich* as its complement ($[a [DegP Deg^0 [AP rich]] [NP man]]$). The semantics of this DegP must involve existential quantification over degrees, following e.g., Kennedy & McNally (2005). We assume this is the same semantics (and hence, semantic type) assigned to the remnant DegP *how rich* (see Barros 2014 for an explicit implementation).

4.2. New Data (I): Discontinuous reciprocal constructions

Discontinuous reciprocals are constructions involving what Dimitradis (2008) calls *irreducibly symmetric* predicates; in turn, a predicate is irreducibly symmetric if (a) it expresses a binary relationship, (b) its two arguments have necessarily identical participation in any event described by the predicate. For illustration, *make out with* fits the bill, as shown by the mutual entailment of (21a), (21b), and (21c). Similar predicates are *have a conversation with*, *be related to*, etc.

- (21) a. Jack is making out with Sally.
 - b. Sally is making out with Jack.
 - c. Jack and Sally are making out.

Since both *Jack* and *Sally* have equal participation/agency in the making out event, the alternation between (21a) and (21b) does not constitute an argument structure alternation. If anything, it is closer to what happens in (22) with an asymmetric predicate: here, argument switches result in infelicity precisely because the arguments *load x with y* are not equal event participants.

- (22) a. Jack loaded the truck with the hay.
 - b. # Jack loaded the hay with the truck.

Importantly, despite a lack of argument structure mismatch, sluicing is impossible with this sort of switch in discontinuous reciprocals (Barros 2014). The remnant *with who* in (23a) signals an argument-order switch, as illustrated in the overt continuation in (23b). Fixed Diathesis cannot be behind the resulting unacceptability. Importantly, this is also not a No New Morphemes violation, as each element in the numeration of the sluice is present in the antecedent (24).

- (23) a. Someone was making out with Jack, but I don't know (*with) who.
 - b. Someone was making out with Jack, but I don't know with who Jack was making out.
- (24) * Someone was making out with Jack, but I don't know with who Jack was making out.

The semantic condition also fails to rule such cases out. This is because the antecedent *someone* was making out with Jack raises the QuD: Who was making out with Jack. The denotation of this QuD is a set of propositions differing with respect to choices of make-out partners for Jack. This is the same

denotation as the sluiced question with who was Jack making out (that is, argument-order switches in discontinuous reciprocals do not seem to change the "issue-raising" capacity, to borrow AnderBois's 2011 terminology, of the expression).⁶

The RC, on the other hand, immediately captures this paradigm. A plausible semantic type for the commitative in a discontinuous reciprocal construction is that of an event modifier (either $\langle st \rangle$ or $\langle \langle st \rangle \langle st \rangle \rangle$), introducing an additional co-participant to the event modified by the symmetric predicate. This would differ in type from a DP correlate, as in (23a). As stated above, adpositions/PPs in general have a distinctive semantics from DPs, serving many functions crosslinguistically —e.g., expressing binary relations between entities, forming predicates, or acting as predicate and clausal modifiers (Svenonius 2007).

4.3. New Data (II): reverse pseudosluicing

Vicente (2008) notes that while pseudosluicing is a crosslinguistically pervasive type of ellipsis, *reverse pseudosluicing* (i.e., ellipsis of a non-cleft, non-copular clause whose antecedent is a cleft or copular clause) is invariably ungrammatical.

* The person that Jack spoke to was [DP] someone from accounting, but I don't know [PP] to who(m) (from Accounting)] he spoke.

The ungrammaticality of reverse pseudosluicing cannot be derived from semantic E-site conditions. Given that these are formulated in symmetric terms (i.e., mutual entailment between the E-site and the antecedent), reverse pseudosluicing should be licensed whenever regular pseudosluicing is; whether the cleft/copular clause acts as the antecedent or the E-site should be irrelevant. No New Morphemes and Fixed Diathesis only fare somewhat better: while they do correctly predict the ungrammaticality of reverse pseudosluicing as a consequence of the non-identical argument and functional structures of the E-site and the antecedent, they also fail to account for the asymmetry in grammaticality between regular and reverse pseudosluicing. In contrast, the RC makes the correct predictions. It rules out reverse pseudosluicing as a function of the type non-identity between the DP correlate and the PP remnant, and it does so without affecting the account of pseudosluicing in section 4.1.

5. Other imaginable formulations of the RC

While the literature on ellipsis contains some identity conditions that are somewhat reminiscent of our RC (van Craenenbroeck 2008, van Craenenbroeck 2009, Vicente 2012, Ginzburg & Sag 2000), we believe that our particular implementation in terms of type-equivalence is the optimal one. For one, syntactic category matching incorrectly predicts the following examples to be ungrammatical.

- (26) a. [TP Something's burning, or Sally's baking a cake], but I don't know [DP which (one)].
 - b. She's either [$_{AP}$ [$_{AP}$ drunk] or [$_{AP}$ clumsy]], I don't know [$_{DP}$ which (one)].
 - c. Jack left [DP the day before yesterday], but I don't remember [PP at what time that day].
 - d. Sally baked [DP someone] a cake, but I don't remember [PP for whom].

Similarly, identity of semantic content (whether defined in terms of ordinary or focus semantic values) also fails. *Contrast* sluices are sluices where the remnant and correlate are contrastively focused; in order to license contrastive focus on some expression, there must be some distinction in semantic content with its contrasted antecedent (Rooth 1992b, contrastive prosody indicated with small caps below).

- (27) a. JACK left, but I don't know who ELSE.⁷
 - b. She's read three BOOKS, but I don't know how many ARTICLES.
 - c. She ate an APPLE, but I don't know what COLOR apple.

⁶ The fact that e.g., (21a) and (21b), are truth-conditionally equivalent also kills any chance of ruling such alternations in sluicing out via Merchant's (2001) e-GIVENness (truth-conditional equivalence).

⁷ WHO ELSE here is tyle $\langle \langle e, t \rangle t \rangle$, whereas JACK is type $\langle e \rangle$. Presumably type-equivalence can be achieved by type-shifting JACK to type $\langle \langle e, t \rangle t \rangle$ (Partee 1987 LIFT).

In each case in (27), the contrasted correlate differs from the remnant in content, required for licensing contrastive prosody. A characterization of the RC in terms of type-equivalence, however, avoids these issues; XPs of different syntactic categories may nonetheless have identical semantic types, and semantic content does not factor into semantic-type determination in a direct way.

6. From whence the RC?

The question remains, however, why such a condition as the RC should exist. One possibility worth exploring (which we leave to future research), is the idea that the RC is simply a consequence of the need to license focus on the remnant, taking the correlate as its antecedent.⁸ In Rooth (1992b), the focus interpretation principle (FIP) introduces the presupposition that $[\![\alpha]\!]^o \in \text{or} \subseteq [\![\beta]\!]^f$, where β is some expression with F-marking, and α is its antecedent. Since $[\![\beta]\!]^f$ is always a set of alternatives of the same type as β , the FIP could only ever be met whenever the types of α and β were the same.

There is an important caveat, however, with this reasoning (thanks to Kyle Johnson, p.c., for pointing this out). Rooth's (1992a) theory of focus interpretation is recursive, and there exists no reason to restrict the FIP so that it is only concerned with the focus/ordinary semantic values of the remnant and correlate alone. Once we "pan out" from the remnant and correlate in their respective clauses, the FIP would be met at the clause level, even in cases which are ruled out by the RC as stated here. As such, the reasoning in the preceding paragraph is ad-hoc, as there is no independent motivation for restricting Rooth's (1992a) FIP in just this way, so that it is only concerned, in sluicing, with the semantics of remnants and correlates. We currently have nothing interesting to say about this puzzle, and fully appreciate the need to understand and derive the RC from independent principles.

7. Conclusions and theoretical implications

We have seen that existing hybrid theories of ellipsis identity make incorrect predictions for a variety of data —see section 4). In contrast, the RC not only covers the core data that conditions like Fixed Diathesis and No New Morphemes were originally proposed for (i.e., the impossibility of voice and argument structure alternations under TP ellipsis), but it also covers the range of problematic cases discussed above. This much suggests that hybrid identity conditions should not be formulated by augmenting the standard E-site semantic identity conditions with E-site morphosyntactic identity conditions, but rather with remnant-correlate identity conditions like the RC.

(28) A: Who was making out with Jack?

B: (*with) Sally.

The RC has more empirical coverage than Fixed Diathesis and No New Morphemes, and subsumes their coverage. Perhaps a focus-theoretic implementation of the RC can further motivate it independently, though questions remain. In short, however, our basic proposal, namely, that a semantic condition with the RC as codicil does better than extant hybrid approaches. An important question is whether this proposal can be extended to other forms of ellipsis. Similar observations hold for fragment answers and stripping, so that the RC is presumably a property of clausal ellipsis at least.

- (29) A: Who was making out with Jack?
 - B: (*with) Sally.
- (30) * Some coworker was making out with Jack, and (*with) a supervisor too.

Whether the RC also applies to VP ellipsis, pseudogapping, and NP ellipsis remains to be seen. Additionally, as discussed in the preceding section, it would be ideal if the RC could be derived from independent recoverability principles. At this juncture, however, the source of the RC remains somewhat elusive to us (see section 6).

⁸ This statement presupposes that sluicing remnants are necessarily focused. As we were finishing this paper, we came across Ott & Struckmeier (2015), who observe that German allows unfocused modal particles to survive sluicing, even in cases where there is no corresponding modal particle in the antecedent to act as a correlate (Dennis Ott, p.c.). We don't know yet how to integrate these cases into our account. One possibility is that modal particles, not contributing to the truth-conditional content of the sentence, are exempt from certain conditions on ellipsis.

References

Almeida, Diogo & Masaya Yoshida (2007). A problem for the preposition stranding generalization. *Linguistic Inquiry* 38, 349–362.

Anderbois, Scott (2011). Issues and Alternatives. Ph.D. thesis, UC Santa Cruz.

Baker, Mark & Nadya Vinokurova (2010). Two modalities of Case assignment: Case in Sakha. *Natural Language and Linguistic Theory* 28, 593–642.

Barker, Chris (2013). Scopability and sluicing. Linguistics and Philosophy 36, 187–223.

Barros, Matthew (2014). Sluicing and Identity in Ellipsis. Ph.D. thesis, Rutgers University.

Barros, Matthew, Patrick Elliott & Gary Thoms (2012). More variation in island repair: the clausal/non-clausal distinction. Ms. forthcoming in the 49th Proceedings of the Chicago Linguistic Society.

Barros, Matthew, Patrick Elliott & Gary Thoms (2014). There is no island repair. Ms. Rutgers/UCL/University of Edinburgh.

Bhatt, Rajesh & Roumyana Pancheva (2006). Implicit arguments. Everaert, Martin & Henk van Riemsdijk (eds.), *The blackwell companion to syntax*, Oxford: Blackwell, vol. 2, 558–588.

Chung, Sandra (2006). Sluicing and the lexicon: The point of no return. Cover & Kim (eds.), *BLS 31: general session and parasession on prosodic variation and change*, 73–91.

Chung, Sandra (2013). Syntactic identity in sluicing: How much and why. Linguistic Inquiry 44, 1-44.

Chung, Sandra, William Ladusaw & Jim McCloskey (1995). Sluicing and logical form. *Natural Language Semantics* 3, 239–282.

Chung, Sandra, William Ladusaw & James McCloskey (2011). Sluicing: between structure and inference. Bravo, Rodrigo Gútierrez, Line Mikkelsen & Eric Potsdam (eds.), *Representing Language: in honor of Judith Aissen*, Linguistic Research Center, Santa Cruz: University of California, Santa Cruz, 31–50.

van Craenenbroeck, Jeroen (2004). Ellipsis in Dutch dialects .

van Craenenbroeck, Jeroen (2008). Invisible optionality: On the recoverability and licensing requirements of sluicing. Handout from talk at Yale Linguistics Department, Yale University.

van Craenenbroeck, Jeoren (2009). When even repair fails: The case of sluicing. *DGfS, Workshop on Repairs*, University of Osnabruck.

van Craenenbroeck, Jeroen (2010). Invisible last resort: A note on clefts as the underlying source for sluicing. *Lingua* 120, 1714–1726.

den Dikken, Marcel (2009). Predication and specification in the syntax of cleft sentences. Ms. Presented at the workshop on non-canonical predication, University of Western Ontario, London, ON (Canada).

Depiante, Marcela Andrea (2000). The Syntax of Deep and Surface Anaphora: A Studty of Null Complement Anaphora and Stripping/Bare Argument Ellipsis. Ph.D. thesis, University of Connecticut.

Dimitradis, Alexis (2008). Irreducible symmetry in reciprocal constructions. König, Ekkehard & Volker Gast (eds.), *Reciprocals and Reflexives: Theoretical and Typological Explorations*, Mouton de Gruyter, Berlin.

Fox, Danny & Howard Lasnik (2003). Successive cyclic movement and island repair: the difference between sluicing and VP-ellipsis. *Linguistic Inquiry* 34, 143–154.

Ginzburg, Jonathan & Ivan Sag (2000). Interrogative Investigations: The form, meaning and use of English Interrogatives. CSLI Publications.

Gribanova, Vera (2013). Copular clauses, clefts, and putative sluicing in Uzbek. Language 89:4, 830-882.

Hamblin, C. L. (1973). Questions in montague english. Foundations of Language 10, 41-53.

Hankamer, Jorge & Ivan Sag (1976). Deep and surface anaphora. Linguistic Inquiry 7:3, 391–428.

Hardt, Daniel (1993). Verb phrase ellipsis: Form, meaning and processing. Ph.D. thesis, University of Pennsylvania.
Heycock, Caroline & Anthony Kroch (1998). Inversion and equation in copular sentences. Alexiadou, Artemis,
Nanna Fuhrhop, Ursula Kleinhenz & Paul Law (eds.), Papers in Linguistics, Zentrum fuer allgemeine Sprachwissenschaft, Berlin, vol. 10.

Ince, Atakan (2009). Dimensions of Ellipsis: Investigations in Turkish. Ph.D. thesis, University of Maryland.

Ivlieva, Natalia (2012). Obligatory implicatures and grammaticality. Aloni, Maria (ed.), *Amsterdam Colloquium* 2011, Spring-Verlag, 381–390.

Jacobson, Pauline (2013). The short answer: implications for direct compositionality (and vice versa). Ms. Brown University.

Karttunen, Lauri (1977). Syntax and semantics of questions. Linguistics and Philosophy 1, 3-44.

Kennedy, Christopher & Louise McNally (2005). Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81, 345–381.

Landau, Idan (2010). The explicit syntax of implicit arguments. *Linguistic Inquiry* 41, 357–388.

Merchant, Jason (1998). Pseudosluicing: Elliptical clefts in Japanese and English. Alexiadou, Artemis, Nanna Fuhrhop, Paul Law & Ursula Kleinhenz (eds.), ZAS Working Papers in Linguistics, ZAS, Berlin, vol. 10, 88–112.

Merchant, Jason (2001). The Syntax of Silence. Ph.D. thesis, UC Santa Cruz.

Merchant, Jason (2002). Swiping in germanic. Zwart, Jan-Wouter & Werner Abraham (eds.), *Studies in comparative Germanic syntax*, John Benjamins, 289–315.

Merchant, Jason (2013). Voice and ellipsis. Linguistic Inquiry 44, 78-108.

Mikkelsen, Line (2005). Copular Clauses. John Benjamins.

Ott, Dennis & Volker Struckmeier (2015). Deletion of non-constituents in clausal ellipsis: remnants in the middle field. Handout of talk at PLC 39 and WCCFL 33.

Partee, Barbara (1987). Noun phrase interpretation and type-shifting principles. Groenendijk, Jeroen, D. de Jongh & M. Stockhof (eds.), *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*, Dordrecht: Foris, 115–143.

Rodrigues, Cilene, Andrew Nevins & Luis Vicente (2009). Cleaving the interactions between sluicing and preposition stranding. Wetzels, L & J. van der Weijer (eds.), *Romance Languages and Linguistic Theory*, John Benjamins, 175–198.

Rooth, Mats (1992a). Ellipsis redundancy and reduction redundancy. Berman, Steve & Arild Hestvik (eds.), *Proceedings of the Stuttgart Ellipsis Workshop*.

Rooth, Mats (1992b). A theory of focus interpretation. Natural Language Semantics 1, 75-116.

Ross, John Robert (1967). Constraints on Variables in Syntax. Ph.D. thesis, MIT.

Ross, John Robert (1969). Guess who? Binnick, R., A. Davison, G. Green & J. Morgan (eds.), *Papers from the 5th regional meeting of the Chicago Linguistic Society*, Chicago Linguistic Society, Chicago, 252–286.

Svenonius, Peter (2007). Adpositions, particles, and the arguments they introduce. Reuland, Eric, Tanmoy Bhattacharya & Giorgios Spathas (eds.), *Argument Structure*, John Benjamins, 63–103.

Thoms, Gary (2014). Syntactic identity, parallelism and accommodated antecedents. Ms. University of Edinburgh. Vicente, Luis (2008). Syntactic isomorphism and non-isomorphism under ellipsis. Ms., University of California, Santa Cruz.

Vicente, Luis (2012). Conditions on ellipsis beyond parallelism. Handout, international workshop, Vigo.

Vicente, Luis (2015). Morphological case mismatches under sluicing. To be published in upcoming issue of Snippets.

Weir, Andrew (2014). Fragments and Clausal Ellipsis. Ph.D. thesis, University of Massachusetts Ahmerst.