SLUICING AND IDENTITY IN ELLIPSIS

BY MATTHEW BARROS

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ABSTRACT OF THE DISSERTATION

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by Matthew Barros

Dissertation Directors: Veneeta Dayal & Ken Safir

This thesis is concerned with sluicing, the ellipsis of TP in a Wh-question leaving a Wh-phrase "remnant" overt. Sluicing is subject to an identity condition that must hold between the sluiced question and its antecedent. There is currently no consensus on whether this condition should be characterized as syntactic or semantic in nature, or whether a hybrid condition that makes reference to both semantic and syntactic identity is needed (Merchant 2005, Chung 2013, Barker 2013).

I provide a new identity condition that captures extant syntactic generalizations while allowing for enough wiggle room to let in detectible mismatches between the antecedent and sluice. The identity condition I propose is "split" between two sub-conditions, one that pertains to the relationship between the sluiced Wh-phrase and its correlate in the antecedent (the Remnant Condition), and one that pertains to the sluiced question as a whole (the Sluice Condition). The Split Identity hypothesis counts as a hybrid identity condition. The Remnant Condition is novel, and requires that the remnant have a syntactic correlate in the antecedent with which it matches semantically. Split Identity is shown to capture the data motivating extant syntactic generalizations. The Sluice Condition requires that the sluiced question and the Question under Discussion (QuD) that the antecedent

makes salient seek the same answers, and is an implementation of QuD-based approaches to the semantic condition on sluicing, such as recently proposed in AnderBois 2011.

The Split identity condition also lets in "pseudosluices" alongside isomorphic sluices, where the sluiced question is a cleft or a copular question while the antecedent is not. Pseudosluicing has often been proposed as a last resort mechanism, only available when an isomorphic structure is independently ruled out (Rodrigues et al. 2009, Vicente 2008, van Craenenbroeck 2010). I defend a view where pseudosluicing is not a special case of sluicing, so that the identity condition should not distinguish between copular and non-copular clauses in the determination of identity. Split Identity achieves this in making no reference to the syntactic content of the ellipsis site.

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My linguistics training did not begin at Rutgers. I received a BA and MA in linguistics from the University of California at Santa Cruz, and while a PhD is a very different animal from an MA or BA, it seems wrong to not include my earlier influences here. It is perhaps unsurprising, coming from UCSC, that my interests lie in ellipsis and copular clauses, given that Jason Merchant, Line Mikkelsen, Sandy Chung, Jim McCloskey, Jorge Hankamer, and Bill Ladusaw all hail from UCSC, as alumni or faculty. These individuals are in large part responsible for my syntactic upbringing, and for instilling in me a love of linguistics, and

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Dedication

To Mom, Dad, and my brother Chris.

Table of Contents

Chapter 1
Introduction

This thesis is concerned with *sluicing*, a construction where a constituent question goes missing from the speech signal, save for the Wh-phrase (called the *remant*). I assume sluicing is the ellipsis of TP in a Wh-question. I also assume, in line with Merchant 2001 and many others following, that elided constituents, though lacking phonetic content, are syntactically present. Example (1.1) is an instance of sluicing. $[_{TP_E} \ldots]$ marks the position of the missing signal. I refer to the CP containing TP_E as the *sluice*. Like other forms of ellipsis, sluicing requires an antecedent XP[1]. In (1.1), this is TP_A. Finally, remnants in sluices typically correspond, in some intuitive sense,[2] to a *correlate* XP in the antecedent (typically an indefinite DP). In (1.1), the correlate for the remnant *who* is *someone*.

(1.1) $[_{TP_A}$ Jack likes someone], but I don't know $[_{CP}$ who $[_{TP_E} \ldots]$].

Much work on sluicing focuses on ascertaining what the syntactic content of TP_E is or may be. The prevailing assumption is that ellipsis sites (henceforth E-sites) are syntactically isomorphic to their antecedents (following especially Ross 1969, Fiengo and May 1994, Chung et al. 1995). This is tantamount to positing a "Wh-question" version of the antecedent for the sluice, so that $[_{TP_E} \ldots]$ in (1.1) receives the paraphrase in (1.2):

(1.2) $[_{TP_A}$ Jack likes someone], but I don't know $[_{CP}$ who_i $[_{TP_E}$ Jack likes t_i]]

A useful term for referring to a given hypothesis for the content of TP_E is "pre-sluice" from Dayal and Schwarzschild 2010. The pre-sluice in (1.2) is in keeping with the standard assumption that the sluice is a Wh-question version of the antecedent. This assumption

[1] That is, sluicing is a *surface anaphoric* process in the sense of Hankamer and Sag 1976.

[2] A sense which will be given a precise definition in time.

directly addresses a basic challenge posed by sluicing constructions (and ellipsis constructions more generally), namely, how it is that sluiced remnants manage to mean the same as a full constituent question. Under this view, there simply is such a full question, syntactically present in sluicing. In tandem with standard assumptions about how meanings are derived compositionally from the syntax, that a sluiced question receives the same interpretation as an overt question follows. Another puzzle the isomorphism assumption provides an intuitive answer to is how it is speakers manage to recover the meaning of E-sites. Ellipsis destroys the usual sound/meaning correspondence we rely on to exchange information in discourses by getting rid of the very signal that encodes that information, but it is only licensed in the presence of a linguistic antecedent. That is, a discourse-local, overt linguistic signal which seems to encode the same meaning. If what is elided is syntactically isomorphic to such an antecedent, then it necessarily encodes the same meaning and by virtue of the E-site's meaning being redundant and salient, it is recoverable.

Aside from intuitions about the meanings of sluices, the isomorphism assumption is motivated by the insight that deletion should only obtain whenever the elided material is recoverable. This is the core of what has been called the *identity condition* on ellipsis; there is a set of criteria that must be met between a pre-sluice and its antecedent before deletion/ellipsis may proceed. Ascertaining just how to state such an identity condition on sluicing is the main focus of this thesis.

In what follows I provide some historical background on the identity condition. As we will see, the isomorphism assumption is too strong as it stands, and has been modified/qualified in various ways in the literature. The picture we are currently presented with is one where there is no consensus as to its proper formulation (see also Merchant 2010, Chung 2013, Barker 2013 for discussion of this point). Some researchers have gone so far as to propose, for instance, that for a sluice like that in (1.1), the E-site need not be syntactically isomorphic to its antecedent at all, but may be a copular clause, as in (1.3) (e.g., Erteschik-Shir 1977, Vicente 2008, Rodrigues et al. 2009, van Craenenbroeck 2008, 2009b, 2010, 2012, Barros 2012, Barros et al. 2014):

(1.3) Jack likes someone, but I don't know who ~~it is~~.

Such drastic deviations from isomorphism, where a copular clause is elided, given a non-copular antecedent, have been called "pseudosluices" in the literature, implying that, in some sense, such cases are exceptional or do not constitute "true sluicing." We will see there are reasons to adopt an alternative position regarding pseudosluices, namely, that they are, in fact, instantiations of "regular sluicing" just the same as with isomorphic structures. This is the view I defend here. We will see what challenges must be met by such a view in what follows.

1.1 Sluicing identity and the state of the art

Merchant 2001 was the first, to my knowledge, to explicitly attack the isomorphism hypothesis, on the basis of data such as that in (1.4). Merchant concludes that the identity condition should be purely semantic in nature, and proposes such a condition (now widely adopted). We will discuss Merchant's condition in Chapters 4, 5 and 6 in more detail.[3] Importantly, in such examples, the intuitive continuation for the sluice is not an isomorphic continuation, in that an isomorphic continuation (i.e., a "Wh-question version of the antecedent") is ungrammatical in each case.

(1.4) a. I remember meeting him, but I don't remember when ~~I met him~~.
(cf. #I don't remember when I remember meeting him)
Merchant (2001), example (33), pg. 23

b. Decorating for the holidays is easy, if you know how ~~to decorate for the holidays~~.
(cf. *If you know how decorating for the holidays is easy.)
Merchant 2001, example (30), pg. 22

c. He told us about his plans to do away with someone, but he didn't say who

[3]For now, we may heuristically characterize Merchant's 2001 condition as the requirement that the existential presupposition of the sluiced question and the antecedent must mutually entail each other. See Dayal and Schwarzschild 2010, Barros 2013 for justification of this interpretation.

~~he plans to do away with~~.

(cf. *but he didn't say who he told us about his plans to do away with)

From Ross 1969, example (69)

There are two points worth noting regarding Merchant's 2001 conclusion based on such data. First, it relies on speaker intuitions about "what the sluice would sound like had it not been elided" in the determination of the elided content of the sluice. One might worry about such a method for determining the content of E-sites. For instance, it is widely accepted, since Ross's 1969 observation that island constraints may be suspended under sluicing, that the set of elidable structures is a superset of the set of pronounceable structures, so that speaker intuitions about plausible continuations are not necessarily reliable in ascertaining the content of the E-site.

However, the heuristic method of checking speaker intuitions about plausible continuations has proven to be useful in many domains in the investigation of ellipsis. It is, in fact, this intuition that motivates the isomorphism hypothesis to begin with, as simple examples of sluicing like that in (1.1) are intuitively synonymous with a non-elliptical paraphrase that is the Wh-question version of the antecedent. Speaker intuitions about the meaning of the sluice, in particular, are an unquestionably valid source of empirical evidence in constraining the hypothesis space for theories of the E-site's content, and in-turn, constraining the hypothesis space for theories of the identity condition.

The second point is that it is not clear that one should appeal to repair under deletion in defending the view that the sluices in (1.4) are, despite appearances, actually syntactically isomorphic. While it is widely accepted that sluicing may repair island violations, it does not follow that sluicing may repair other grammatical violations. Consider (1.4a), for instance. Here, there is no island for extraction under the parenthesized isomorphic paraphrase for the sluice; the problem for the isomorphic parse is interpretive; the embedded question presupposes that the speaker remembers meeting him at some time, t, so that the matrix assertion is inconsistent (#*I don't remember that I remember meeting him at time t*). There is no expectation that sluicing should be capable of repairing such interpretive

issues. Let us assume, then, that the matrix isomorphic parse is out.

An alternative is to assume the antecedent is the embedded non-finite clause *meeting him* in the antecedent. The isomorphism assumption here would lead us to believe the sluice should be: *when ~~meeting him~~*. Of course, such a structure is ungrammatical, not because of an island violation, but because *remember* does not take interrogative gerunds as complements. There is no reason to expect that ellipsis should fix selectional problems like this. Thus, the "intuitive paraphrase" method allows us to ask questions like these, the answers to which have obvious theoretical consequences. The result, then, is that the indicated mismatches in (1.4) raise non-trivial issues about the identity condition and how it should be stated.

Since Merchant's 2001 purely semantic proposal, evidence has been uncovered that the identity condition must also be sensitive, at least to some degree, to syntactic isomorphism. Chung et al. 1995, Chung 2006, provide the generalizations in (1.5-1.6).[4] With each generalization we see an example it is intended to capture (we will discuss these generalizations and the data motivating them in more detail in Chapter 5).[5,6]

Fixed diathesis/the ban on argument structure alternations: *The argument structure of the predicate in the antecedent and the predicate in the E-site must match.*

(1.5) Spray/Load alternation:

a. She loaded the truck with the hay. (goal, theme)

b. She loaded hay onto the truck. (theme, goal)

c. * She loaded something with hay, but I don't know onto what ~~she loaded hay~~.

[4]The ban on voice mismatches in sluicing arguably falls under the ban on diathesis alternations, but is sometimes offered as an additional source of evidence alongside fixed diathesis effects in support of a syntactic isomorphism condition.

[5]Merchant 2001 addresses some of the concerns raised in Chung et al. 1995, though Chung 2006, in particular, provides compelling counterpoints (see also the discussion in Chapter 5).

[6]Data like that motivating Chung's generalization was actually first noted in Merchant 2002, who notes that P-stranding is unavailable in the sprouting example **She fixed it, but God only knows what ~~she fixed it with~~*.

d. * She loaded something onto the truck, but I don't know
with what ~~she loaded the truck~~.

Chung's (2006) Generalization (No New Words): *The numeration of the sluice must be a subset of the numeration of the antecedent.*

(1.6) a. Jack left, but I don't know who *(with).

b. * . . . but I don't know who ~~he left **with**~~.

c. . . . but I don't know who with ~~he left~~.

In (1.5), the predicate in the E-site must take its arguments in the same order as in the antecedent, as evidenced by the unavailability of a remnant corresponding to the alternate argument structure. In (1.6), preposition stranding is unavailable in the E-site when the prepositional phrase lacks a twin in the antecedent, in support of Chung's Generalization.

In the face of such data, there have been two sorts of reactions in the literature. Some researchers take the evidence in (1.5-1.6), in tandem with the data in (1.4), as an indication that the identity condition on ellipsis should be "hybrid" in nature; making reference both to syntactic isomorphism, in order to capture data like that in (1.5-1.6), but in a way limited enough to allow for mismatches like those in (1.4), and semantic isomorphism. The need for a semantic component stems from the simple observation that limiting syntactic isomorphism, so that it is not as strict, leads to overgeneration (see Chung 2006, 2013, Merchant 2005, 2012 for clear discussion of this point).

The other reaction is to suggest that, in the face of data like that in (1.5-1.6), the data like that in (1.4) should be captured under strict isomorphism. The way in which it has been suggested this should proceed is by assuming such mismatches are "non-syntactic" in nature, at some level of representation, to which level the identity condition must be sensitive (Johnson 2001, Merchant 2005, Depiante and Hankamer 2006, Merchant 2006 among others). Such an approach could be implemented straightforwardly in, for instance, the Distributed Morphology framework (Halle and Marantz 1993), as Depiante and Hankamer 2006 suggest, where certain surface-level distinctions only enter the derivation after narrow

syntax in the PF branch of the derivation, a level of representation that would be irrelevant to a purely (narrow) syntactic identity condition.

1.2 Enter: "Pseudo"-sluicing

While a more nuanced understanding of syntactic isomorphism may work for data such as that in (1.4) (see Merchant 2005 for various suggested implementations of how this might proceed), more dramatic deviations from isomorphism have been uncovered that challenge even this idea. Consider cases like in (1.7), where the sluice receives, most naturally, a paraphrase as a copular clause/cleft.

(1.7) a. Sally has a new boyfriend, guess who ~~it is~~!
(cf. #. . . guess who she has!)

b. She got married against someone's wishes, but I don't remember whose ~~it was~~.
(cf. *. . . I don't remember whose wishes she got married against.)
van Craenenbroeck 2008, example (107)

c. (Either) Freddie is baking a cake again or something is on fire, but I can't tell which one { ~~it is~~. / ~~is true~~ / . . . }.
AnderBois 2011, example (115), pg. 77

It would be difficult to construe such mismatches as "surface level" in the sense required by strict (narrow) syntactic identity approaches, as copular clause syntax is dramatically different from that of non-copular sentences.

Such cases have been dubbed *pseudosluicing* in the literature, a term coined in Merchant 1998. It is worth briefly clarifying the relevant definition of *pseudosluicing*. Merchant's original 1998 sense of the word was meant to apply to *sluicing-like-constructions* which do not involve a surface anaphoric (in the sense of Hankamer and Sag 1976) PF-deletion process that targets TP in a constituent question. In null subject languages, which also have an optionally null copula, like Japanese, for instance (the language in which sluicing like

constructions were analyzed in Merchant 1998), a non-elliptical cleft question may very well end up looking just like a sluice when the cleft subject and copula are each (independently) dropped. Such cases are not "true sluicing," hence the term *pseudosluicing*. In Japanese sluices, for instance, Merchant 1998 provides much evidence in support of an analysis of (1.8a) where it is derived, not by PF deletion of TP (cleft or otherwise), but by the independent availability of a null copular subject and copular verb (see Takahashi 1994 for an alternative view of Japanese sluicing). In (1.8b), for instance, we see that the copula may optionally be overt in such cases.

(1.8) a. Dareka-ga sono hon-o yon-da ga, watashi-wa dare ka wakaranai.
Someone-nom that book-acc read-past but, I-top who Q know.not
'Someone read that book, but I don't know who.'

b. Dareka-ga sono hon-o yon-da ga, watashi-wa dare datta ka
Someone-nom that book-acc read-past but, I-top who was Q
wakaranai.
know.not
'Someone read that book, but I don't know who it was.'

From Merchant 1998, examples (17) and (40)

Thus, some languages have grammatical mechanisms that yield strings that look a lot like sluices (where sluicing is understood as constituent deletion of TP), but are not true sluices. The deletion of subjects in null subject languages, like the deletion of the copula in null copula languages, are not surface anaphoric processes, not constituent deletions, and thus, not true ellipsis in the relevant sense. Licensing conditions on such *sluicing-like* constructions are thus expected to be different, and do not, necessarily, bear on issues about the identity condition on *true* ellipsis processes.

However, the sense of the term *pseudosluicing*, as applied to cases like those in (1.7), has evolved in the field since Merchant 1998, so that many researchers use the term to refer to a TP ellipsis process where TP is a cleft or copular clause (Rodrigues et al. 2009 and others following). In this sense of the word, pseudosluicing is "true sluicing." This is the sense of the word I intend throughout what follows in this thesis. In line with such researchers, and perhaps *because* they have reinterpreted Merchant's term in this way in the

literature, I find the term useful for referring to "true sluices" (constituent PF deletions of TP) where the sluice is a copular clause or cleft, while the antecedent is not (that is, cases which, if this analysis of the E-site is correct, dramatically challenge standard isomorphism assumptions).[7]

(1.9) Pseudosluicing $=_{\text{def}}$ Sluicing (TP deletion) where the antecedent is not a copular clause, but the sluice is.

In the face of such data as in (1.7), there have been three general sorts of reactions in the literature. The first is to ignore it as a theoretical possibility and not mention it at all.[8] To my knowledge nobody has explicitly argued against it as a possibility, and I do not dare project attitudes about pseudosluicing onto researchers who ignore it as a possibility, but it is worth noting that their assumptions would be consistent with a logically available position, namely, that there is no pseudosluicing, and that apparent deviations from the isomorphism condition are only apparent. That is, some elided structures are unpronounceable, and we cannot trust intuitive paraphrases as a guide in ascertaining their content (here, the isomorphism assumption is itself the guide to the content of the ellipsis site, modulo nuanced syntactic identity treatments of data like that in (1.4)).

The second sort of reaction is to assume pseudosluicing exists, but is a special case of sluicing, constrained, in that it may only obtain as a "last resort," when the isomorphic structure is unavailable for independent reasons (Vicente 2008, Rodrigues et al. 2009, Merchant 2010, van Craenenbroeck 2012). Such approaches are consistent with isomorphism assumptions; deviations from isomorphism like pseudosluicing require special circumstances dependent on the availability of the isomorphic parse, which, if available, wins out over the pseudosluice. Here, the "pseudo-" in pseudosluicing is partially accurate; such

[7]For Merchant's original 1998 sense, let us adopt the term "quasisluicing" from Kirchner 2006. Interestingly, Kirchner 2006 shows that both sluicing and quasisluicing may exist alongside each other in a single language. He analyzes sluicing-like constructions in Mandarin Chinese and identifies both therein. Some caveats: Gribanova 2013 identifies quasisluicing in Uzbek, though she calls these putative sluices, and even in Japanese, it has been argued that sluicing exists alongside real sluicing in Fukaya 2007.

[8]Merchant 2001 provides ten empirical arguments against the notion that all sluicing might be reduced to pseudosluicing, but as van Craenenbroeck 2010 points out, this is not an argument against the possibility that pseudosluicing may obtain *sometimes*.

cases are not, as a "last resort/repair" mechanism, licensed by the identity condition per se.

The third sort of reaction takes pseudosluicing to not be a special case of sluicing at all (Potsdam 2007, Barros 2012, Griffiths and Lipták 2012, Barros et al. 2012, 2014). Thus, just as a non-copular TP may be deleted at PF, so may a copular TP, provided they each satisfy the identity condition, whatever its correct formulation. Let us call this the "unconstrained pseudosluicing hypothesis."

1.3 The Unconstrained Pseudosluicing Hypothesis

In this thesis, I assume that there is nothing "pseudo" about pseudosluicing and defend the "unconstrained" pseudosluicing hypothesis. This is more than just a theoretical exercise, there are good empirical and conceptual reasons for adopting this position. Consider, for instance, the spirit of Merchant's 2001 seminal analysis establishing PF-deletion as the standard analysis for ellipsis. Merchant's 2001 contention was that sluices were "regular questions," syntactically and interpretively, where PF deletion rendered most of the utterance inaudible. There are many languages wherein clefting is the productive questioning strategy (e.g., French, Brazilian Portuguese). Potsdam 2007 provides compelling arguments that sluicing in Malagasy must *always* be pseudosluicing, as this would be in keeping with independently motivated constraints on questioning in Malagasy. It would be strange to assume that sluicing in Malagasy must always proceed by means of a "last resort" or "repair" mechanism. We will see many other reasons to adopt the unconstrained pseudosluicing hypothesis in Chapter 2. We may state the hypothesis as follows:

(1.10) a. Unconstrained pseudosluicing hypothesis:

There is no "pseudo" sluicing. The sluicing of a cleft or a copular clause when the antecedent is not itself a cleft or a copular clause is just another case of sluicing, no different than if the sluice were a non-copular Wh-question version of the antecedent.

b. Corollary:

The identity condition on sluicing cannot distinguish between copular and

non-copular sluices in the determination of identity.

The basic claim in the thesis can be illustrated as in (1.11). The sluice in (1.11) in English is ambiguous between the parses for the E-site given in (1.11a-1.11b), since the identity condition does not distinguish between either pre-sluice, so that both should, in principle, be available.

(1.11) Someone left, but I don't know who [$_{\text{TP}_\text{E}}$ ...].

a. ...but I don't know who ~~it was (that left)~~.

b. ...but I don't know who ~~left~~.

Such a condition must meet three basic challenges. The first is syntactic; namely, the observation that the syntactic content and organization of such content in copular clauses is dramatically different than non-copular clauses and non-clefts. How might such a condition be stated so that it simultaneously captures data motivating Chung's Generalization/Fixed Diathesis effects in sluicing, and lets in pseudosluices? The second challenge is semantic. Clefts are known to contribute exhaustivity, where the post-copular XP is understood as naming all and only those entities that satisfy the cleft relative clause property. Corresponding non-cleft assertions lack this property, as can be illustrated, for instance, by their compatibility with additive modifiers like *too*/*also*:

(1.12) a. It was (*also) Bill that left.

b. Bill also left.

As noted in Dayal 2014, cleft questions inherit this exhaustivity. In response to an antecedent like that in (1.13), the cleft pre-sluice presupposes that a single individual left, whereas the antecedent lacks such a presupposition. How can such differences in exhaustivity be reconciled in a semantic identity theory?

(1.13) Someone left, but I don't know who (it was).

A third important challenge to the unconstrained pseudosluicing hypothesis (and, in fact, the pseudosluicing hypothesis in general) concerns Ross's 1969 case-matching generalization in sluicing. Ross notes that in languages which mark morphological case on

Wh-phrases, the remnant must match in case with its correlate. In the German example in (1.14a), we see that the remnant must match in morphological case with its correlate *jemanden* (accusative). In (1.14b), we see that this is precisely what is expected under standard isomorphism assumptions, where the sluice is a Wh-question version of its antecedent. In (1.14c), we see that German cleft questions assign nominative case to Wh-phrases.

(1.14) a. Er will jemanden loben, aber ich weiß nicht, { *wer / ✓wen }
He wants someone.ACC praise, but I know not { *who.NOM / ✓who.ACC }
'He wants to praise someone, but I don't know who.'

b. Er will jemanden loben, aber ich weiß nicht, wen er loben will.
He wants someone.ACC praise, but I know not, who.ACC he praise wants
'He wants to praise someone, but I don't know who he wants to praise.'

c. . . . aber ich weiß nicht, wer es ist.
. . . but I know not, who.NOM it is.
'. . . but I don't know who it is.'

(1.14a) is from Ross 1969, example (5), pg. 254. (1.14b) is from Merchant 2001, example (17), pgs. 89-90.

Data such as this motivated Merchant's 2001 Case matching generalization:

(1.15) Case Matching:

The sluiced Wh-phrase must bear the case that its correlate bears.

Importantly, this generalization is standardly taken to *follow from* isomorphism assumptions, that is, since sluices must be Wh-question versions of their antecedents, we expect the remnant to match in case with its correlate. This implies a correlation also with abstract Case, since morphological case is standardly assumed to be the exponent of abstract Case.[9] As is illustrated in more detail in Chapter 2, such a generalization promises to rule out pseudosluicing in many contexts in which it has been appealed to in the literature. Consider the claim for English in (1.11), for instance. English clefts assign accusative

[9]Modulo inherent case.

to the post-copular DP when it is pronominal, so that we may conclude that the remnant in (1.11a) bears abstract accusative Case, though its correlate *someone* in the antecedent receives abstract nominative in [Spec,TP], so that the case-matching generalization rules pseudosluicing out, insofar as case-matching is sensitive to abstract Case.[10]

(1.16) It was { him_{ACC} / *he_{NOM} } that broke the television.

In Chapter 2, we will see that there is evidence that the case matching generalization only cares about morphological case. Indeed, morphological case mismatches like those in (1.14a) do block pseudosluicing in German, but not in languages like English, with impoverished case morphology. I claim here, following Barros et al. 2014, that case matching in sluicing is a surface-level morphological constraint that only cares about and can only "see" morphological (i.e. lowercase) case distinctions on remnants and correlates. In short, the case matching generalization does not pertain to abstract Case mismatches, so that when morphological case distinctions are missing, pseudosluicing (and abstract Case mismatches) are available.

I propose a two-part condition to meet these challenges, alongside the case condition. In the theory defended here, identity is "split" between two sub-conditions. One subcondition pertains only to the sluicing remnant, and the other to the sluiced question. I take case-matching to not be part of the identity condition proper, but instead an independent constraint that effectively blocks pseudosluices whenever morphological case distinctions are detectible on the remnant and correlate. The Split Identity Condition hypothesis is taken to apply cross-linguistically, whereas the effect of the case-matching requirement is shown to only be active in certain contexts which are more common in morphologically rich languages like German. We will carefully consider evidence for this conclusion in the Chapter 2. The Split Identity condition is given below.

(1.17) "Split Identity"

[10]Interestingly, as Veneeta Dayal (p.c.) points out, *Whom was it that broke the television?* is not so good, despite the facts in (1.16). I have nothing interesting to say about this, other than that it is an interesting puzzle why it is that the Wh-question case facts in English do not pattern straightforwardly with the declarative facts with pronominal pivots.

a. The Remnant Condition:

   The remnant must have a syntactic correlate, which is a semantically identical XP in the antecedent.

b. The Sluice Condition:

   The sluiced question and the Question under Discussion (QuD) made salient by the antecedent must have the same answer at any world of evaluation.

(1.18) case Condition: remnants and correlates must match in case morphology.
(A more precise formulation is motivated in Chapter 2)

In the next section, I provide an explicit preliminary illustration of the theory at work. The Sluice Condition is an instantiation of "QuD"-based approaches to the semantic identity condition on sluicing (Ginzburg and Sag 2000, Roberts 2010, AnderBois 2011). Such approaches take the identity condition to reference the meaning of the sluiced Q and a salient QuD in the discourse related in some way to the antecedent. We will see that such theories straightforwardly promise to address the semantic challenge posed by the exhaustivity of clefts outlined above with some independently motivated ancillary assumptions about exhaustivity in questioning. We will adopt a particular implementation of such ancillary assumptions here.

The Remnant Condition is new, and will be shown to account for the data motivating Chung's Generalization and the data motivating the ban on diathesis alternations, while letting in pseudosluicing[11] and isomorphic sluicing as desired. The syntactic challenge posed by pseudosluices is also met with Split Identity, in that neither sub-condition references the syntactic content of the sluice so that new material in the E-site, implied by pseudosluicing, is rendered innocuous.

[11] Mudulo the case Condition.

1.4 Split Identity and Unconstrained Pseudosluicing at work

In this section, I adopt an explicit set of syntactic and semantic assumptions for questions and assertions (non-copular and copular). I stick to English for this illustration, a language where I assume pseudosluices are available under abstract Case mismatches, unlike German (I postpone a more thorough defense of the case condition until chapter 2). The main goal of this section is to provide an explicit preliminary illustration of how the theory works in accounting for simple sluices like those in (1.11), repeated below, both with an isomorphic pre-sluice and a cleft pre-sluice:

(1.11) Someone left, but I don't know who [$_{\text{TP}_\text{E}}$ ...].

a. ...but I don't know who ~~it was (that left)~~.

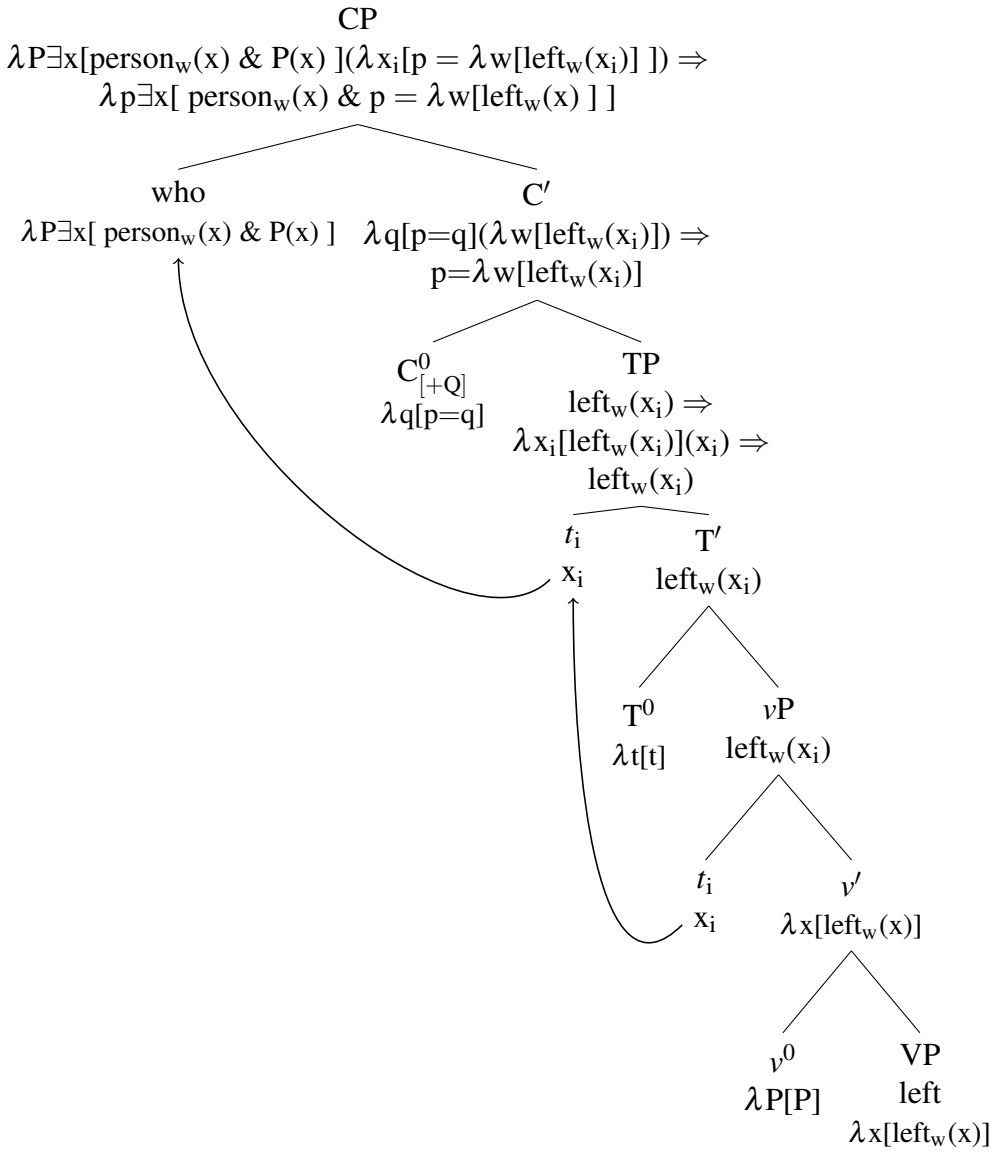
b. ...but I don't know who ~~left~~.

1.4.1 Semantic and Syntactic assumptions

I adopt a standard Hamblin-Karttunen semantics for questions, where questions denote a set of possible answers, and Wh-phrases are existentially quantified DPs. A derivation for the question *who left?* is given below.[12]

(1.19) Someone left, but I don't know who (left).

[12] I ignore the contributions of v^0 and T^0. For our purposes, it will do to assume they are identity functions on their complements.



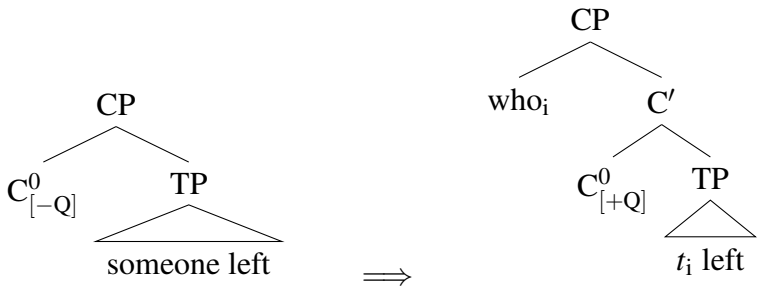
This is a set of propositions of the form *that x left*. In a model with two individuals, Jack and Sally, we get the set of propositions in (1.20):

(1.20) { λw[left$_w$(Jack)],
λw[left$_w$(Sally)],
λw[left$_w$(Jack+Sally)] }

I take QuDs to be semantico-pragmatic objects, salient question meanings with interrogative force. Intuitively, an antecedent assertion with an indefinite, like *someone left* renders salient a question paraphraseable as *who left?* In order to arrive at the meaning of the QuD, I will take this intuition at face value, and assume that the QuD can be determined from a

derived Wh-question version of the antecedent. The QuD that the antecedent makes salient can be determined by treating the correlate as a Wh-phrase, and replacing $C^0_{[-Q]}$ in the antecedent with $C^0_{[+Q]}$.

(1.21)



Of course, for an antecedent like *someone left*, this will yield a QuD exactly the same as the Q-meaning for the sluice in (1.19).

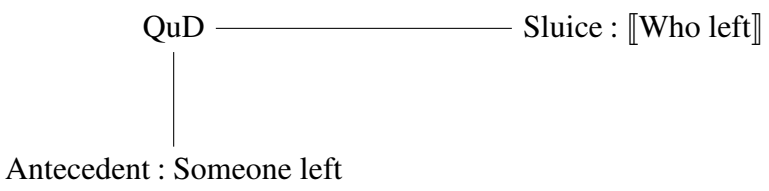
The Sluice Condition divorces, to a degree, a direct relationship between the semantics of the antecedent and sluice, instead referencing the QuD that the antecedent makes salient. It is worth reemphasizing here that I intend the QuD to be a "discourse object." The replacements and structural mutations in (1.21) are intended only as a heuristic for deterministically arriving at the QuD's meaning, which we take to be identical to that of the derived question in (1.21).[13,14]

[13]There are other ways to deterministically derive a QuD from an assertion. In AnderBois's 2011 inquisitive semantic treatment, for instance, the QuD is a part of the compositional meaning of the antecedent itself, which lives alongside the antecedent's informative contribution to the discourse (its classical propositional meaning). The mechanism adopted here, where we take the correlate and replace it with a Wh-phrase is a heuristic that achieves the same formal object: a question meaning that is the QuD.

[14]Veneeta Dayal (p.c.) asks why it is that the QuD that the antecedent makes salient cannot itself be a cleft. The transformational heuristic we have adopted here opens this up as a possibility, to be sure. There are two reasons to avoid, at least as a first pass in formulating such a heuristic, the assumption that the derived syntactic object may be a cleft. First, the term "cleft," is a description of a syntactic structure, which presupposes an exhaustive semantics (and therefore begs the question of exhaustivity, threatening to introduce some circularity into the theory). The basic observation on the surface is that the antecedent in pseudosluicing, by definition, is not a cleft. Second, deriving a cleft from the antecedent requires additional steps beyond the basic intuition that the QuD the antecedent makes salient is paraphraseable as a (direct) Wh-question version of the antecedent, which can be seen as transformationally related to the antecedent in precisely the way indicated in (1.21). Deriving a cleft from such an antecedent requires additional transformational operations on the syntactic structure of the antecedent, making for a more complicated heuristic. Nothing in principle stops us from assuming that a cleft structure can determine the QuD meaning as derived from a non-cleft antecedent, as far as I can tell, but then again, nothing in principle makes it conceptually or theoretically

The relevant relations in such a theory can be represented as in the following diagram. The vertical line stands for the relation between the antecedent and its QuD; the horizontal line stands for the semantic identity condition that holds between the QuD and the sluice.

(1.22) Someone left, but I don't know who ~~left~~.



For simple sluices like that in (1.19), an appeal to equivalence between the sluice's meaning and the antecedent's QuD would be sufficient. By our transformational heuristic, the antecedent *someone left* gives the structure *who left?*, the meaning of which we take to be equivalent to the QuD the antecedent makes salient. It should be clear that this meaning is equivalent to that of the sluiced question. If this were the Sluice Condition, it would be met in (1.19). The Remnant Condition is also easily met in sluices like (1.19), since both *someone* and *who* receive the same semantics under standard assumptions:

(1.23) $[\![\text{someone}]\!] = [\![\text{who}]\!] = \lambda Q \exists x[\text{person}_w(x) \,\&\, Q(x)]$

Though QuD/Sluice equivalence works for isomorphic cases, it will not work for pseudosluicing. Any adequate semantics for clefts should encode exhaustivity. Exhaustivity carries over into the question meaning, interrupting QuD/Sluice equivalence. We will defend a more explicit analysis of clefts and their structure in Chapter 3. For now, it will do to adopt the semantics in (1.24a) where exhaustivity is encoded with the iota operator. The corresponding Wh-cleft question meaning is given in (1.24b):

(1.24) a. It was Bill (that left).

$\lambda w[\iota x[\text{left}_w(x)] =_w \text{Bill}]$

"the unique individual that left was Bill."

---

attractive either, in that such complications can be straightforwardly avoided with an appeal to the natural and well known exhaustivity properties of direct questions (cleft or not), which we appeal to shortly.

b. Who was it (that left)?

$\lambda p \exists y[\text{person}_w(y) \;\&\; p = \lambda w[\iota x[\text{left}_w(x)] =_w y]\,]$

"Who was the unique individual that left?"

In the same model as for (1.19), a corresponding pseudosluice, as in (1.25), denotes a set of propositions of the form "that x is the unique individual that left."

(1.25) Someone left, but I don't know who (it was).

$\{\ \lambda w[\text{Jack} =_w \iota x[\text{left}_w(x)]],$

$\lambda w[\text{Sally} =_w \iota x[\text{left}_w(x)]],$

$\lambda w[\text{Jack+Sally} =_w \iota x[\text{left}_w(x)]]\ \}$

Unlike the propositions for the antecedent's QuD, the propositions in a sluiced cleft question are non-overlapping (i.e., they are exhaustive). That is, $\lambda w[\text{left}_w(\text{Jack})]$ in (1.20) contains worlds where Sally left, though the corresponding proposition in (1.25), $\lambda w[\,\text{Jack} =_w \iota x[\text{left}_w(x)]]$ does not. As such, QuD/sluice equivalence fails.

1.4.2 Exhaustivity and the Sluice Condition

We need QuDs that non-cleft antecedents make salient to be exhaustive. The property we are after is *strong exhaustivity* in Q meanings in the sense of Groenendijk and Stokhof 1984. Strong exhaustivity is a property of questions that licenses inferences like those in (1.26), where, if Jack knows who left, then he knows, for anyone, whether they left.

(1.26) Sally left and Bill didn't leave.

Jack knows who left.

Therefore, Jack knows that Sally left, and that Bill didn't leave.

A weakly exhaustive reading, on the other hand, only allows the inference where Jack knows, for those individuals who left, that they left (he has no knowledge of whether the individuals that did not leave left). Groenendijk and Stokhof 1984 note that Karttunen's 1977 semantics for questions does not capture strong exhaustivity, and propose a different semantics for questions that does. There is some question in the literature as to whether

the exhaustivity properties of questions should be captured in terms of an ambiguity in question meanings or in terms of answerhood operators that take question meanings and yield answers. Some authors have shown that Karttunen's semantics can be brought in line with evidence for strong exhaustivity. Heim 1994, Dayal 1996, Beck and Rullman 1996 provide such accounts by positing an ambiguity in answerhood operators which operate on Hamblin-Karttunen question meanings of the sort we have been assuming thus far.

I follow the answerhood approach here. In particular, the implementation in Dayal 1996, forthcoming.[15] Below are Dayal's weakly and strongly exhaustive answerhood operators. The first encodes weak exhaustivity, which returns the unique true proposition in Q that entails all other true propositions in Q. Dayal's strongly exhaustive answerhood operator, inspired by Heim 1994, is built on the weakly exhaustive one. As we will see immediately, applying the strongly exhaustive answerhood operator to the antecedent's QuD and the sluiced Q, we get identical answers regardless of the differences in question meanings between cleft and non-cleft questions:

(1.27) a. Weak exhaustivity:

$\text{Ans-D}_{\text{wk}}(Q) =$

$\lambda w' \iota p[\ p \in Q \ \&\ p(w') \ \&\ \forall p'[\ [\ p' \in Q \ \&\ p(w')\ ] \rightarrow p \subseteq p'\ ]\ ]$

b. Strong exhaustivity:

$\text{Ans-D}_{\text{str}}(Q) =$

$\lambda w' \lambda w''[\ \text{Ans-D}_{\text{wk}}(Q)(w') = \text{Ans-D}_{\text{wk}}(Q)(w'')\ ]$

In order for the Sluice Condition to be met, both the antecedent's QuD and the sluiced Q must seek the same answers. Dayal (forthcoming) mentions that answers to direct questions are typically interpreted as strongly exhaustive. I assume implicit QuDs are direct questions (following Roberts 1996), so mostly we will be concerned only with equivalence

[15] Dayal's (1996) approach is particularly suited for capturing the existential presupposition of questions. In order for a question to be askable, it must be answerable, answerability, as defined by Dayal's answerhood operators requires *some* proposition in the Q meaning to be true at the world of evaluation, ensuring that the existential presupposition of a question is met whenever it is askable.

between the output of Ans-D_{str} as applied to the QuD and the sluice. As Dayal (forthcoming) notes, however, a question's status as seeking a strongly/weakly exhaustive or mention-some (non-exhaustive) answer is subject to a variety of factors, including, for instance, the conversational goals of the interlocutors, choice of embedding predicate, and lexical choices in the question. I restrict the discussion to cases where there is no independent reason to assume that the antecedent's QuD does not receive a strongly exhaustive reading. While there remain questions as to when non-exhaustive readings are available or forced, the coinciding factors are detectible, so we may proceed, for now, without worrying whether, for a given basic case of sluicing like, e.g., *someone left, but I don't know who*, a strongly exhaustive reading for the QuD and sluiced Q is unavailable.

To illustrate how the Sluice Condition is met in (1.19) (an isomorphic sluice), assume that only Jack left at the world of evaluation, w1, in a model like that sketched in (1.28). Since the antecedent's QuD and the sluice have the same meaning, applying Ans-D_{str} to either will yield the same answer, namely that only Jack left.

(1.28) a. $W = \{ w1, w2, w3, w4 \}$

b. $\lambda x[left_{w1}(x)] = \{ Jack \}$

$\lambda x[left_{w2}(x)] = \{ Sally, Jack \}$

$\lambda x[left_{w3}(x)] = \{ Sally \}$

$\lambda x[left_{w4}(x)] = \{ Jack \}$

c. $[\![who\ left?]\!] = \{ \lambda w[left_w(Jack)], \lambda w[left_w(Sally)], \lambda w[left_w(Sally+Jack)] \}$

(1.29) Ans-$D_{str}([\![who\ left?]\!]) =$

$\lambda w' \lambda w''[$ Ans-$D_{wk}([\![who\ left?]\!])(w') =$ Ans-$D_{wk}([\![who\ left?]\!])(w'')$]

applied to w1 =

$\lambda w''[\{ w1, w2, w4 \} =$ Ans-$D_{wk}([\![who\ left?]\!])(w'')$] $= \{ w1, w4 \}$

"Only Jack left."

For a pseudosluice like (1.25), Ans-D_{str} applied to the QuD remains unchanged since we have been holding the antecedent constant. Ans-$D_{str}([\![who\ it\ was]\!])$ also gives us the

same set of worlds, so that the Sluice Condition is met.[16]

(1.30) Ans-D_{str}(⟦who it was⟧) =
λw'λw"[Ans-D_{wk}(⟦who it was⟧)(w') = Ans-D_{wk}(⟦who it was⟧)(w")]
applied to w1 =
λw"[{ w1, w4 } = Ans-D_{wk}(⟦who it was⟧)(w")] = { w1, w4 }
"Only Jack left."

As noted above, the Remnant Condition is also met, since ⟦who⟧ = ⟦someone⟧. Therefore Split Identity is met for both sorts of examples in (1.11), repeated below. Importantly, since English lacks case morphology on *who* and *someone*, the case Condition is also met.

(1.11) Someone left, but I don't know who [$_{TP_E}$ ...].

a. ...but I don't know who ~~it was (that left)~~.

b. ...but I don't know who ~~left~~.

1.5 Summary and roadmap

Two aspects of the Split Identity condition address the syntactic challenges. First, neither sub-condition makes any reference to the syntactic content of the E-site, so that the new content introduced in pseudosluices is no longer a challenge. Second, as will be shown in more detail in Chapter 5, the Remnant Condition is shown to be capable of deriving the data motivating Chung's 2006 Generalization and the ban on diathesis alternations (once again, without reference to the content of the E-site). To illustrate, consider data like that

[16]Importantly, Ans-D_{wk} will not achieve the same result. In the same model as above, Ans-D_{wk}(QuD) yields the proposition *that Jack left*, since it is the unique, true proposition in the QuD's meaning. On the other hand Ans-D_{wk} applied to the sluiced cleft still yields a strongly exhaustive answer by virtue of the cleft's own semantics (the uniqueness presupposition of the cleft pronoun). As illustrated below, the answers are non-identical, in violation of the Sluice Condition.

(1.1) a. Ans-D_{wk}(QuD: ⟦who left?⟧) = λw[$left_w$(Jack)]
{ w1, w2, w4 }

b. Ans-D_{wk}(Pseudosluice: ⟦who it was⟧) = λw[ιx[$left_w$(x)] =$_w$ Jack]
{ w1, w4 }

motivating the ban on diathesis alternations in (1.5c-1.5d) (repeated below with remnants and their correlates underlined).

(1.5c) * She loaded <u>something</u> with hay, but I don't know <u>onto what</u> ~~she loaded hay~~.

(1.5d) * She loaded <u>something</u> onto the truck, but I don't know <u>with what</u> ~~she loaded the truck~~.

In each case, the Wh-phrase is contained in a PP, while its intuitive correlate in the antecedent is not. If we construe the PP itself as the remnant, under the (uncontroversial) assumption that PPs and DPs have a distinct semantics, the remnant will fail to find a suitable semantically identical correlate in the antecedent, so that the Remnant Condition correctly rules such cases out.

With respect to Chung's Generalization, it is, at first, unclear, given data like that in (1.6a), repeated below, how the Remnant Condition may be relevant, as such sluices seem to lack correlates altogether. Such sluices, where the remnant lacks an explicit correlate, are cases of "sprouting" (as coined in Chung et al. 1995). As stated, the Remnant Condition requires that remnants have correlates even in sprouting. Here, I follow Fortin 2007, 2011, who argues sluicing antecedents in cases of sprouting have silent syntactic correlates.

(1.6a) * Jack left, but I don't know who ~~he left with~~.

(1.6c) . . . but I don't know who with ~~he left~~.

As stated, Chung's Generalization is more of a theoretical claim than a Generalization, in that it makes explicit reference to the content of the E-site in deriving the data that motivates it. The empirical pattern, however, can be captured under the Remnant Condition if we assume that the implicit correlate in (1.6a) has the semantics of a PP-modifier. Since the remnant in examples like (1.6a) is a DP, such cases can be ruled out on the same grounds as fixed-diathesis violations like those in (1.5c-1.5d). This much will also derive the acceptability of the version with a pied piped remnant ((1.6c)). We will further motivate these assumptions and more extensively illustrate these results in Chapter 5.

In Chapter 5, I show that the Remnant Condition also derives new data from "discontinuous reciprocal constructions" (adopting the term from Dimitradis 2008) such as that in (1.31b). Discontinuous reciprocal constructions involve symmetric predicates (e.g. *meet*, *make out*, *kiss (one another)*) which naturally take coordinated subjects, as in (1.31a), but introduce additional event-participants in a comitative *with*-PP instead of a coordination, as in (1.31b).

(1.31) a. Jack and one of the Poe sisters were making out (with each other).

b. One of the Poe sisters was making out with Jack.

As (1.32) shows, a PP remnant for the sluice is unacceptable when the correlate is a DP.

(1.32) $[_{DP}$ One of the Poe sisters$]_{correlate}$ was making out with Jack, but I don't know $[_{PP}$ with which Poe sister$]_{remnant}$ *(Jack was making out).

Such remnants imply a switch in the order of arguments in the sluice (call these "switched argument sluices"). In (1.32) for instance, *Jack* is no longer the object of the comitative PP in the sluice, but has switched places with the indefinite, and is now the clausal subject.

As the reader may check, (1.32) does not violate Chung's Generalization as there are no new morphemes in the (parenthesized) E-site. Furthermore, such examples will be shown to not involve argument structure alternations, so that examples like (1.32) cannot be ruled out as violations of the ban on diathesis alternations. The Remnant Condition, on the other hand, rules out examples like (1.32), once again, on the grounds that PPs have a distinct semantics from indefinite DP correlates. As such, (1.32) is out since the remnant lacks a suitable correlate.

In the following chapter, I review some empirical motivations marshalled in support of the pseudosluicing hypothesis in the literature, and provide arguments in support of the unconstrained version. I also provide empirical arguments in favor of the case Condition and give it a more precise formulation. In Chapter 3, I further spell out my assumptions about copular clauses and clefts, and, in light of the discussion in Chapter 2, show how Split Identity allows for the different types of pseudosluicing. In Chapter 4, I discuss open

issues regarding the identity condition on sluicing in more detail, reviewing some extant proposals. In Chapters 5 and 6, I illustrate how the Split Identity Condition addresses many of these issues. In Chapter 7, I address some challenges to Split Identity, along with some solutions, and in Chapter 8, I conclude.

Chapter 2
Motivating Pseudosluicing

In this chapter, I review empirical motivations in the literature that have been appealed to in support of the pseudosluicing hypothesis. Pseudosluices challenge the isomorphism assumption directly. However, we will see that there have been proposals that adhere to the isomorphism assumption while treating pseudosluicing as a "last resort" mechanism, available only when the isomorphic structure is ruled out independently. Call such approaches "constrained pseudosluicing hypotheses." I present arguments against constrained pseudosluicing approaches here, in defense of the unconstrained pseudosluicing hypothesis.

I also address a major challenge to the unconstrained pseudosluicing hypothesis. Namely, the challenge from the case matching requirement in sluicing. Ross 1969 first noted that sluicing remnants and their correlates must bear the same case. Such a constraint has the potential to rule out pseudosluicing whenever the remnant's correlate is not marked as nominative in languages which assign copular clause arguments nominative case. However, we will see that the case matching requirement is only concerned with morphological case and not abstract Case, with the result that abstract Case mismatches are available, allowing pseudosluicing to go through whenever morphological case distinctions are absent on the Remnant and Correlate. First, I discuss evidence for psuedosluicing, then I present a new formulation of the case matching requirement that lets in pseudosluicing when we need it.

2.1 Evidence for pseudosluicing

Here, I discuss evidence for pseudosluicing from three domains; adjectival, P(reposition)-stranding sluices in non-P-stranding languages, and what I will call "p-or-q" sluices, which

are sluices where the remnant's correlate is a disjunction. Adjectival sluices, following Barros et al. 2014, are shown to stem from predicational copular clauses. P-stranding sluices in non-P-stranding languages have been argued to stem from specificational copular clauses or it-clefts (e.g., Vicente 2008, Rodrigues et al. 2009, van Craenenbroeck 2010). P-or-q sluices are those like in (2.1), for which no isomorphic parse for the E-site seems to be available:[1]

(2.1) Either something's on fire or Sally's baking a cake, but I can't tell which.

We will see there is cross-linguistic evidence in support of the conclusion that p-or-q sluices are pseudosluices. This matches the intuition that a cleft pre-sluice is a synonymous paraphrase for the sluice in (2.1) (i.e., *which it is*). P-or-q sluices with clausal disjunction antecedents are shown to only be possible in languages where a cleft pre-sluice is avialable.

2.1.1 Adjectival sluices and predicational pseudosluicing

Pseudosluicing has been proposed primarily in the context of accounting for the apparent suspension of constraints on overt movement under sluicing. Under the usual assumption that the sluice is isomorphic to its antecedent (a questioned version of it), it would appear that sluicing can render island violations acceptable (first noted in Ross 1969). For instance, in (2.2), we have a complex NP island violation, which becomes acceptable under sluicing. This phenomenon has been referred to as "island repair," where ellipsis seems to fix whatever problem is caused by the island violation in the overt string:

(2.2) Jack hates the fact that Sally is dating some author, but I don't know which author (*Jack hates the fact that Sally is dating).

The phenomenon of island repair is very general, holding for a variety island types (see, e.g., Merchant 2008 for an inventory). The standard assumption takes such evidence as

[1] AnderBois 2011 is the earliest reference I have run across to mention these, though Jason Merchant (p.c) mentions this observation has been floating around in the literature prior to AnderBois 2011. I have yet to dig up the relevant references.

support for a view where islands are PF-phenomena; ellipsis as PF-deletion has the effect of "hiding" the violation from PF (see Kennedy and Merchant 2000, Merchant 2001, Fox and Lasnik 2003, Merchant 2004, Merchant 2008, Boskovic 2014 for various implementations).

Several authors have suggested, instead, that the E-site in cases of apparent repair actually hides a non-isomorphic non-island containing structure (Merchant 2001, Fukaya 2007, Szczegielniak 2008, Barros 2012, Elliott 2012, 2013, Marušič and Žaucer 2013, Barros et al. 2012, Barros et al. 2014).[2] Three sorts of alternative structures have been proposed; "short sources," clefts, and predicational clauses, in accounting for the appearance of repair in different contexts. Under these proposals, the E-site for the sluice in (2.2) may hide a cleft, or a short source.

(2.3) Jack hates the fact that Sally is dating some author, but I don't know . . .

a. which author ~~it is~~.

b. which author ~~Sally's dating~~.

Short sources, like that in (2.3b) are compatible with isomorphism assumptions, if we assume a sub-part of the antecedent clause (here the island-bound TP *Sally is dating some author*) counts as the antecedent. The more interesting cases in terms of the identity condition are pseudosluices. In order to zero in on the viability of the pseudosluicing hypothesis, it is important to control for the availability of a short source. One way in which this can be done is with non-clausal islands; if we place the correlate in a non-clausal island in the antecedent, a short source is ruled out since there is no island-bound TP which may serve as the antecedent for the sluice (as there is in (2.2)).[3]

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[2]Merchant 2001 cites Erteschik-Shir 1977, Pollmann 1975 as the earliest mentions of pseudosluicing-style analyses. However, unlike more recent assumptions about pseudosluicing, these proposals took pseudosluicing to be a process independent from sluicing (more quasi-sluicing-like).

[3]I do not commit to a strong position in this thesis on the question of whether sluicing never repairs islands (as argued in Barros et al. 2014) or only sometimes repairs islands (as in e.g., Merchant 2001, 2008). I do assume, however, that not all islands are repairable. This is in keeping with the empirical landscape facing repair-proponents, in fact, as it is well known that not all types of sluicing, and not all movement constraint violations may be repaired under PF-deletion (see Merchant 2001, 2008, Barros et al. 2012 for an inventory of such cases). The contexts in which pseudosluicing is appealed to here are contexts in which there is

One domain in which short sources may be ruled out are Left Branch Condition (LBC) violations (Ross 1967) with adjectival sluices. In (2.4), Merchant 2001 gives the analysis for the E-site indicated (following the analysis in Kennedy and Merchant 2000):[4]

(2.4) She married a rich man, but I don't know how rich$_i$ (*she married a t_i man).

Here, there is no clausal island containing the remnant *rich*, so there is no (plausibly isomorphic) short source available for a non-repair approach to appeal to. Barros et al. 2012 propose that, instead, in such cases the E-site is a predicational pseudosluice:

(2.5) She married a rich man, but I don't know how rich (he is).

In support of this claim, Barros et al. 2012, 2014, provide evidence from Dutch, German, and Hungarian, showing that remnants in adjectival sluices show morphological properties consistent with non-attributive, predicative adjectives, as well as with evidence from English involving gradable attributive-only adjectives. Additionally, in languages where overt LBC violations are possible, the agreement patterns under sluicing are as expected as well.

In (2.6), we see that predicative adjectives agree in number with the subject in predicational clauses in Hungarian ((2.6b)), but attributive adjectives do not agree in number with the nominal they modify ((2.6a)). The remnant in (2.6c), however, obligatorily shows number agreement with the nominal its attributive correlate modifies, in support of a predicational pseudosluicing analysis.

(2.6) a. John ismer néhány magas(*ak) lányt.
J. knows some tall(.PL) girls
'John knows some tall girls.'

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evidence for lack-of-repair, contexts which constitute explananda for repair proponents (while being entirely consistent with non-repair approaches).

[4]As Merchant 2001 shows clearly, for English in any case, a DP ellipsis analysis for the sluice in (2.4) is unlikely. This is simply because English lacks DPE independently, and we can check from the pre-sluice in (i), below, that such DP ellipsis is independently unavailable. The theoretical choices under a silent structure approach, then, seem to be between Merchant's (2001) proposal where sluicing fixes LBC violations, and the predicational pseudosluice approach argued for here.

(i) She married a rich man, but I don't know how rich *(a man) she married.

b. A lányok magasak.
The girls tall.PL
'The girls are tall.'

c. John ismer néhány magas lányt, de nem tudom
J. knows some tall girls, but not know.I
milyem { magasak / *magas }.
how { tall.PL / *tall }.
'John knows some tall girls, but I don't know how tall.'
(From Elliott 2013)

Similarly, in German, as noted in Merchant 2001, attributive adjectives agree in case with the nominal they modify, whereas predicative adjectives do not. In sluicing, the predicative pattern is obligatory, in support of a predicational source for the sluice. In (2.7a), we see the non-agreeing pattern in the predicate position of a copular clause. In (2.7b), we see the agreeing pattern in attributive position. In (2.7c), we see that LBC violations are ungrammatical in German. In (2.7d), we see that extraction of the predicate from post-copular position in a predicational clause is fine.[5]

(2.7) a. Der Mann ist groß.
The man is tall.
'The man is tall.'

b. Lena hat einen groß*(en) Mann geheiratet.
L. has a tall*(.ACC) man married.
'Lena married a tall man.'

c. * Wie großen hat Lena einen Mann geheiratet?
How tall.ACC has L. a.ACC man married
'How tall a man did Lena marry?'

d. Wie groß ist der Mann?
How tall is the man
'How tall is the man?'

(From Barros et al. 2014, examples (70-73), pg. 16)

[5]Merchant 2001 reports different judgements for German, where attributive adjectival sluices are reported as degraded (Merchant 2001, pg. 173, example (30)). I have no account of interspeaker variation in this regard in German, however, it is suggestive that German predicative adjectives lack case morphology, as shown in (2.7a). Perhaps the case matching condition can be blamed for the degraded judgements, though we would still an explanation for the grammar of speakers who accept these.

In Sluicing, the predicative agreement pattern is obligatory, in support of the proposal that such sluices do not involve LBC violation repair.

(2.8) Lena hat einen großen Mann geheiratet, aber ich weiß nicht wie groß(*en).
L. has a tall.ACC man married, but I know not how tall(*ACC)
'Lena married a tall man, but I don't know how tall.'

(From Barros et al. 2014, example (74), pg. 16)

This data is consistent with the view that there is no LBC violation repair in sluicing, and that, in languages where such repair appears to obtain, the adjectival remnant actually stems from a predicational source.

In English, there is a class of gradable adjectives which acquire an idiomatic-like meaning as attributive modifiers. These are adjectives like *old*, *heavy*, *hard*, in *old friend*, *heavy drinker/sleeper/hitter*, *hard worker/hitter*. *heavy drinker*, for instance, most naturally refers to an alcoholic. This reading is absent in predicative position (# on the relevant reading):

(2.9) a. He is a heavy drinker.

b. # The drinker is heavy.

c. He is an old friend.

d. # My friend is old.

e. He is a hard worker.

f. # That worker is hard.

In adjectival sluices, the idiomatic interpretation is unavailable, following straightforwardly if the E-site hides a predicational clause with an extracted predicate:[6]

(2.10) a. # She married a heavy drinker, but I don't know how heavy.

b. The drinker she married was heavy, but I don't know how heavy.

c. # She married an old friend, but I don't know how old.

d. The friend she married is old, but I don't know how old.

[6]My taboo filter gives me some hesitation in completing the paradigm with example (2.10f), but this is science.

e. # She fired a hard worker, but I don't know how hard.

f. The worker she fired was hard, but I don't know how hard.

There are two worries to be addressed regarding the conclusion that a predicational analysis must be behind the observed pattern. First, one might argue that perhaps unacceptability here stems from the fact that the relevant readings are idiomatic. Under standard assumptions, subparts of idioms must be interpreted together at LF, requiring reconstruction of idiom chunks separated by Wh-movement. Perhaps the repair approach could make use of this, by claiming that Wh-movement here renders reconstruction unavailable. The reason that, e.g. (2.10c), is out, then, is because sluicing somehow "traps" the remnant in its surface position in [Spec,CP]:

(2.11) # She married an old friend, but I don't know how old ~~she married a t_i friend~~.

However, it is difficult to imagine what such a ban on reconstruction in sluicing might follow from. Additionally, the acceptability of the sluice in (2.12) would be completely surprising under such an assumption, as here, we require *headway* to reconstruct on the same grounds, and here, such reconstruction is clearly possible:[7]

(2.12) a. She made some headway on her project, but I don't know how much headway.

b. The boss said we need to hire someone who can make a certain amount of headway on the project by the end of next month, but he didn't say exactly how much headway.

Additionally, pied piping the Wh-DegP's containing DP in English requires local extraction, so that one cannot appeal to a general ban on breaking up just these idioms:

(2.13) She married a heavy drinker, but I don't know
$[_{DP}\ [_{DegP}$ how heavy $]_i\ [_{DP}$ a t_i drinker $]\ ]$ (she married).[8]

[7] See Rottman and Yoshida 2013 for further evidence and discussion of idiom reconstruction under sluicing.

[8] As noted in Merchant 2001, adjectival sluices also cannot be derived from structures like that in (2.13) via

In further support of this point, Czech is a language where the LBC does not appear to be active in overt Wh-movement. The data in (2.14) shows that the idiomatic reading is available in these cases ((2.14a)). Likewise, in sluicing, the idiomatic reading is available, unlike in English (2.14b). And to support the earlier point regarding agreement patterns on adjectival remnants, Czech adjectival remnants, as expected, pattern with attributive modification (2.14c-2.14d).

(2.14) a. Jak starého Marie včera potkala přítele?
how old.ACC Mary.NOM yesterday met friend.ACC
'how old a friend did Mary meet yesterday?'

b. Marie včera potkala starého přítele, ale nepamatuji
Mary.NOM yesterday met old.ACC friend.ACC but not-remember
si jak starého.
REFL.CL how old.ACC
'Mary met an old friend yesterday, but I do not remember how old a friend.'

c. Marie včera potkala starého přítele.
Mary yesterday met old.ACC friend.ACC
'Mary met an old friend yesterday'

d. Mari-in přítel je starý.
Mary-POSS.NOM friend.NOM is old.NOM
'Mary's friend is old.'

(From Barros et al. 2014, examples (55-58), pg. 14)

The second worry is that some adjectival sluices with idiomatic attributive-only adjectives are acceptable with overt predicational clause follow-ups, so that their unacceptability does not seem to immediately follow from the assumption that the sluices are predicational:

(2.15) Sally married an old friend, but I don't know how old he is.

Here, there is a crucial difference between the predicational assertion and the antecedent for the sluice; the antecedent means that she married a friend she's known for a long time (the idiomatic interpretation), whereas the predicational question asks about this person's age.

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deletion of the DP *a drinker* in the pied-piped remnant. This is simply because such DP ellipsis is unavailable in English, as the reader may check by omitting *a drinker* from the pre-sluice in (2.13).

Such a predicational clause is, of course, available as a sluice, provided that the remnant's correlate in the antecedent is itself a non-idiomatic instance of the adjective *old*, as in (2.10d). The mismatch in readings for the remnant and its correlate in (2.15) may be ruled out by many extant semantic assumptions about sluicing. For instance, as Chung et al. 1995 note, sluicing remnants must share the same restriction as their correlates (a phenomenon dubbed "inheritance of content" in Chung et al. 1995). The remnant in (2.15) has a set of ages the referent of *he* might be as its restriction, whereas the restriction for its correlate is a set of lengths of time over which the friendship may have lasted.

Spanish, in particular, highlights this point even more clearly, in that the idiomatic reading for *old* (*viejo*) may be disambiguated in the correlate itself (a strategy unavailable in English). In Spanish, when *viejo* precedes the noun it modifies, the idiomatic reading is available, but as a post-nominal modifier, only the predicative reading is available.[9,10]

(2.16) a. Juan ha contratado a un **amigo viejo**.
Juan has hired to a **friend old**
'Juan hired an elderly friend.'

b. Juan ha contratado a un **viejo amigo**.
Juan has hired to a **old friend**
'Juan hired an old friend.'

Sluicing is out with *cómo de viejo* (*how old?*) when *viejo* precedes the NP in the correlate:

(2.17) a. Juan ha contratado a un **amigo viejo**, pero no sé cómo de viejo.
Juan has hired to a **friend old**, but not know.I how of old
'Juan hired an elderly friend, but I don't know how old.'

b. * Juan ha contratado a un **viejo amigo**, pero no sé cómo de viejo.
Juan has hired to a **old friend**, but not know.I how of old
'Juan hired an old friend, but I don't know how old.'

To summarize, there is good evidence in favor of the hypothesis that adjectival sluices do not involve "repair" of an LBC violation, but instead, in keeping with proponents of

[9]Thanks to Luis Vicente (p.c.) for judgements and discussion.

[10]"to" glosses a differential object marker: in Spanish, animate/specific direct objects are differentially marked.

non-repair, stem from predicational copular clauses. In the following section, we discuss evidence for pseudosluicing involving cleft and specificational copular clauses in the E-site.

2.1.2 P(reposition)-stranding and pseudosluicing

Another area where pseudosluicing has been proposed is in apparent cases of P(reposition)-stranding under sluicing in non-P-stranding languages. Merchant 2001 provides evidence from 24 languages in support of his Preposition Stranding Generalization (PSG):

(2.18) PSG:

A language L *will allow preposition stranding under sluicing iff* L *allows preposition stranding under regular Wh-movement.*

Importantly, the data the PSG aims to capture only follows under the assumption that E-sites in sluices are isomorphic to their antecedents, but the PSG itself is a more theoretical claim than such data let on. An example of what P-stranding under sluicing looks like in English, a language in which P-stranding is allowed, is shown in (2.19):

(2.19) Jack left the party with someone, but I don't know who ~~he left the party with~~.

Under this isomorphism assumption, we may conclude that the preposition *with* is stranded in the E-site, since if the correlate is the object of a preposition, then the remnant must have been extracted from a corresponding PP in the E-site.

In a non-preposition stranding language, like Russian, on the other hand, apparent P-stranding under sluicing is out.

(2.20) a. Anja govorila s kem-to, no ja ne znaju *(s) kem.
Anja spoke with someone, but I not know *(with) who
'Anja talked to someone, but I don't know who.'

b. * Kem ona govorila s?
who she spoke with
From Merchant 2001, examples (32), pg. 96

This would appear to be strong evidence for the isomorphism hypothesis. However, since Merchant 2001, counterexamples to the PSG in many languages (call them PSG-deviant languages) have been uncovered: Hartman 2005 for Finnish, Fortin 2007 for Bahasa Indonesian, Almeida and Yoshida 2007 for Brazilian Portuguese, Szczegielniak 2008 for Polish, Vicente 2008 for Spanish, Bulgarian, French, Italian, and Brazilian Portuguese, Rodrigues et al. 2009 for Spanish and Brazilian Portuguese, van Craenenbroeck 2008, 2009b, 2010, 2012 for a variety of languages including those brought to bear on the PSG in Merchant 2001. This raises an important empirical question, namely, why is it that Merchant 2001 was so successful in uncovering evidence in support of the PSG in so many languages, when, in fact, it seems that sometimes even in those very languages, counterexamples are available? The answer to this question is complex, and most of what follows in this chapter aims at addressing it. In short, the PSG *as stated*, is correct; apparent counterexamples to it stem from elided copular clauses where no P-stranding actually obtains.

2.1.2.1 PSG-deviant languages

As Rodrigues et al. 2009 note, there is evidence counterexemplifying the PSG even within P-stranding languages like English, which are normally PSG-compliant. In (2.21a), *against* cannot be stranded in *against x's wishes*, but this appears to be possible under the isomorphism assumption ((2.21b)). The (non-isomorphic) pseudosluicing hypothesis, on the other hand, provides an alternative derivation for the sluice in (2.21b) where the E-site is as indicated in the (overtly acceptable, non-P-stranding) alternative in (2.21c):

(2.21) a. * Whose wishes will Claire Marry Joachim against?

b. Claire will marry Joachim against somebody's wishes, but I can't remember whose (wishes).

c. Claire will marry Joachim against somebody's wishes, but I can't remember whose (wishes) it is.

From Rodrigues et al. 2009, footnote 15, example (i)

Thus, such researchers take counterexamples to the PSG to be illusory. That is, if we abandon the isomorphism assumption, and posit a copular clause in the E-site, we no longer need to assume a preposition has been stranded.

Below are violations of the PSG in Brazilian Portuguese (BP) and Spanish (non-P-stranding languages). As noted in Rodrigues et al. 2009, Merchant 2001 originally marked examples in Spanish with two question marks, though Rodrigues et al. contend such examples are "perfect" or "near perfect," and in my own informal investigations, these judgements have been reproduced. Almeida and Yoshida 2007 first noted P-stranding was available in BP sluices, contra PSG expectations. In my dialect of Northeastern BP, the judgements are perfect, as claimed in Rodrigues et al. 2009. For each language, the (a) example shows an apparent violation of the PSG, and the (b) example illustrates that such P-stranding is unavailable under regular Wh-movement.

(2.22) Spanish

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

b. * Quién habló Juan con?
Who spoke Juan with
'Who did Juan speak with?'

(2.23) Brazilian Portuguese

a. João falou com alguem, mas não sei quem
John spoke with someone, but not know who
'John spoke with someone, but I don't know who.'

b. * Quem que João falou com?
Who that John spoke with
'Who did John speak with?'

Rodrigues et al. 2009 propose that apparent cases of P-stranding actually stem from elided copular clauses. Specifically, Rodrigues et al. posit elided specificational copular clauses as the source of the appearance of P-stranding. The proferred analyses for the E-sites in (2.22b) and (2.23b) without P-stranding are as given below:

(2.24) a. For Spanish:

Juan habló con alguien, pero no sé quién
Juan spoke with someone, but not know who
~~es la persona con la que habló Juan~~.
~~is the person with the that spoke Juan~~

'Juan spoke with someone, but I don't know

who ~~the person that he spoke to was~~.'

b. For Brazilian Portuguese:

João falou com alguem, mas não sei quem
John spoke with someone, but not know who
~~é a pessoa com quem ele falou~~.
~~is the person with whom he spoke~~

'John spoke with someone, but I don't know

who ~~the person with whom he spoke was~~.'

Such an approach adheres to the spirit of the PSG, in that, there is no P-stranding in sluicing in Spanish or BP if we depart from the isomorphism hypothesis, letting in pseudosluices. It is useful to make a distinction between "the appearance of a PSG violation" on the surface, with the profile of, e.g., a Spanish sluice like in (2.24b), and an actual PSG violation, where a preposition is exceptionally stranded in the E-site under sluicing. Rodrigues et al. 2009 give evidence from "multiple sluicing" and Else-modification in support of the hypothesis that P-stranding is only apparent.

Multiple sluicing involves two (or more) remnants. For instance, in (2.25) in English, two prepositional phrases are remnants for the sluice:

(2.25) Peter talked to someone about something, but I can't remember
to whom about what.

Rodrigues et al. 2009 follows Lasnik's 2006 analysis of multiple sluicing, where the second remnant is rightward extraposed before TP deletion:

(2.26) Peter talked about something to someone, but I can't remember
$[_{PP_i}$ about what] ~~Peter talked t_i t_j~~ $[_{PP_j}$ to who(m)]

Motivation for this analysis comes from the observation that, in English, P-stranding is possible on the first remnant, but not on the second, despite the fact that English is a P-stranding language (under regular Wh-movement). The ban on P-stranding on the second remnant stems from the ban on P-stranding with rightward extraposed XPs:

(2.27) a. Peter talked about something to somebody, but I can't remember (about) what *(to) whom.
(from Rodrigues et al. 2009, example (13))

b. Peter talked to somebody about something, but I can't remember (to) who(m) *(about) what.

c. Peter talked, yesterday, about a paper on sluicing.

d. * Peter talked [$_{PP}$ about t_i] yesterday [$_{DP_i}$ a paper on sluicing].

Lasnik's analysis also correctly predicts that multiple sluicing should be sensitive to Ross's 1967 Right Roof Constraint; multiple sluicing is impossible when the remnants correspond to correlates separated by a clause boundary:

(2.28) * Some students said that Mary will speak to some professors, but I can't remember which students$_i$ ~~t_i said that Mary will speak t_j~~ to which professors$_j$.

Rodrigues et al. 2009 show that the Right Roof Constraint and the ban on P-stranding in rightward movement are active in Spanish and BP as well. However, unlike English, neither preposition may be stranded in a multiple sluice.

(2.29) a. Brazilian Portuguese

A Jú jantou com um rapaz num restaurante, mas eu não me lembro
The Jú dined with a guy in.a restaurant, but I not CL remember
*(com) qual rapaz *(em) qual restaurante.
*(with) which guy *(in) which restaurant
'Jú dined with some guy in a restaurant, but I don't remember with which guy, in which restaurant.'

b. Spanish

Juan cenó con una chica en un restaurante italiano, pero no recuerdo
Juan dined with a girl in a restaurant italian but not remember
*(con) qué chica *(en) qué restaurante.
*(with) what girl *(in) what restaurant
'Juan dined with a girl in an italian restaurant, but I don't remember with what girl, in what restaurant.'

This is consistent with the pseudosluicing hypothesis: multiple sluicing rules out a pseudosluice parse since the rightmost remnant would have to cross a relative clause boundary in violation of the Right Roof Constraint:

(2.30) * qual rapaz$_i$ ~~t_i é o rapaz com quem cla jantou t_j~~ em qual restaurante$_j$
which guy ~~is the guy with whom she dined~~ in which restaurant
'but I don't remember which guy it was with whom she dined or at which italian restaurant.'

Presumably, the only other way in which the appearance of P-stranding in the leftmost remnant may be derived is by actually stranding the preposition in an isomorphic structure. If we assume P-stranding, even under sluicing, is unavailable in Spanish and BP, we correctly predict P-stranding to be unavailable in multiple sluices.

Another source of evidence in support of the pseudosluicing hypothesis comes from *else*-modification of the remnant. As shown in Merchant 2001, *else*-modification of a (truncated) cleft's Wh-phrase is unlicensed in English, ruling out a pseudosluicing analysis for sluices with *else*-modified remnants:

(2.31) He likes *Sally*, but I don't know who *else*.

a. * . . . but I don't know who *else* it is.

b. . . . but I don't know who *else* he likes.

Spanish is just like English in this regard, but disallows P-stranding under sluicing with *mas*-modification of the remnant. Under the hypothesis that apparent P-stranding actually signals an underlying copular clause, this is what we expect.

(2.32) Spanish:

a. Juan habló con Elena, pero no sé *(con) quién mas.
Juan spoke with Elena, but not know *(with) who else
'Juan spoke with Elena, but I don't know who else.'

b. * no sé quién mas es la persona con la que habló Juan.
not know who else is the person with the that spoke Juan
'I don't know who else the person Juan spoke with was.'

The facts in BP are more complex, as Rodrigues et al. 2009 note, as P-stranding does appear to be available with *else*-modification (*mais*-modification):

(2.33) Mateus falou com a Maria, mas não sei (com) quem mais.
Matthew spoke with the Maria, but not know (with) who else
'Matthew spoke with Maria, but I don't know who else.

Here, one's specific assumptions about the status of the pseudosluiced copular clause in Higgins's 1973 taxonomy of copular clauses becomes important. Rodrigues et al. 2009 primarily posit specificational copular clauses as the source for the P-stranding illusion in BP and Spanish. These are copular clauses where the copula is flanked by two DPs, as in the Spanish example in (2.32b).[11] Worth noting is that such specificational copular clauses are just as unavailable in BP with *mais*-modification, as in Spanish with *mas*-modification:

(2.34) * Mateus falou com a Maria, mas não sei quem mais é a pessoa com
Matthew spoke with the Maria, but not know who else is the person with
quem ele falou.
who he spoke
'Matt spoke with Maria, but I don't know who else the person he spoke to was.

This raises the question of what sort of copular clause might underlie the P-stranding sluice in BP; it cannot be a specificational copular clause as in Spanish, otherwise we would expect P-stranding to be out with *mais*-modification in BP too. At the same time, it must be the case that whatever sort of copular clause is behind the P-stranding illusion in BP is unavailable in Spanish, otherwise Spanish would be expected to be like BP in allowing apparent P-stranding with *mas*-modification.

[11] See Comorovski 2008a,b, in particular, for an analysis of specificational questions in Romance.

Rodrigues et al. note that in BP, there are cleft questions for which *else*-modification of the Wh-phrase is available ((2.35)).[12]

(2.35) me diga, quem mais é que você vai convidar?
CL tell, who else is that you will invite
'Tell me, who else is it that you are going to invite?'

Rodrigues et al. 2009 take the availability of *mais*-modification in BP clefts to account for this difference in P-stranding between Portuguese and Spanish. Thus, in example (2.33), we have a cleft in the E-site, not a specificational copular clause:

(2.36) Mateus falou com a Maria, mas não sei quem mais
Matthew spoke with the Maria, but not know who else
~~foi com quem ele falou~~.
~~was with whom he spoke~~
'Matthew spoke with Maria, but I don't know who else ~~it was with whom he spoke~~.

It must be the case that Spanish lacks the strategy available in BP. This prediction is borne out. Informal judgements indicate that Spanish it-clefts are more constrained than BP it-clefts, in that the Wh-phrase must be a PP in such cases:[13]

(2.37) a. Juan habló con Maria, pero no sé con quién mas fue que habló.
Juan spoke with Maria, but not know with who else was that spoke
'J. spoke with M., but I don't know with whom else it was that he spoke.'

b. * J. habló con M., pero no sé quién mas fue con la que habló.
J. spoke with M., but not know who else was with which that spoke
'J. spoke with M., but I don't know who else it was with which he spoke.'

In asking the question of what sorts of copular clauses are pseudosluiceable, some authors have assumed, in narrowing the hypothesis space, that only one or another sub-type

[12]Clefts can be distinguished from specificational copular clauses in that clefts have an *expletive*-like pronominal subject ("it" in English, null in Spanish and Brazilian Portuguese), a post-copular "clefted" XP (called the "pivot", here, the Wh-phrase in cleft questions), and a relative-clause-like constituent following the pivot ("the cleft relative clause"). Of course, many authors analyze clefts as a sub-species of specificational clause (e.g. Mikkelsen 2006, den Dikken 2009, Reeve 2010). We will return to issues surrounding the status of clefting in Higgins' taxonomy in Chapter 4.

[13]Thanks to Luis Vicente, Carlo Linares Scarcerieau and Teresa Torres Bustamante for judgements.

of cleft is available. Rodrigues et al.'s 2009 position on the matter is slightly vague, in that they primarily stick to a specificational copular clause analysis for the E-sites they examine, but seem forced to appeal to it-clefts as well in capturing the cross-linguistic differences between BP and Spanish just discussed. Vicente 2008 explicitly adopts the hypothesis that only specificational copular clauses can be pseudosluiced, however, we have already seen evidence for predicational pseudosluicing in Spanish with adjectival correlates. So it seems we have no immediate theoretical or empirical reasons to rule out any particular kind of copular clause in pseudosluicing.

To summarize, the pseudosluicing hypothesis helps us understand apparent counterexamples to Merchant's 2001 PSG as only apparent. Furthermore, the predictions of the pseudosluicing hypothesis are borne out, in that, when a pseudosluice is independently ruled out, apparent P-stranding becomes impossible under sluicing. In the next section, we discuss PSG-compliant languages like Russian, which, unlike PSG-deviant languages, robustly adhere to the PSG's predictions under the assumption that the sluice is isomorphic to the antecedent, with one exception.

2.1.2.2 PSG-compliant languages

In addition to PSG-deviant languages like Spanish and BP, there are also PSG-compliant languages, such as Russian and German, which, unlike BP and Spanish, robustly support the PSG in (almost) never allowing P-stranding under sluicing. In a series of papers, Jeroen van Craenenbroeck notes that what seems to make a language PSG-compliant is whether remnants and correlates are marked for morphological case. Such languages strongly resist P-stranding under sluicing (call them "remnant-case" languages), whereas languages like BP, Spanish, and English do not.

No property of sluicing argues for syntactic isomorphism so stubbornly as the case matching generalization, first noted in Ross 1969. In languages which overtly mark morphological case on Wh-phrases, the case of the remnant and correlate must match. Consider the following example from Russian; the verb *podaril*, 'gave,' assigns dative to *someone*,

and the remnant must bear the same case.

(2.38) Ivan podaril komu-to podarok, no ja ne znaju { ✓komu / *kto }.
Ivan gave someone.DAT present, but I not know { ✓who.DAT / *who.NOM }

'Ivan gave someone a present, but I don't know who.'

From Grebenyova 2007, example (4), pg. 52

This is what is expected under a syntactic identity account which requires the sluice to be a Wh-question version of the antecedent, as in (2.39):

(2.39) . . . no ja ne znaju $komu_i$ [$_{TP_E}$ Ivan podaril t_i podarok].
. . . but I not know who.DAT [$_{TP_E}$ Ivan gave present]
'. . . but I don't know who Ivan gave a present.'

Importantly, a pseudosluicing analysis for the E-site in (2.38) incorrectly predicts that the remnant will bear nominative, since Russian clefts assign nominative to their arguments:

(2.40) no ja ne znaju { *komu / ✓kto } eto byl.
but I not know { *who.DAT / ✓who.NOM } it was

'Ivan gave someone a present, but I don't know who it was.'

From Grebenyova 2007, example (7), pg. 53

German is another language, which, like Russian, marks morphological case on Wh-phrases. German also marks cleft arguments as nominative. That sluicing requires case matching between the remnant and correlate rules out pseudosluicing in (2.41) as well:

(2.41) a. Er will jemanden loben, aber ich weiß nicht, { *wer / ✓wen }
He wants someone.ACC praise, but I know not { *who.NOM / ✓who.ACC }

'He wants to praise someone, but I don't know who.'

b. Er will jemanden loben, aber ich weiß nicht, wen er loben will.
He wants someone.ACC praise, but I know not, who.ACC he praise wants

'He wants to praise someone, but I don't know who he wants to praise.'

c. . . . aber ich weiß nicht, wer es ist.
. . . but I know not, who.NOM it is.
'. . . but I don't know who it is.'

(2.41a) is from Ross 1969, example (5), pg. 254. (2.41b) is from Merchant 2001, example (17), pgs. 89-90.

Citing the cross linguistic robustness of this pattern, Merchant 2001 proposes the Case-matching generalization, given below:

(2.42) *Case Matching*:

The sluiced Wh-phrase must bear the case that its correlate bears.

Importantly, case matching is standardly understood to follow from the isomorphism assumption. That is, if the sluiced question is a Wh-question version of its antecedent, then we expect the remnant and correlate to bear the same morphological case (and abstract Case), since the tail of the A′-chain of the remnant shares with the correlate the same syntactic context.

Such a generalization runs the risk of ruling out pseudosluicing altogether, if we take the evidence for the ban on morphological case mismatches as evidence for a ban on abstract Case mismatches as well (this is explicit in Chung 2013). Consider a language like BP, for instance, which, while lacking rich case morphology like German or Russian, allows us to ascertain which abstract Case is assigned to a cleft pivot (like English, BP case is restricted to pronouns). In BP, a 1st person pronominal pivot must be marked nominative:

(2.43) Fui eu que fiz.
Was I that did
'It was me that did it.'

Objects of prepositions in BP receive prepositional case:

(2.44) Ela riu de mim.
She laughed of me.PREP
'She laughed at me.'

Thus, in a typical case of P-stranding, a pseudosluicing analysis predicts an abstract Case mismatch between the remnant (a cleft pivot) and its (prepositional object) correlate.

(2.45) Ella riu de alguem, mas eu não lembro quem ~~foi~~.
She laughed of someone.PREP, but not CL remember who.NOM ~~was~~
'She laughed at someone, but I don't remember who ~~it was~~.'

How might the pseudosluicing hypothesis reconcile Case mismatches it predicts should be possible with the data from languages like Russian? van Craenenbroeck 2008, 2009b, 2010, 2012 adopts the isomorphism assumption, but assumes that, (i) provided case distinctions between the remnant and correlate that would result from pseudosluicing are inaudible, and (ii), the isomorphic structure is additionally ruled out on independent grounds (as it would be for P-stranding sluices in non-P-stranding languages), a cleft may be sluiced instead of the isomorphic structure. In van Craenenbroeck 2012, what licenses the pseudosluice of the cleft is the accommodation of an appropriate (syntactic) cleft antecedent with which the cleft is isomorphic. Such accommodation is only available when the remnant and correlate are morphologically non-distinct.[14] Under this view, pseudosluicing is a "last resort" or "repair" mechanism. Such an approach is consistent with standard assumptions about isomorphism.

In languages like German, where the distinction between nominative on the remnant and some other case on the correlate would be audible, van Craenenbroeck's last resort mechanism is blocked by lack of case matching (see van Craenenbroeck 2012 in particular for an explicit implementation), though not in, e.g. Spanish. In support of this hypothesis, van Craenenbroeck provides evidence from P-stranding sluices in PSG-compliant languages (Zurich and Standard German, Russian, Greek), where the case on the remnant and correlate is syncretic between nominative and whichever case the correlate bears. In such cases, P-stranding in PSG-compliant languages improves.

Consider Greek. Examples (2.46a) show that P-stranding is unavailable in overt questions. Example (2.46b) illustrates that clefts in Greek assign nominative case to Wh-phrases.

(2.46) a. * Pjon milise me?
who she.spoke with

[14] See Johnson 2012a for a proposal along these lines.

‘Who did she speak with?’

From Merchant 2001, example (28b), pg. 94

b. I astinomia anekrine enan apo tous Kiprious prota, ala dhen
the police interrogated one.ACC from the Cypriots first but not
ksero { pjos / *pjon } itan.
I.know { who.NOM / *who.ACC } it.was
‘The cops interrogated one of the Cypriots first, but I don’t know who it was.’

From van Craenenbroeck 2008

Examples (2.47a-2.47b) show that, even though the case matching generalization is respected, P-stranding is unavailable in sluicing, unless the remnant’s case is syncretic between the correlate’s case and nominative case.[15]

(2.47) a. I Anna milise me kapjon, alla dhe ksero *(me) pjon.
the Anna spoke with someone.acc but not I.know *(with) who.acc
‘Anna spoke with someone, but I don’t know who.

From Merchant 2001, example (28b), pg. 94

b. I Anna milise me kapja kopela, alla dhen ksero ?(me)
The Anna spoke with a girl, but not I.know ?(with)
pja.
which.nom/acc
‘Anna spoke with a girl, but I don’t know which.’

From van Craenenbroeck 2012, example (53), pg. 13.

German and Russian are just like Greek in the relevant respects (P-stranding banned, clefts assign nominative to their pivots), and just like Greek, P-stranding under sluicing is improved with case syncretism. In German, for instance, *welche* (which) is syncretic for nominative and accusative, but not for genitive (*welcher*), and P-stranding is improved with *welche* as a remnant given an accusative correlate. Likewise, in Russian, *čto* (what) is syncretic between nominative and accusative, and P-stranding is likewise ameliorated (though the effect seems to be milder than in German and Greek).[16]

[15]I have minimally modified the example from van Craenenbroeck 2009 to be similar to Merchant’s 2001 example in format, adding *?(me)/?(with)* to the gloss.

[16]For the Russian data, I have added to van Craenenbroeck’s 2009 glosses the syncretism properties of the correlate. I do not have such data for German, however.

(2.48) a. Rudolf wartet auf einige Freunde, aber ich weißnicht ?(auf) welche.
Rudolf waits on some friends but I know not ?(on)
which.nom/acc
'Rudolf is waiting for some friends, but I don't know which.'

b. Rudolf ist statt einiger Freunde aufgetreten, aber ich weißnicht *(statt) welcher.
Rudolf is instead.of some friends performed but I know not *(instead.of) which.gen
'Rudolf has performed instead of some friends, but I don't know which.'

From van Craenenbroeck 2009, examples (51) and (52), pg. 13

(2.49) a. On vystrelil vo čto-to no ja ne znaju ??(vo) čto.
he shot at something.nom/acc but I not know ??(at) what.nom/acc
'He shot at something, but I don't know what.'

b. On vystrelil vo kogo-to no ja ne znaju ?*(vo) kovo.
he shot at someone.acc but I not know ?*(at) who.acc
'He shot at someone, but I don't know who.'

From van Craenenbroeck 2012, examples (54), (55), pg. 13

Such data are strong support for van Craenenbroeck's hypothesis, as the observation that syncretism with nominative is required for P-stranding is consistent with the view that a pseudosluice is required for P-stranding, and pseudosluicing implies nominative on the remnant in these languages.

Interestingly, it is perhaps too strong to say that Spanish is *entirely* a PSG-deviant language in this regard. Spanish has differential case marking for animate/specific direct objects (see e.g., Linares-Scarcerieau 2008 and Fabregas 2013 for a recent survey), which surfaces as an obligatory preposition-like element (*a*, "to") before the direct object.[17]

(2.50) Juan está besando *(a) alguien.
Juan is kissing *(to) someone.
'Juan is kissing someone.'

At the same time, Spanish clefts are ungrammatical with differential marking of the pivot:

[17]Thanks to Luis Vicente (p.c.) for judgements and help with constructing relevant examples.

(2.51) a. Fue (*a) Maria que besó.
was (*to) Maria that kissed
'It was Maria that s/he kissed.'

b. (*a) quién fue que besó?
(*to) who was that kissed
'Who was it that s/he kissed?'

The case matching requirement suggests differentially case marked correlates should require differentially case marked remnants, which should rule pseudosluicing out. The expectation, then, is that examples like (2.52) should be ungrammatical. However, they are not entirely ungrammatical, instead patterning like Russian/German/Greek P-stranding cases where remnants are syncretic to their (prepositional object) correlates.

(2.52) Juan está besando a alguien, pero no sé ?(a) quién.
Juan is kissing to someone, but not know ?(to) who
'Juan is kissing someone, but I don't know who.'

Importantly, the '?' judgement associated with "stranding" the differential marker in (2.52) does not correspond to dropping the differential marker in an isomorphic continuation, which receives a stronger judgement as ungrammatical:

(2.53) Juan está besando a alguien, pero no sé *(a) quién está besando Juan.
Juan is kissing to someone, but not know *(to) who is kissing Juan
'Juan is kissing someone, but I don't know who he's kissing.'

On the other hand, the judgement for the sluice does pattern exactly with an overt cleft continuation, strongly supporting the pseudosluicing hypothesis:

(2.54) ? Juan está besando a alguien, pero no sé quién (es).
Juan is kissing to someone, but not know who (is)
'Juan is kissing someone, but I don't know who (it is).'

Thus, Spanish seems to have a mixed P-stranding paradigm, behaving as a PSG-compliant remnant-case language when the correlate is differentially case marked, but as a PSG-deviant language otherwise. English, also a non-remnant case language, is similar in being mainly PSG-compliant, though with certain idiomatic PPs, behaving as a PSG deviant language.

To summarize, van Craenenbroeck's approach is a constrained pseudosluicing hypothesis. I will argue below against such an approach and in favor of the unconstrained pseudosluicing hypothesis. Before doing so, in the following section, I discuss another source of evidence for pseudosluicing, namely, p-or-q sluices with clausal disjunction antecedents.

2.1.3 P-or-q sluices and clausal disjunction antecedents

In this section we discuss cases where an isomorphic parse seems to simply be unavailable altogether. The relevant factor in these cases is that the antecedent is a disjunction of TPs. These were cases discussed in AnderBois 2011, where he argued convincingly that the TP disjunction on its own seemed to serve simultaneously as antecedent for the sluice, as well as correlate for the remnant.[18] Let us call these cases p-or-q sluices.

Examples in (2.55) illustrate a couple of p-or-q sluices in English. The more interesting case is with a TP disjunction antecedent, since VP disjunctions seem to provide (at least in English), for a sluice which is arguably isomorphic under standard assumptions:

(2.55) a. Either something's burning, or Sally's baking a cake, but I don't know which.
Plausible continuations: { it is / is true / is the case / is happening / etc. }

b. Jack will either leave early or start singing karaoke, but I don't know which.
Plausible continuations: { he'll do / it is / ? }

With TP disjunction antecedents, it is difficult to see how isomorphism could ever be achieved, so that there is no "independently ruled out" isomorphic structure, for which a repair mechanism may be appealed to (unless we are to assume that the absence of a plausible antecedent is itself a call for last resort repair). Additionally, case matching seems to be irrelevant in such sluices, as, if we follow AnderBois 2011, the correlate is the TP disjunction, which is not a case bearing category.

As indicated in (2.55a), a variety of plausible parses for the sluice are available, though all seem to be copular clauses. Among them, is a cleft, *which it is*. Perhaps surprisingly,

[18] In keeping with the more general observation that disjunctions, like indefinites, seem to make good sluicing correlates.

preliminary investigations show a positive correlation between whether or not p-or-q sluices are even allowed in a given language, and whether, in that language, a cleft continuation is available. Such a result seems to strongly support a pseudosluicing analysis for p-or-q sluices with TP disjunctions as antecedents.

Informal judgements were collected from native speakers of Polish, Russian, Spanish, Brazilian Portuguese and German for respective translations of AnderBois's 2011 examples. In my investigations thus far, the availability of sluicing with TP disjunction antecedents is positively correlated with the availability of a cleft paraphrase for the E-site. In German, Spanish, English, Brazilian Portuguese, both a cleft, and sluice (with nominative case on the remnant where detectible), were possible, whereas in Russian, and Polish, neither a cleft, nor a corresponding sluice were possible.

In (2.56), for instance; the remnant must be in the nominative in German, which patterns with the cleft continuation in (2.56). Importantly, under AnderBois's 2011 assumption that it is the antecedent disjunction of TPs that serves as the correlate for the *which* remnant (which is in keeping with our intuitions even in English), this highlights that case-matching is inactive in such cases, even in remnant-case languages like German:[19]

(2.56) German:

Entweder etwas brennt oder Marie backt einen Kuchen, aber ich weiß
either something burns or Mary bakes a cake, but I know
nicht, welches von beiden (es ist).
not, which of.the two (it is)

'Either something is burning or Mary is baking a cake, but I don't know which of the two (it is).'

(2.57) Brazilian Portuguese:

Ou alguma coisa pegou fogo, ou então a Maria esta tentando fazer um
Or some thing caught fire, or then the Maria is trying to.make a
bolo de novo, não sei qual dos dois (é).
cake of new, not know which of.the two (is)

[19]Thanks to Patrick Grosz for German judgements; Karen Duek for BP judgements, and Luis Vicente for Spanish judgements.

‘Either something caught fire, or Maria is baking again, but I don’t know which (it is).’

(2.58) Spanish:

O bien algo está ardiendo o (bien) Susana está cocinando una tarta
Or good something is burning or (good) Susana is baking a cake
otra vez, pero no sé cuál de las dos cosas (es la que está passando)
another time, but not know which of the two things (is the that is occurring)

‘Either something’s burning or Susana is baking a cake again, but I don’t know which of the two things (is the thing that is happening)’

In Russian, however, a disjunction of TPs may not serve as the antecedent for a sluice. In (2.59), native speaker consultants had trouble settling on any particular choice of Case or gender inflection on the remnant ‘which,’ as none of them seemed to work.[20] (2.59) shows the nominative paradigm, which is the case that would be assigned in a cleft:[21,22]

(2.59) * Ili Sally opjat’ pechet tort, ili chto-to gorit, no ja ne znaju
Or Sally again bake cake, or something on.fire, but I not know
kakaja/kakoj/kakoje [$_{TP_E}$].
which.fem/which.masc/which.neut [$_{TP_E}$]
‘Sally is baking a cake again, or something is on fire, but I don’t know which.’

Importantly, a pseudosluicing analysis for this class of examples (where the antecedent is a disjunction of TPs) predicts straightforwardly a correlation between the availability of a cleft paraphrase for the E-site, and the availability of sluicing; the prediction for Russian would be that replacing the sluices in (2.59) with cleft continuations would be just as unacceptable as the sluices themselves, and this is, in fact, the case.[23]

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[20]Based on these elicitation sessions, Russian seems to lack a property type anaphor analogous to “one” in English, so that “which one” could not be tested as a remnant.

[21]Thanks to Yuliya Manyakina, Inna Goldberg, and Vera Gor for judgements and comments, p.c.

[22]Alternative choices of Wh-phrase, e.g. *chto* (*immeno*), ‘what (exactly),’ or, *kakoj iz dvuh*, “which of the two” were also rejected.

[23]The copula is phonetically null in Russian in the present tense.

(2.60) * Ili Sally opjat' pechet tort, ili chto-to gorit, no ja ne znaju
Or Sally again bake cake, or something on.fire, but I not know
kakaja/kakoj/kakoje eto.
which.fem/which.masc/which.neut it
'Either Sally is baking a cake again, or something is on fire, but I don't know which it is.'

Worth noting, is that the unacceptability of the cleft continuation in (2.60) is not due to a general ban on Which-phrases in clefts; when the correlate for the Wh-phrase is not a TP disjunction, but a regular indefinite DP, a cleft "which" question is possible:

(2.61) ✓ Ona chitala knigu, no ja ne znaju kakaja knigu eto
She reading.past book.ACC, but I not know which.NOM.neut book.neut it
byla
was.neut
'She was reading a book, but I don't know which book it was.'

Additionally, it is not the case that p-or-q sluices are categorically unavailable in Russian. Provided that the correlate is not a TP disjunction, sluicing is available:

(2.62) Dzhek to li begal, to li plaval, no ja ne znaju, chto imenno.
Jack either/or ran, either/or swam, but I not know, what exactly
'Jack either ran or swam, but I don't know which.'

Importantly, with a VP-disjunction, there is an available continuation that is not a cleft:

(2.63) . . . no ja ne znaju, chto imenno on delal.
. . . but I not know, what exactly he did
'. . . but I don't know which he did.'

These data support the clefting analysis; it is only when a cleft is forced in Russian, which it seems to be with a TP-disjunction correlate, that pseudosluicing is out, and this is, presumably, because clefting is out independently.

Polish is like Russian; neither a sluice nor a cleft follow-up are acceptable.[24]

[24]Thanks to Adam Szczegielniak for judgements and commentary.

(2.64) a. * Albo coś się pali albo Sally pieczę znowu ciasto,
Either something.ACC/NOM refl burns or Sally bakes again cake
ale nie mogę powiedzieć które
but not can say which.ACC
'Either something is burning or Sally's baking a cake again, but I can't say which.'

b. * Ale nie wiem które to jest/było
but not know which it is/was
'but I don't know which it is/was'

The behavior of German and Russian in particular is interesting, as we see that the case matching requirement seems to be inactive (or is perhaps vacuously satisfied) when the correlate is not a case-bearing category. Here, the remnant is nominative.[25] In German, with TP-disjunction correlates/antecedents, this is consistent with a pseudosluice parse for the E-site. Clefts in Russian, and Polish, on the other hand, have a more limited distribution independently of the case matching requirement, so that pseudosluicing is correspondingly unavailable in TP-disjunction p-or-q sluices.

2.1.4 Taking stock

In this section, we discussed three sorts of evidence for pseudosluicing: adjectival sluices, PSG-violations in PSG-compliant and -deviant languages, and p-or-q sluices. van Craenenbroeck's theory of pseudosluicing discussed above is a constrained pseudosluicing hypothesis, in that it takes pseudosluicing to be a last resort phenomenon, available only when an isomorphic pre-sluice is independently ruled out.

There are many reasons to doubt that pseudosluicing is a last resort. First, it is worth highlighting that an unconstained pseudosluicing hypothesis is in keeping with native speaker intuitions about plausible continuations. Consider a simple sluice like that in (2.65).

(2.65) Someone left, but I don't know who.

[25] Technically, syncretic with nominative and accusative in both languages.

Aside from the isomorphic continuation *who left*, an intuitively synonymous paraphrase for the sluice is a cleft, *who it was*.

Aside from basic intuitions like this, an additional reason to doubt that pseudosluicing is special comes from the idea in Merchant 2001 that we should analyze sluiced Wh-questions as "regular questions" as much as possible, the only difference being non-pronunciation of TP_E. In many languages, clefting is a productive questioning strategy (e.g., French, Brazilian Portuguese), so that we might well expect sluices in those languages to be clefts as well. In fact, Potsdam 2007 makes the claim for Malagasy that sluicing in Malagasy is *necessarily* pseudosluicing, in keeping with the question formation rules of Malagasy. It would be strange to assume that successful sluicing in Malagasy always proceeds by way of a last resort mechanism.[26]

As mentioned above, a serious challenge to the unconstrained pseudosluicing hypothesis is the case matching generalization, which is standardly assumed to follow from the assumption that the E-site is an isomorphic Wh-question version of the antecedent. Importantly, under such a view, morphological case on remnants and correlates correlates with abstract Case. Let us call this view of the case matching requirement "derived case matching."

(2.66) *Derived case matching*:

The case matching generalization follows from the isomorphism condition. If we believe the pre-sluice must be a Wh-question version of the antecedent, then it follows that the remnant and correlate will match in case/Case.

One consequence of derived case matching is that we lose pseudosluicing as an explanation for P-stranding in languages which mark copular clause arguments in the nominative (even if only abstractly). van Craenenbroeck's last resort view allows us to maintain the

[26] An indirect argument comes from Wolof fragment answers, analyzed as stemming from pseudoclefts in Martinović 2012. Merchant 2004 analyzes fragment answers as involving TP_E, subject to the same conditions on deletion as sluicing.

pseudosluicing explanation in a way that also captures the P-stranding paradigm in PSG-compliant languages like German; in his theory, provided nominative case on the pseudosluicing remnant is syncretic with the case assigned to the correlate by the preposition, a pseudosluice may be accommodated, giving rise to the illusion of P-stranding.

I defend an alternative view of the case matching requirement here, however, which is consistent with van Craenenbroeck's empirical motivations, as well as the unconstrained pseudosluicing hypothesis. We will see evidence in the next section that the case matching generalization should be seen as an independent grammatical constraint on remnant/correlate pairs, and, furthermore, that it is only concerned with morphological case, not abstract Case. Let us call this the "Stubborn case Matching" approach.

(2.67) *Stubborn case Matching*:

The case matching generalization is a constraint independent of the identity condition, whose only function is to ensure that morphological case on remnants and correlates match.

Under such a view, Case mismatches are available without having to appeal to any accommodation or last-resort process, provided such Case mismatches do not correspond to morphological case mismatches. This will be possible with case syncretism. Stubborn case Matching will then have the same empirical coverage as van Craenenbroeck's last-resort hypothesis; pseudosluicing, along with apparent P-stranding, will be blocked in PSG-compliant languages like German (in the absence of syncretism), and will be available in PSG-deviant languages like Brazilian Portuguese.

We will see there is more evidence independent of P-stranding that case matching is only "active" when morphological case (not abstract) is at issue, specifically, whenever the correlate and remnant constitute case-bearing categories and at least one of them has morphological case. We have already seen one context where case matching is inactive, namely, p-or-q sluices in German and Russian, where the correlate, a VP or TP disjunction, lacks morphological case.

Finally, note that the data supporting the last resort view of pseudosluicing is also consistent with the unconstrained pseudosluicing hypothesis. The unconstrained pseudosluicing hypothesis has the effect of rendering a sluice like that in (2.68) ambiguous with respect to the form of the sluice; it may either be isomorphic or a copular clause (minimally).

(2.68) Someone left, but I don't know who { ~~left~~ / ~~it was~~ }.

It follows that disambiguating contexts, where isomorphic sluices are ruled out independently as non-repairable, would comprise those contexts where pseudosluicing was unambiguously detectible. Importantly, this is the same empirical state of affairs motivating researchers to assume, instead, that pseudosluicing is a "last resort/repair" phenomenon.

2.2 A stubborn case condition

2.2.1 Independent evidence

The case matching requirement is standardly taken to follow from the isomorphism assumption. If sluices must be Wh-question versions of their antecedents, then it follows that correlates and remnants will match in case, simply because of their shared syntactic contexts. However, there is evidence that the case requirement should not be understood this way. That is, that it does not *follow from* isomorphism, so much as impose it in its satisfaction. In this sense, the case condition is "stubborn," in that it acquires the character of a grammatical constraint of sorts, instead of just being a consequence of isomorphism.

If this much can be shown, a more nuanced, pseudosluicing-compatible view of the isomorphism condition will allow for a case matching requirement that lets in pseudosluicing in PSG-deviant languages (with impoverished morphological case marking on remnants and correlates), while ruling it out in PSG-compliant languages (with rich morphological case marking on remnants and correlates). I elucidate such a view in the following section. Here, I focus on independent empirical evidence in support of the conclusion that the case condition does not follow from isomorphism.

The isomorphism assumption leads us to assume that structural/abstract Case on remnants must match that of their correlates in typical cases of sluicing, though, perhaps suprisingly, it is possible to construct non-pseudosluice examples where the correlation between case matching and isomorphism can be broken.

It is standardly assumed that tense and finiteness mismatches may obtain between the E-site and its antecedent in sluicing (see e.g., Merchant 2001, 2005, Depiante and Hankamer 2006, Thoms 2013 among many others), so the isomorphism condition, whatever it is, must at least allow for such mismatches. This assumption gives us a way of understanding examples like that in (2.69):

(2.69) She remembered meeting him, but she doesn't remember when ~~she met him~~.
From Merchant 2001

This set of assumptions also gives us ingredients needed to break the isomorphism/case correlation that putatively derives the case matching requirement.

Consider, for instance, the sluices and pre-sluices below.

(2.70) a. She remembers someone meeting him, but she doesn't remember who.
b. She remembers someone meeting him, but she doesn't remember who met him.
c. I saw someone leave, but I didn't see who.
d. I saw someone leave, but I didn't see who left.

Such sluices involve an exceptional case marking (ECM) verb, assigning accusative to the correlate, the subject of an embedded non-finite clause. The paraphrase for the sluice, however, is a finite embedded question, where the sluicing remnant receives nominative Case from the embedded T^0.[27]

Importantly, the finite presluices in (2.70) count as isomorphic structures, in only deviating from the antecedent (the embedded non-finite clause) in tense and finiteness. If one

[27]Thoms 2014 independently notes similar data and comes to the same conclusion, namely, that sluicing cannot be sensitive to abstract Case matching given such examples.

wanted to adhere to a stronger version of isomorphism where this mismatch did not obtain, there are two concievable alternative structures for the sluices available, given in (2.71). These structures avoid the abstract case mismatch associated with the structure in (2.70d), along with the tense/finiteness mismatches. Both sorts of parses for the sluices in (2.70) given in (2.71) are entirely isomorphic. For instance, the sluices in (2.71c) and (2.71a) take the matrix clause in the left conjunct as their antecedents, whereas (2.71d) and (2.71b) take the embedded non-finite clauses. This much ensures the remnant and correlate's Cases will match. However, (2.71c) and (2.71a) seem to run into an interpretive problem, while (2.71d) and (2.71b) are simply ungrammatical, presumably because of *see* and *remember*'s selectional restrictions.[28] Native English speakers react negatively to (2.71c), and (2.71a), reporting a sense of inconsistency, as (2.71c) implies that speaker did not see something they saw, or that the subject in (2.71a) does not remember something they remember.

(2.71) a. # She remembers someone meeting him, but she doesn't remember who she remembers meeting him.

b. * She remembers someone meeting him, but she doesn't remember who meeting him.

c. # I saw someone leave, but I didn't see who$_{\text{i}}$ I saw t_{i} leave.

d. * I saw someone leave, but I didn't see who$_{\text{i}}$ t_{i} leave.

This seems like good evidence for abandoning the assumption that abstract Case must match. Under derived case matching, we only ever expected the case matching generalization to be as robust as the isomorphism condition led us to expect it to be. If we loosen the identity condition to allow for tense and finiteness mismatches (a fairly uncontroversial move), we expect mismatches in case/Case precisely like those in (2.70a/2.70c).

Derived case matching predicts that if such examples could be constructed in a remnant-case language, we should be able to "tease out" a counterexample to the case matching generalization. This is what we expect under derived case matching, but not Stubborn case

[28]It would be strange to assume ellipsis could repair infelicity and selectional restriction violations alongside island violations, so appealing to repair in defense of such structures seems unwarranted.

Matching. Stubborn case Matching predicts such examples should be possible in English with an abstract Case mismatch, but impossible in German, since in German there would be a corresponding case mismatch.

The predictions of Stubborn case Matching are borne out. German *sehen*, like English *see*, assigns accusative to the subject of its complement, and like English, *sehen* can take finite interrogative complements but not non-finite interrogative complements.[29]

(2.72) a. Klaus hat jemanden weglaufen sehen.
Klaus has someone.acc leave seen
'Klaus saw someone leave.'

b. Klaus hat jemanden weglaufen sehen, aber er weiß nicht, wer
Klaus has someone.acc leave seen, but he knows not, who.nom
weggelaufen ist.
left is
'Klaus saw someone leave, but he doesn't know who left.'

c. * Klaus hat jemanden weglaufen sehen, aber er weiß nicht,
Klaus has someone.acc leave seen, but he knows not,
wer/wen weglaufen.
who.nom/who.acc leave
'Klaus saw someone leave, but he doesn't know who leave.'

Additionally, just as in English, an equivalent in German of (2.71c) sounds inconsistent/infelicitous:

(2.73) # Klaus hat jemanden weglaufen sehen, aber er hat nicht gesehen, wen
Klaus has someone.acc leave seen, but he has not seen, who.acc
er weglaufen gesehen hat.
he leave seen has
'Klaus saw someone leave, but I don't know who he saw leave.'

However, counter to the predictions of derived case matching, a detectible case mismatch is not possible in German:

(2.74) * Klaus hat jemanden weglaufen sehen, aber er hat nicht gesehen wer.
Klaus has someone.acc leave seen, but he has not seen who.nom
'Klaus saw someone leave, but he didn't see who.'

[29]Thanks to Marta Wierzba, Patrick Grosz, and Mira Grubic for judgements, and Luis Vicente for help with constructing these examples.

Additionally, case-matching doesn't help matters much in this case, as speakers indicate (2.75) is just as infelicitous as the overt counterpart in (2.73).

(2.75) # Klaus hat jemanden weglaufen sehen, aber er hat nicht gesehen wen.
Klaus has someone.acc leave seen, but her has not seen who.acc
'Klaus saw someone leave, but he didn't see who.'

These facts make sense if we assume that only a finite pre-sluice like that in (2.70d) is a felicitous continuation for the sluice in (2.70c). This entails an abstract Case mismatch in English. On the other hand, an abstract Case mismatch corresponds to a morphological case mismatch in German. Stubborn case Matching then rules out the sluice in (2.74), corresponding to the German finite pre-sluice. We may conclude that the case matching requirement is stubborn. That is, it only concerns morphological case, and furthermore, does not follow from isomorphism.

An additional consequence of Stubborn case Matching is that whenever it is met, the hypothesis space for E-sites the remnant may have been extracted from is narrowed to those structures in which the remnant's morphological case is licensed. In German examples where the remnant bears accusative, this has the result of imposing a degree of isomorphism in the E-site, since the remnant's case is presumably licensed by the same head that licenses case on its correlate. This, in turn, explains why (2.75), which respects Stubborn case Matching, persists in being infelicitous in German, since case matching here forces a parse for the E-site like that in (2.73).

2.2.2 Stubborn case-matching

Here, I give a formulation for Stubborn case Matching that captures the empirical character of the case-matching requirement as we have uncovered it in the preceding discussion. I do not attempt to derive stubborn case-matching in this thesis. It is unfortunate that we have lost the standard isomorphism-based explanation for the case matching generalization (derived case matching), but the empirical facts seem to force us into this position.

We've already seen many contexts where the case matching generalization seems to

be irrelevant. Namely, p-or-q sluices in German, ECM-correlate sluices in English, and adjectival sluices. If we assume the case matching generalization is simply inactive in non-remnant-case languages (or active in fewer contexts), we end up capturing the crosslinguistic differences between remnant-case (PSG-compliant) and non-remnant-case (PSG-deviant) languages. Already implicit in the case matching generalization's formulation is reference to morphological case, so that a reformulation in terms of a case matching *condition* that requires (only) morphological case matching would automatically explain the "inactivity" of case matching in non-remnant-case languages.

One way of formulating Stubborn case Matching in such a way as to be "active" whenever we need it to be, is as in (2.76):

(2.76) Stubborn case Matching:

In sluicing, given a correlate, C, and a remnant, R, if C is a case-bearing category, R and C must have the same case morphology.

The antecedent of the conditional clause lets in p-or-q sluices, as well as adjectival sluices. The "inactivity" of the condition in non-remnant-case languages like English, Spanish, and BP, is also captured, allowing for pseudosluices, capturing the distribution of P-stranding. The formulation also captures van Craenenbroeck's observed correlation between syncretism in PSG-compliant languages and the availability of P-stranding/pseudosluicing.

There remains a puzzle to be captured. Specifically, as van Craenenbroeck 2012 notes, the acceptability of P-stranding/pseudosluicing in remnant-case (PSG-compliant) languages is subject to interspeaker and crosslinguistic variation, and if his reported judgements are any indication, the trend is best described as one of "amelioration" under syncretism:

> "*A general caveat is in order concerning the syncretism facts discussed here. As pointed out by Pullum and Zwicky (1986, 759) and Ingria (1990, 203), judgments about syncretism and morphological case are notoriously subtle and subject to interspeaker variation. As I have tried to make clear through the use of grammaticality diacritics, this was also the case for my data. That said, however, the general trend is clear: syncretic sluiced wh-phrases can be prepositionless more easily than their non-syncretic counterparts.*" (van Craenenbroeck 2012, footnote 12).

This is at odds with judgements in e.g., Rodrigues et al. 2009, where P-stranding in

Brazilian Portuguese and Spanish is judged as "perfect" or "near perfect." I do not have a full answer for this, save an appeal to van Craenenbroeck's 2012 observation that judgements regarding syncretism are "notoriously subtle." Syncretism is commonly modelled in the morphological literature as the underspecification of case features by "impoverishment rules" in certain morphological contexts (Bierwisch 1967, Halle and Marantz 1993, Noyer 1998 inter multi alia). One possibility worth exploring, which I leave aside here as it would take us too far afield, is that perhaps when "judgements are subtle," as is the case in PSG-compliant languages, impoverishment is insufficient to *completely* satisfy Stubborn case Matching, giving rise to weaker violations of the case condition than those which would obtain in the absence of any impoverishment. We might then view PSG-deviant languages like Spanish, Brazilian Portuguese (and sometimes English), which are radically impoverished with respect to case morphology, as entirely satisfying Stubborn case Matching in the usual case.[30]

It is worth recalling the situation in Spanish here, which, as we saw, behaves more like a PSG-compliant language when the correlate is differentially case marked. Such a context can be seen as one where impoverishment is less radical; the deviance of the example stemming from the lack of identity of case featural content between remnant and correlate.[31,32]

(2.77) Juan besó a alguien, pero no sé ?(a) quién.
Juan kissed to someone, but not know ?(to) who
'Juan kissed someone, but I don't know who.

[30]Jason Merchant (p.c.) suggests an alternative possibility, namely, that in PSG-compliant languages where judgements are "subtle," and varied, the impoverishment required by the case matching condition is somehow more costly than in PSG-deviant languages (which have more pervasive and radical case impoverishment). It is unclear to me at present how to distinguish between these possibilities, but it should be clear that explanations for the crosslinguistic facts that do not jeopardize the spirit of Stubborn case Matching are readily available.

[31]See Linares-Scarcerieau 2008 for an analysis of the object marker in Spanish as the phonological exponent of K^0, the head of KP (a 'case phrase'), and see Fabregas 2013 for a recent survey on differential object marking.

[32]Insofar as we are to take van Craenenbroeck's 2012 syncretism data as an indication that pseudosluicing is available in PSG-compliant languages under syncretism, it does not seem we can conclude from the deviance resulting from "stranding" the differential object marker in Spanish that pseudosluicing is unavailable here in Spanish.

To summarize, I tentatively assume even syncretism is not necessarily sufficient to (fully) satisfy stubborn case-matching in some contexts, so that the cross-linguistic patterns might be captured if stubborn case-matching ultimately receives a treatment as a gradiently violable constraint. Worth emphasizing, is that a given remnant/correlate pair "having the same case morphology," as required by the Remnant Condition, is a subtler matter than the current formulation of Stubborn case Matching implies. I have provided no explicit theory of how case morphology maps onto syntactic objects whatsoever in this discussion, so that our main empirical observations can be summarized as (a) case matching in sluicing is not sensitive to abstract Case, and (b) syncretism helps matters, moreso in languages with radically impoverished case morphology on arguments than in languages with richer case morphology. I leave aside a more thorough exploration of the exact nature of Stubborn case Matching here, as what has been established is sufficient to defend the unconstrained pseudosluicing hypothesis in the face of challenges posed by the case matching generalization in sluicing. Stubborn case Matching lets in pseudosluicing without accommodation in PSG-deviant langauges, captures the differences between PSG-deviant and -compliant languages with respect to pseudosluicing/P-stranding, and allows allows for mixed patterns like that in Spanish.[33]

[33]There is one counterexample to the case matching generalization that I am aware of. Ince 2012 notes that in Turkish, subject remnants for embedded sluices must bear nominative case, despite the fact that their embedded subject correlates must bear genitive. Ince provides an account of this pattern in terms of derived case matching; ellipsis bleeds the syntactic constellation required to assign genitive case to the subject remnant. The account nicely captures the fact that, otherwise, non-subject remnants in Turkish must match case with their correlates. I have nothing substantial to say about this counterexample to Stubborn case Matching. In the face of such evidence, one possibility worth exploring is the notion that embedded subject remnants in Turkish are not actually extracted from the E-site, and do not count as remnants, freeing embedded subject Wh-phrases in Turkish sluices from the requirement that they match in case with their correlates. Alternatively, a more fine grained investigation of the Turkish case system, perhaps in tandem with a deeper understanding of Stubborn case Matching than that offered here, may shed light on the issue in a way that does not jeopardize the non-derivational characterization of case matching in sluicing here defended, a project I leave for future work.

2.3 Conclusion

We have seen many motivations for the pseudosluicing hypothesis, as well as its unconstrained version. If one wants to adhere to strict isomorphism (e.g., LF identity as in Chung et al. 1995, Fox and Lasnik 2003, Fortin 2007, 2011 among others), then one might get away with some version of the constrained pseudosluicing hypothesis, but we've seen some reasons to doubt this is the right approach. Additionally, the case matching generalization, a major challenge to the unconstrained pseudosluicing hypothesis, was shown to be "stubborn" and not derivable from isomorphism, a state of affairs consistent with the unconstrained pseudosluicing hypothesis.

Chapter 3
Analysis of Copular Clauses and Clefts

A major part of the task of providing a theory of copula clauses involves achieving an understanding of copula clause taxonomy. Higgins 1973, 1979 (henceforth "Higgins") identifies four kinds of copula clauses in English with different syntactic and semantic properties. The taxa are given in (3.1) along with representative examples.

(3.1) a. **Predicational clause:**

i. Jack is happy.

ii. Sally is tall.

iii. Jack is the president.

b. **Equative clause:**

i. Electronically is usually fastest. (Partee 1986)

ii. To love is to exalt. (Partee 1986)

iii. Honest is honest. (Heycock and Kroch 1998)

iv. Cicero is Tully.

c. **Identificational clause:**

i. That (person) is Jack.

ii. That is a lion.

d. **Specificational clause:**

i. The president is Jack.

ii. What Sally is is proud of herself.

The predicational and equative taxa are well established, and predate Higgins's taxonomy. A common way of distinguishing between the taxa is by checking the semantic types of the XPs flanking the copula. For instance, in equatives, like *Cicero is Tully*, the XPs flanking the copula are both referential (type ⟨e⟩); one way of classifying a clause as equative is to establish that the XPs flanking the copula are of identical semantic type. The XPs flanking the copula in equatives can be a variety of semantic types and syntactic categories provided they are identical semantic types. Predicational clauses are typically characterized as such by virtue of having a type ⟨e⟩ subject and a predicative, type ⟨e,t⟩ pivot.

Much of the debate in the literature surrounds the status of Higgins's specificational and identificational classes.[1] The general tack is to analyze specificational or identificational clauses as special cases of one of the other more well established taxa (predicational or equative). For instance, Specificational clauses have been described as "inverse predications" (Williams 1983, Partee 1986, Moro 1991, 1997, Mikkelsen 2004, 2005, den Dikken 2006, den Dikken 2009 among others) where the subject is predicated of the pivot. Under such a view, the specificational word order in (3.2b) involves the inversion of the predicate *the president* over the subject of predication *John*.

(3.2) a. John is the president. (predicational word order)

b. The president is John. (specificational word order)

On the other hand, in line with Heycock and Kroch 1996, 1998, 1999 (henceforth H&K), many authors assume, instead, that specificational clauses are a species of equative (e.g. Sharvit 1999, Heller 2005, Reeve 2010, Heycock and Kroch 2002, Heycock 2012 a.m.o.).

Here, I follow H&K in assuming specificational clauses are equatives. H&K provide many compelling empirical and conceptual arguments against an inverse predicational analysis of specificational clauses. One particularly convincing empirical argument comes from the paradigm in (3.3). H&K take *the one thing that I want a man to be* to be an unambiguously predicative XP, in contrast to the alleged predicate in paradigms like that in (3.2), where *the president* is ambiguous between a predicative and referential reading. As (3.3b)

[1] See Mikkelsen's 2008 survey.

shows, inversion is impossible with a referential pivot; instead, the pivot must itself be predicative, which would be consistent with an equative analysis of specification.

(3.3) a. John is the one thing that I want a man to be. (predicational word order)

b. * The one thing I want a man to be is John. (specificational word order)

c. The one thing I want a man to be is honest. (specificational word order)

The paradigm in (3.3) follows immediately if specificational clauses are equatives. (3.3b) is unavailable since *John* is a referential pivot (type $\langle e \rangle$), and may therefore not be equated with a predicative subject (type $\langle e,t \rangle$).[2] This is a powerful empirical argument against predicate inversion, since nothing in principle would seem to prevent inversion in (3.3b) if inversion were generally available. We may conclude that specificational clauses in general are equatives. This would mean that specificational clauses like that in (3.2b) must also be equatives; since the pivot is a referential proper name, the specificational subject must also be referential itself (see Heycock and Kroch 1998, 1999, Heycock 2012 for further argumentation against an inversion analysis).

I provide one additional argument against an inverse predicational analysis of specificational clauses here. There is a well known distinction between referential and predicative definite descriptions with respect to the existential presuppositions of definites. Donnellan 1966 notes that predicative definites lack an existential presupposition ((3.4a)).

(3.4) a. Is de Gaulle the King of France? (predicational word order)

b. Is the King of France de Gaulle? (specificational)

In the predicational (3.4a), there is no implication that there is a King of France, whereas this is not so in specificational (3.4b), which does imply that there is a King of France. Thus, definite descriptions as specificational subjects behave more like non-predicative definite descriptions in this regard, in support of an equative analysis of specification.

I am less committed to the status of identificational clauses and will put an analysis of these aside, mostly because identificational clauses have not been appealed to much in the

[2]We cannot analyze (3.3a) as a predicational clause since the pivot is referential and predicational clauses require predicative pivots.

pseudosluicing literature. Nothing in principle would seem to rule them out a priori:

(3.5) a. The boss did fire someone, but I don't know who (that was).

b. Surely there must be something that can make her happy, we just need to figure out what (that is).

An important take-away message concerns the challenges copular clauses pose for the identity condition on ellipsis, given the availability of pseudosluicing under the unconstrained pseudosluicing hypothesis. While there are myriad syntactic and semantic analyses for copular clauses, as far as I can tell, they all pose the same challenges to the standard isomorphism assumption.

The syntactic challenges are perhaps the most clear. Deviation from isomorphism can be characterized in terms of, first, the inclusion of syntactic content in the E-site which is absent in the antecedent (a violation of Chung's 2006 generalization "no new words"), and second, the syntactic reorganization of material in the antecedent. In a typical pseudosluice, the former sort of deviation is particularly dramatically instantiated (new words in bold):[3]

(3.6) Someone left, but I don't know

{ who (**it was that** left)/who (**the person that** left **was**) }

When the E-site contains this much "new material", it is unclear whether the second sort of "organizational" deviation from identity can even be coherently evaluated.

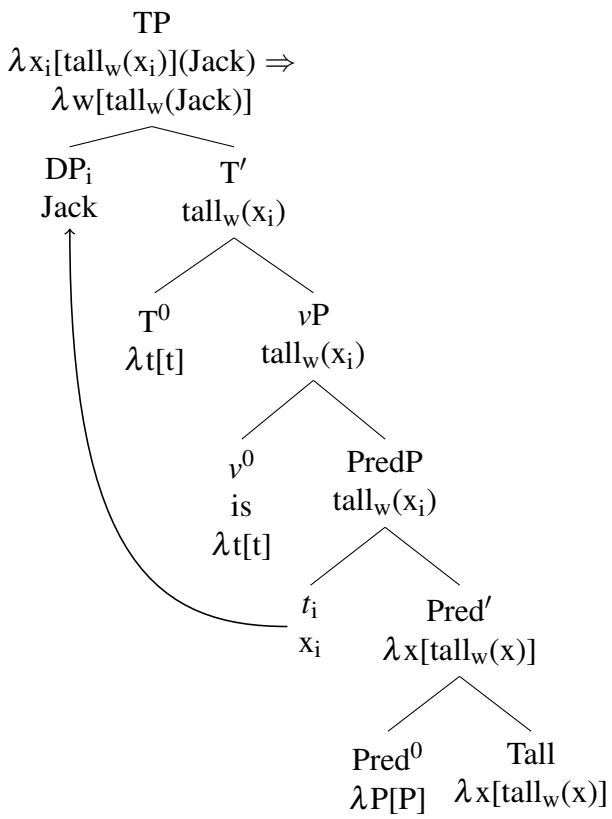
3.1 Derivations for predicational and equative clauses

Below are two derivations, one for a predicational clause and one for an equative. I follow Mikkelsen 2004, 2005, in assuming the copular verb is a light v^0 heading an unaccusative *v*P. Following Mikkelsen 2004, 2005, H&K, den Dikken 2006 (a.o.), I assume the predicational/equative distinction is encoded in a small clause head; PredP (Bowers 1993) heads

[3]Though Merchant 2004 proposes that identificational assertions may be elided in fragment answers to implicit questions in some cases.

the small clause in predicational clauses and EqP heads the small clause in equatives.[4]

(3.7) "Jack is tall" Predicational clause



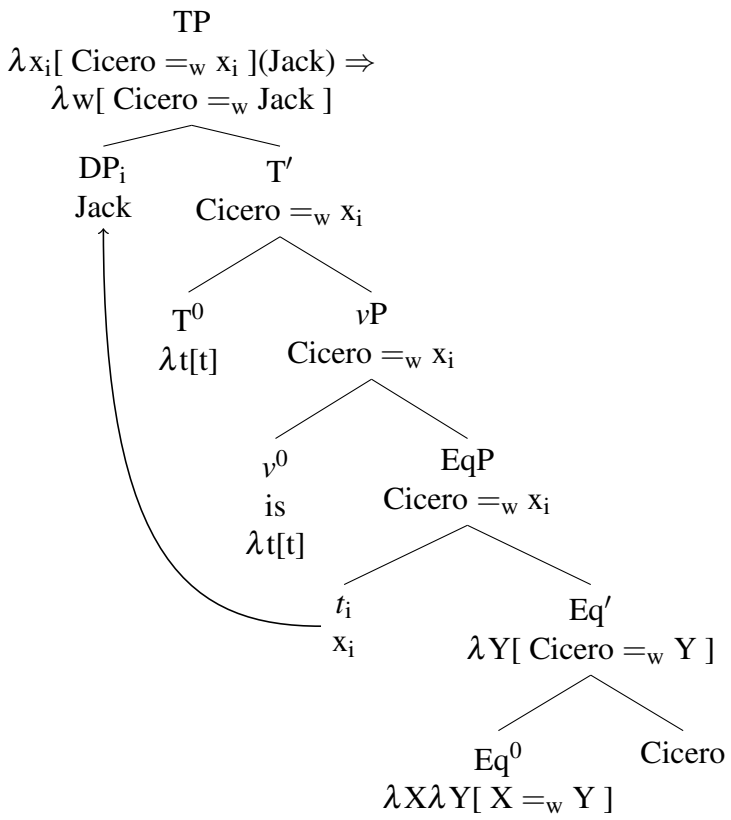
The subject of predication is first merged in [Spec,PredP], and raises to [Spec,TP] to check T^0's EPP feature. $Pred^0$ s-selects for predicative XPs (type $\langle e,t\rangle$), and vacuously returns the predicative meaning as output.

Equative clauses are structurally similar, except that the small clause is an EqP. As mentioned above, equative copular clauses differ from predicational copular clauses in that the semantic types of the arguments flanking the copular verb are identical. Equatives assert denotational identity between the two arguments. The equative relation is encoded in Eq^0. X and Y are variables over semantic objects of any type.[5]

(3.8) "Jack is Cicero" Equative clause

[4]I leave out v^0-T^0 raising in the derivations.

[5]This could be implemented differently, as in, e.g., Partee 1986, where equatives yield a predicational semantics via type shifting. Nothing crucial rides on the particular implementation below.



3.2 Clefts

The class of constructions called it-clefts come with four identifying ingredients: a pronominal subject, *it*, which I will refer to as the cleft pronoun here, a copular verb, a post-copular constituent called the *pivot* (sometimes referred to as "the clefted XP"), and an optional cleft relative clause (or "cleft RC" for short). Clefts without the cleft RC are often referred to as "truncated" clefts:[6]

(3.9) It was Jack (that left).

Cleft pronoun = it

Pivot = Jack

[6]The label "it"-cleft is perhaps too strong, since the cleft pronoun seems to be capable of alternating with the bare demonstratives *that* and *this* under certain conditions which are unclear:

(3.1) a. That was Jack that left.

b. This is Jack we're talking about here (not Bill).

Cleft relative clause = that left.

Clefts intuitively assert their corresponding "unclefted" sentence - for instance, (3.9) entails that *Jack left*. However, clefts contribute an additional exhaustive interpretation, which is missing from the non-cleft alternant (Halvorsen 1978, Atlas and Levinson 1981, Horn 1981, Merchant 1998, É. Kiss 1998, Büring 2010, 2013, Velleman et al. 2012 among many others). One test for exhaustivity is the incompatibility of cleft pivots with *also*:

(3.10) # It was also Bill that left. (cf. Bill left also)

In addition to exhaustivity, clefts also come with an existential implication, namely that the set denoted by the cleft RC is non-empty, this is detectible in (3.11) in the infelicity that arises with "nobody" as a pivot:

(3.11) # It was nobody that was knocking on the door.

There is broad agreement that exhaustivity and existence are not *asserted* in clefting. Here, I assume existence and exhaustivity are presuppositions (following e.g. Büring 2010, Büring 2013, Halvorsen 1978, Velleman et al. 2012 inter alia). Following Percus 1997, Hedberg 2000, Reeve 2010, I assume these presuppositions come from the cleft pronoun.[7]

As for the taxonomic status of it-clefts, just as with specificational sentences, clefts have been variously analyzed as equatives (as in Reeve 2010), and inverse and non-inverse predications (den Dikken 2009, Mikkelsen 2004, 2005, 2006). Here, I side with authors who take it-clefts to be specificational sentences. In line with H&K, I take specificational sentences to be equatives.[8]

Analyses of clefting differ not only in terms of the basic syntactic composition of a cleft structure (how the different cleft ingredients are organized structurally), but also in terms

[7] In at least a subset of clefts (more on this below).

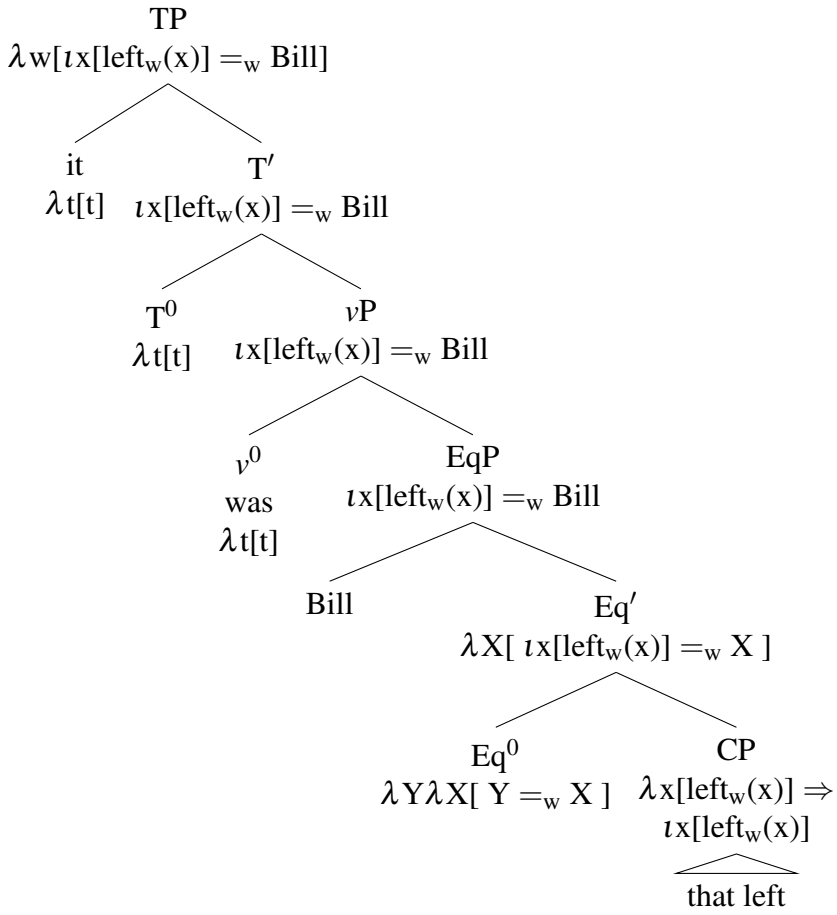
[8] Though see den Dikken 2009 for evidence in favor of an eclectic view of the taxonomy of it-clefts, where alongside specificational it-clefts, there exist predicational it-clefts. I leave examining predicational it-clefts aside here, as, to my knowledge, they have not been appealed to in the pseudosluicing literature, and appear to have an exceptionally limited distribution in comparison to specificational it-clefts (see Fiedler 2010 in support of this point).

of how the interpretive properties of clefts are derived (exhaustivity and the existential presupposition). I refrain from defending a particular view over another here, as that would take us too far afield, and instead aim to provide a set of baseline assumptions about cleft structure that will allow us to procede; as with specific analyses of copular clauses, differing analyses of clefting pose the same challenges for developing an identity condition on sluicing that countenances pseudosluicing, so that the approach here should be translatable into any treatment of clefts.

I provide a syntax and semantics for two sorts of it-cleft here; truncated and full clefts. For full clefts, I assume the cleft pronoun is an expletive. The cleft relative clause is the internal argument of EqP, and the cleft pivot is EqP's external argument in [Spec,EqP]. The cleft relative clause undergoes iota-type shifting (Partee 1987, 1986) in order to meet the s-selectional requirements of Eq^0.[9] The iota type shift introduces the existential and uniqueness presuppositions associated with definiteness.

(3.12) It was Bill that left.

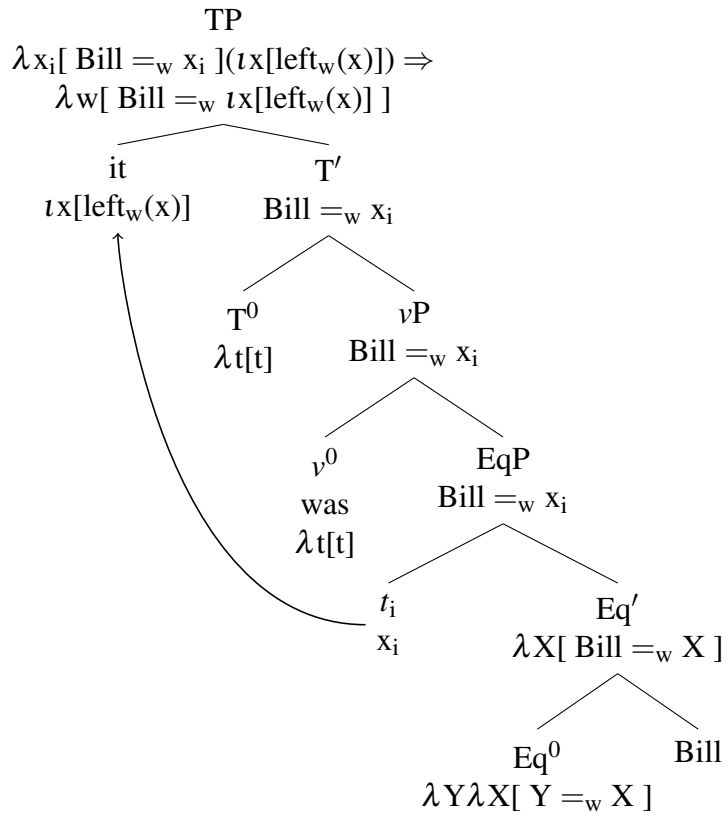
[9] See Jacobson 1995 for motivations for a similar shift with free relatives in pseudoclefts.



"λw[Bill was the unique individual that left in w]"

For truncated clefts I assume the cleft pronoun is semantically contentful. It is referential and receives its restriction from a salient property in the discourse. The pronoun is the external argument of EqP, and the pivot, the internal argument (following Reeve 2010). The pronoun is responsible for the existential and uniqueness presuppositions of the it-cleft. I assume pronouns are definite articles with phonetically null complements contributing a property type variable: $[\![[_{DP}\ it_{D^0}\ \varnothing_{NP}]]\!] = \iota x[R_{i,w}(x)]$. R_i is assigned the value of a salient property in the discourse (see Bach and Cooper 1978, Percus 1997, Heim and Kratzer 1998, Mikkelsen 2006). In (3.13), R_i picks up the leaving property made salient by the antecedent question, so that the cleft pronoun $= \iota x[left_w(x)]$.

(3.13) A: Who left? B: It was Bill.



"λw[Bill was the unique individual that left in w]"

The above structures capture the intuitive synonymy between full clefts and truncated clefts, though it places the source of the existential and uniqueness presuppositions of clefts in different entities. In full clefts, it is the iota type shift of the cleft relative clause which is responsible for the definiteness properties of clefts, whereas with truncated clefts, it is the cleft pronoun itself.

As mentioned above, these assumptions gloss over many issues in the analysis of clefting, a full treatment of which would take us too far afield. For instance, there is much evidence that the cleft pronoun is, in fact, contentful, at least in a subset of full clefts (see e.g., Pinkham and Hankamer 1975, den Dikken 2009, Reeve 2010, Gribanova To appear among others). Furthermore, there is evidence in English that full clefts can be derived in more than one way (see e.g., Pinkham and Hankamer 1975, and Hedberg 2000, Reeve 2010 for a survey of various syntactic proposals). Additionally, Reeve 2010 gives many empirical arguments in support of the notion that the cleft relative clause is actually adjoined to the pivot (following Merchant 1998, Hedberg 2000 among others). Nonetheless,

the above structures are sufficient for our purposes.

We have already seen that, regardless of one's assumptions about the content of clefts, the syntactic challenges to the identity condition remain the same. Additionally, with truncated clefts in particular, the issue of diathesis alternations does not seem to arise, as truncated clefts seem to lack an argument structure of their own altogether. In (3.14), *who* may be interpreted either as the agent or theme of the antecedent's predicate, depending on the thematic role of its correlate:

(3.14) a. Someone hit Jack, but I don't know who it was. (agent)

b. Jack hit someone, but I don't know who it was. (theme)

The semantic challenges for the identity condition will remain the same as well, as any syntactic approach to cleft structure must be compatible with the interpretive properties of clefts (exhaustivity and existence).

3.3 Pseudosluicing and Split Identity

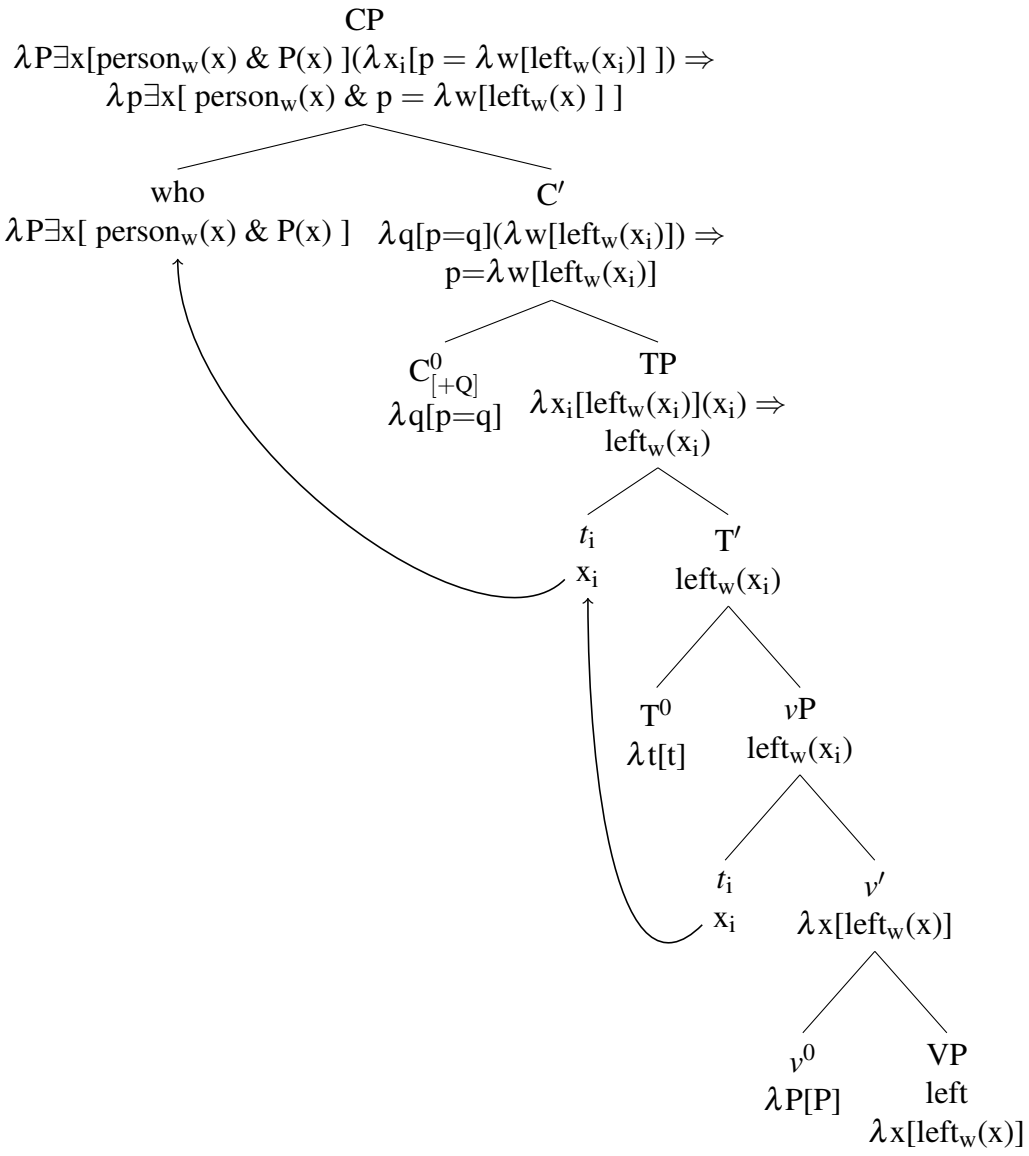
In this section I build on the illustration given in §1.4 in Chapter 1 for how Split Identity lets in pseudosluicing. Here, I provide derivations for full and truncated cleft pseudosluices, as well as p-or-q pseudosluices (with clausal disjunction antecedents) and predicational pseudosluices.

3.3.1 Full and truncated cleft pseudosluices

In §1.4, we saw the challenge clefts pose to the semantic identity condition with exhaustivity and how reference to answerhood in the Sluice Condition circumvents this issue.

To recap, consider the sluice in (1.19), repeated below (ignoring the contributions of tense and *v*P). This is also the meaning we get for the QuD made salient by the antecedent:

(1.19) Someone left, but I don't know who (left).



In a model with just Jack and Sally in the domain of individuals, this is the set of propositions of the form *that x left*, as in (1.20), repeated below:

(1.20) { λw[left$_w$(Jack)],
λw[left$_w$(Sally)],
λw[left$_w$(Jack+Sally)] }

Assuming a model like that in (3.15), applying Ans-D$_{str}$ to such a question meaning at, e.g., w1, gives an exhaustive answer as in (3.16):

(3.15) a. W = { w1, w2, w3, w4 }

b. $\lambda x[\text{left}_{w1}(x)] = \{$ Jack $\}$

$\lambda x[\text{left}_{w2}(x)] = \{$ Sally, Jack $\}$

$\lambda x[\text{left}_{w3}(x)] = \{$ Sally $\}$

$\lambda x[\text{left}_{w4}(x)] = \{$ Jack $\}$

c. $[\![\text{who left?}]\!] = \{ \lambda w[\text{left}_w(\text{Jack})], \lambda w[\text{left}_w(\text{Sally})], \lambda w[\text{left}_w(\text{Sally+Jack})] \}$

(3.16) $\text{Ans-D}_{str}([\![\text{who left?}]\!]) =$

$\lambda w' \lambda w''[\ \text{Ans-D}_{wk}([\![\text{who left?}]\!])(w') = \text{Ans-D}_{wk}([\![\text{who left?}]\!])(w'')\ ]$

applied to w1 =

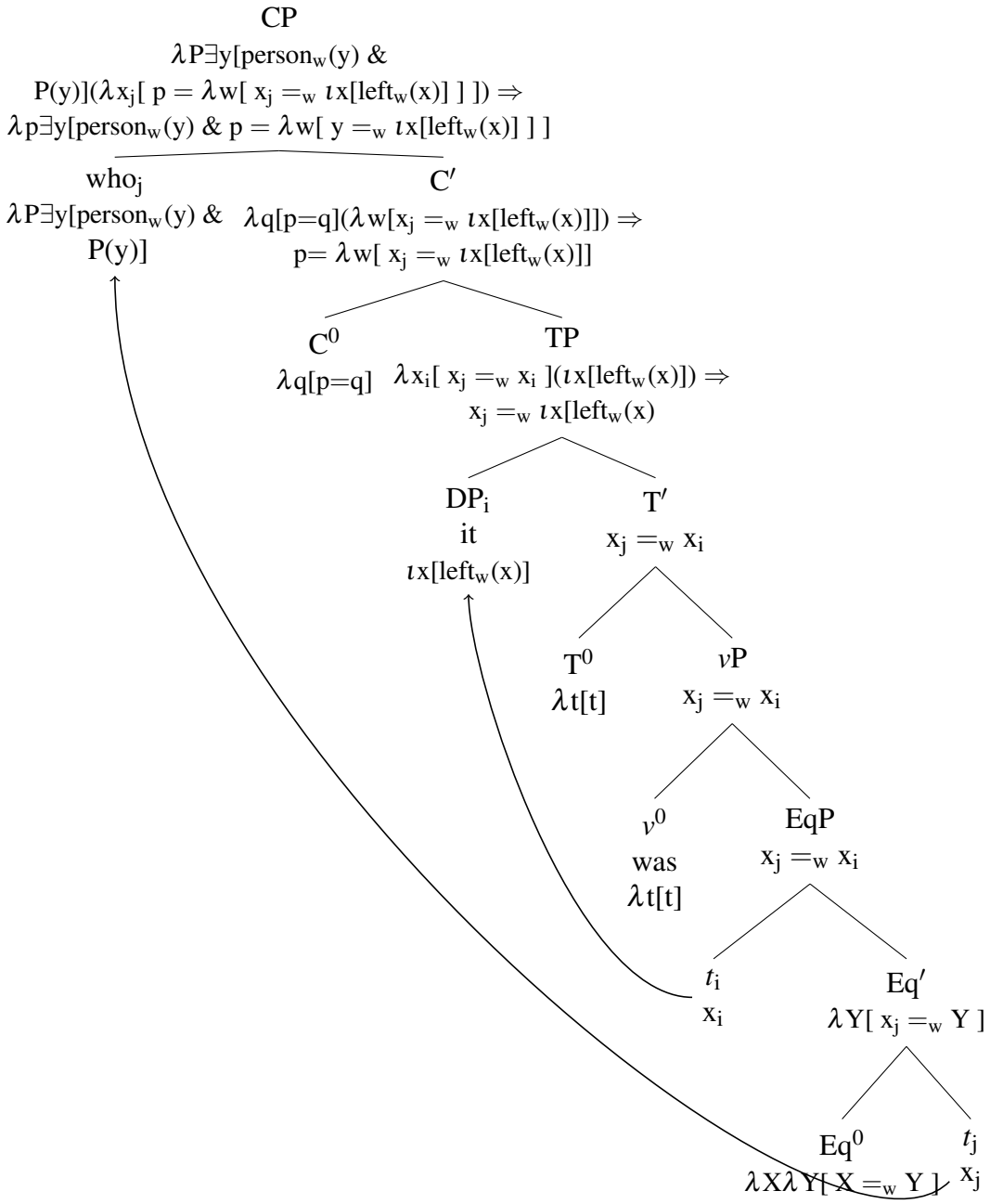
$\lambda w''[\ \{ w1, w2, w4 \} = \text{Ans-D}_{wk}([\![\text{who left?}]\!])(w'')\ ] = \{ w1, w4 \}$

"Only Jack left."

Ans-D_{str} will return the same answer for the antecedent's QuD, of course, since it has the same meaning as the sluiced question. The Sluice Condition is easily met for isomorphic cases.

Appeal to Ans-D_{str} allows for pseudosluicing, since a cleft question seeks a strongly exhaustive answer, just as non-cleft QuDs do. The derivation for the cleft question in (1.24b) is given below.

(1.24b) Someone left, but I don't know who (it was).



This is a set of exhaustive propositions like "that x is the unique individual that left":

(1.25) { λw[Jack $=_w$ ιx[left_w(x)]],
λw[Sally $=_w$ ιx[left_w(x)]],
λw[Jack+Sally $=_w$ ιx[left_w(x)]] }

Applying Ans-D_{str} to the question meaning, we get the same set of worlds as we did for the antecedent's QuD in (3.16), so that the Sluice Condition is met in such cases as well.

(3.17) Ans-D_{str}(⟦who it was⟧) =

λw'λw"[Ans-D_{wk}(⟦who it was⟧)(w') = Ans-D_{wk}(⟦who it was⟧)(w")]

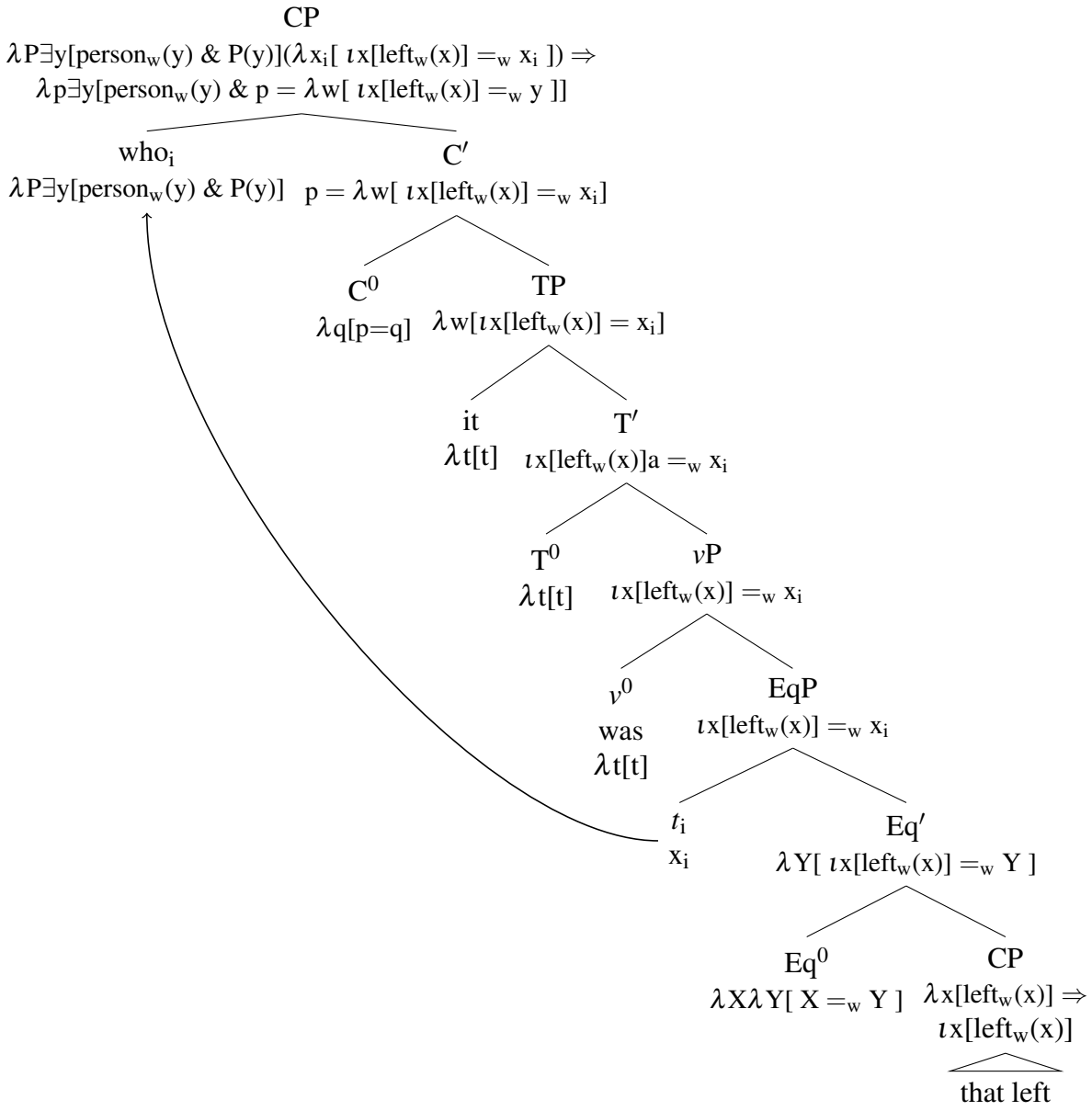
applied to w1 =

λw"[{ w1, w4 } = Ans-D_{wk}(⟦who it was⟧)(w")] = { w1, w4 }

"Only Jack left."

As we saw in the preceding section, full cleft questions receive the same interpretation as truncated clefts, so that the Sluice Condition will be met in the same way for full clefts as with truncated clefts. Below, is the derivation for a full cleft question (ignoring the contributions of T^0 and v^0 and taking the cleft pronoun to be an expletive):

(3.18) Someone left, but I don't know who (it was that left)?



This question is a set of propositions of the form "that x is the unique individual that left" (identical in meaning to the truncated cleft question).

(3.19) { λw[Jack $=_w$ ιx[left_w(x)]],
λw[Sally $=_w$ ιx[left_w(x)]],
λw[Jack+Sally $=_w$ ιx[left_w(x)]] }

Ans-D_{str} applied to the full cleft sluice, then, yields the same answer as for a truncated cleft, so that the Sluice Condition does not distinguish between full or truncated cleft pseudosluicing. Additionally, since the remnant and correlate in each case receive the same

semantics as existentially quantified DPs, the Remnant Condition is met for full clefts just the same as for isomorphic sluices and truncated clefts, so that these three cases are all in compliance with Split Identity.

3.3.2 p-or-q and predicational pseudosluices

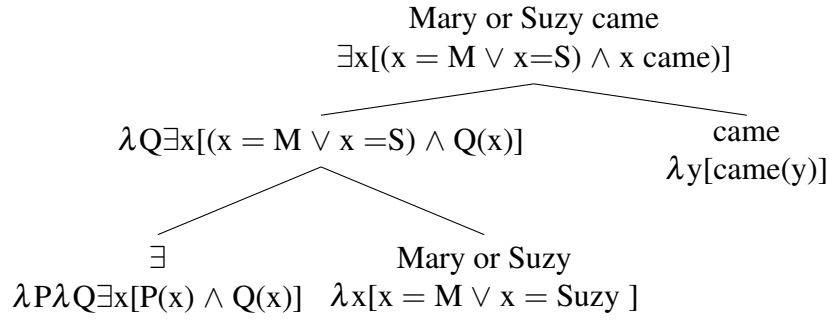
3.3.2.1 p-or-q pseudosluices

In p-or-q sluices with clausal disjunction antecedents, following AnderBois 2011, it is the disjunction which serves as the remnant's correlate.

(3.20) Something's on fire or Sally's baking again, but I don't know which (one) ~~it is~~.

This raises the question of how to achieve semantic equivalence between a disjunction and an existentially quantified DP. Here, I follow Ivlieva 2012, Nicolae 2013 in taking disjunctions to have the semantics of existentially quantified phrases. The disjunction itself is construed as a predicate which serves as the restriction for an implicit quantifier.

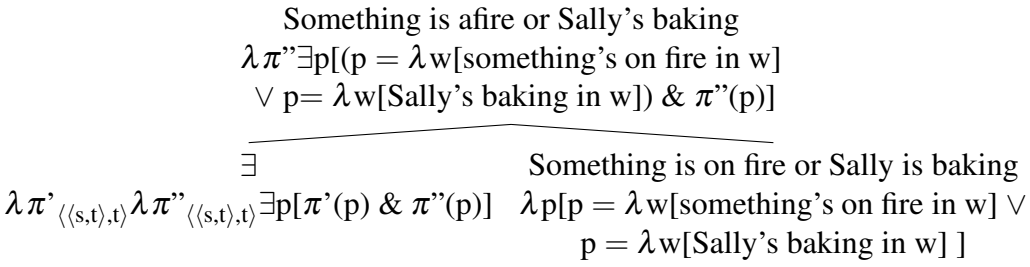
(3.21)



From Nicolae 2013, example (23) pg. 127

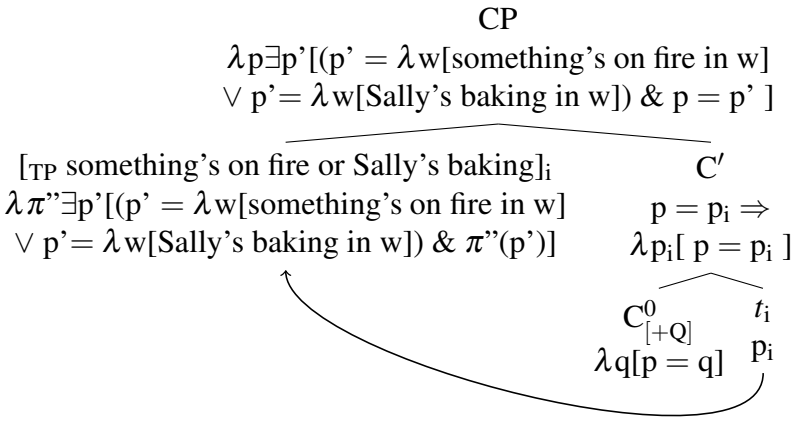
For a clausal disjunction, we have existential quantification over propositions; the disjunction itself will be a property of propositions:

(3.22)



We can derive the QuD for such an antecedent in the usual way. We treat the correlate as a Wh-phrase and raise it into [Spec,CP], and replace C^0 with an interrogative C^0.

(3.23)



This is the set of propositions:

(3.24) { λw[Something's on fire in w], λw[Sally's baking a cake in w] }

Moving onto the pseudosluice, we also have to ensure that the remnant *which one* gets the same meaning as the TP disjunction (its correlate). I assume here that *which* phrases can indeed acquire such a meaning. Evidence for this comes from *which one*'s distribution in the examples below, where it may stand in for a variety of meaning types:

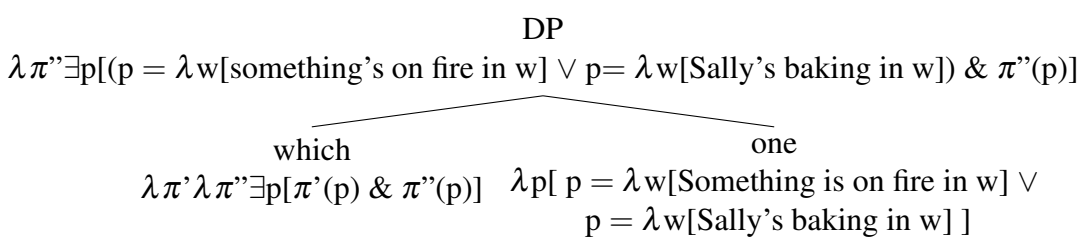
(3.25) a. Sally's crazy or stupid, but I don't know which one she is.

b. Sally ran or swam, but I don't know which one she did.

c. God has abandoned us or s/he's dead, I don't know which one I believe.

In (3.25a), *which one* quantifies over properties of Sally. In (3.25b), it quantifies over verb phrase meanings, and in (3.25c), propositions. I assume this flexibility comes from the anaphoric properties of *one*, which can pick up the property associated with the correlate disjunction. In (3.20), ⟦one⟧ is assigned the property associated with the clausal disjunction in the antecedent and becomes the restriction for *which one*. As the reader may check, this is equivalent to the meaning of the existentially quantified disjunction correlate, in satisfaction of the Remnant Condition.

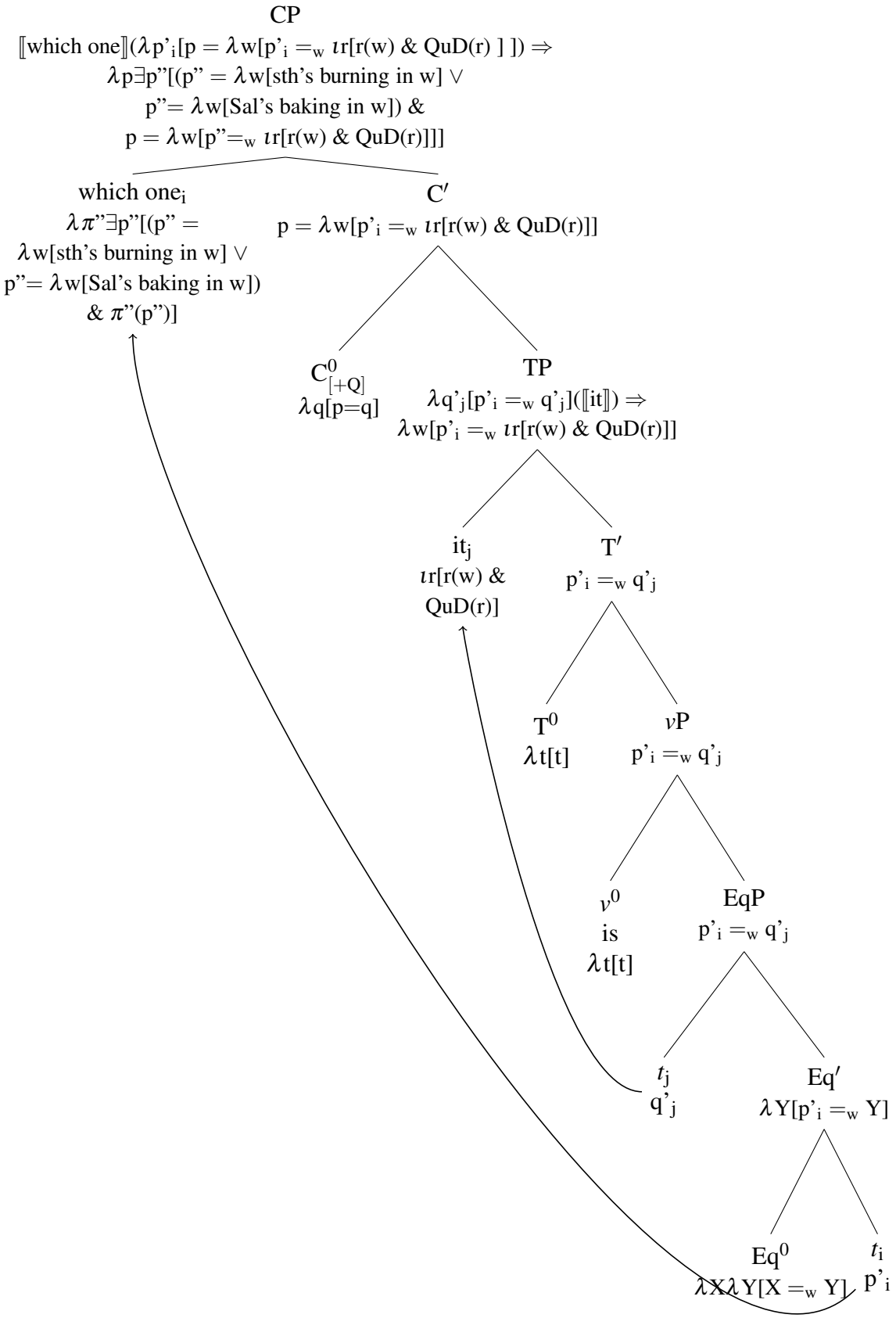
(3.26)



Below is the structure for the cleft in (3.20) (once again ignoring the contribution of T^0 and v^0); since the remnant quantifies over propositions, I assume it leaves behind a trace of propositional type ⟨s,t⟩. Since clefts are equatives, I assume the cleft pronoun denotes a unique proposition. The cleft pronoun's restriction, I assume, is the property λp[p(w) & QuD(p)], the set of true propositions in the question's meaning.[10] I assume such a property is always sufficiently salient whenever there is a QuD, and is thus available as the value for the cleft pronoun's restriction. This much is in keeping with the intuition that the cleft pre-sluice in (3.20) is paraphraseable as *which one (of the propositions in the QuD) is true*.

(3.27) which one it is

[10]The meaning of the cleft pronoun here is very similar to an answerhood operator, in fact.


CP
⟦which one⟧(λp'i[p = λw[p'i =w ιr[r(w) & QuD(r)]]) ⇒
λpꓱp"[(p" = λw[sth's burning in w] ∨
p"= λw[Sal's baking in w]) &
p = λw[p"=w ιr[r(w) & QuD(r)]]]
which onei
λπ"ꓱp"[(p" =
λw[sth's burning in w] ∨
p"= λw[Sal's baking in w])
& π"(p")]
C′
p = λw[p'i =w ιr[r(w) & QuD(r)]]
C0[+Q]
λq[p=q]
TP
λq'j[p'i =w q'j](⟦it⟧) ⇒
λw[p'i =w ιr[r(w) & QuD(r)]]
itj
ιr[r(w) &
QuD(r)]
T′
p'i =w q'j
T0
λt[t]
vP
p'i =w q'j
v0
is
λt[t]
EqP
p'i =w q'j
tj
q'j
Eq′
λY[p'i =w Y]
Eq0
λXλY[X =w Y]
ti
p'i

This is the set of propositions of the form "p is the unique true proposition in QuD":

(3.28) { λw[λw'[Something's on fire in w'] $=_w$ ιr[$true_w$(r) & QuD(r)]],
λw[λw'[Sally's baking in w'] $=_w$ ιr[$true_w$(r) & QuD(r)]] }

Now we are ready to check whether the Sluice Condition is met in (3.20). Applying Ans-D_{str} to the QuD for the antecedent, let us assume a model as in (3.29). Let us take w1 to be the world of evaluation, where something is actually on fire, and Sally is not baking.

(3.29) a. W = { w1, w2, w3, w4 }

b. λw[Something is on fire in w] = { w1, w4 }
λw[Sally's baking in w] = { w2, w3, w4 }

c. QuD = { λw[something's on fire in w], λw[Sally's baking in w] }

(3.30) Ans-D_{str}(QuD) =
λw'λw"[Ans-D_{wk}(QuD)(w') = Ans-D_{wk}(QuD)(w")]
applied to w1 =
λw"[{ w1, w4 } = Ans-D_{wk}(QuD)(w")] = { w1 }[11]
"Something's on fire, and Sally is not baking."

Checking Ans-D_{str} for the cleft question in (3.28), we see that the Sluice Condition is met, since Ans-D_{str}(⟦which one it is⟧) yields the same answer at w1.

(3.31) Ans-D_{str}(QuD) =
λw'λw"[Ans-D_{wk}(⟦which one it is⟧)(w') = Ans-D_{wk}(⟦which one it is⟧)(w")]
applied to w1 =
λw"[{ w1 } = Ans-D_{wk}(QuD)(w")] = { w1 }
"Something's on fire and Sally's not baking."

This illustrates how p-or-q are licensed by Split Identity.

[11] w4 as an argument renders Ans-D_{wk}(QuD) undefined since there will be no unique true answer at w4 in the QuD's meaning.

3.3.2.2 Predicational pseudosluices

Here I focus on adjectival sluices like that in (3.32), which were argued in Chapter 2 to stem from predicational copular clauses as indicated (i.e., these are predicational pseudosluices):

(3.32) Sally married a rich man, but I don't know how rich ~~he is~~.

I am currently unaware of any explicit compositional treatment of interrogative predicative DegP's, so I shall refrain from providing full derivations here.[12] I put a precise discussion of how the Remnant Condition is met in such cases aside, it will suffice to assume that there is a DegP containing the adjective *rich* in the antecedent with which the remnant *how rich* matches in interpretation. A silent Deg^0 head takes *rich* as its complement in the antecedent in (3.32) and introduces a variable over degrees which may be existentially bound, giving a meaning for the antecedent in (3.32) like that in (3.33). This is consistent with the semantics for degree phrases given in Kennedy and McNally 2005, where Deg^0 introduces existential quantification over degrees. I assume the same semantics can be extended to interrogative *how* in satisfaction of the Remnant Condition in examples like (3.32).

(3.33) λw$\exists$d[Sally married a d-rich man in w]

Keeping to our method of deriving the QuD that the antecedent makes salient by deriving a Wh-question version of the antecedent, we get a QuD paraphraseable as *How rich a man did she marry?* in (3.32). I assume pied piping of *how*'s restriction and the tag-along DP in *how rich a man* is undone at LF via reconstruction, so that we end up with a QuD semantics like that in (3.34):

(3.34) λp$\exists$d[p = λw[Sally married a d-rich man in w]]

Let us see how Ans-D_{str} operates on such a QuD in a model like that in (3.35). Assume the domain of degrees, $D_{degrees}$, contains just three degrees of wealth, d_1, d_2, d_3, in increasing order of wealth. So that if Sally married a d3-rich man, then it follows that she also married

[12] I assume that a compositional treatment would be possible under theories of degree questions such as Beck and Rullman 1996, Fox and Hackl 2007, Abrusán 2007).

a d2-rich man and a d1-rich man (more precisely, that the man she married is also d2 and d1-rich). Assume the world of evaluation is w2, where Sally married a d2-rich man.

(3.35) a. $D_{degrees}$ = { d1, d2, d3 }
W = { w1, w2, w3 }

b. λw[Sally married a d1 rich man in w] = { w1, w2, w3 }
λw[Sally married a d2 rich man in w] = { w2, w3 }
λw[Sally married a d3 rich man in w] = { w3 }

c. ⟦how rich a man did Sally marry?⟧ =
{ λw[Sally married a d1 rich man in w],
λw[Sally married a d2 rich man in w],
λw[Sally married a d3 rich man in w] }

(3.36) $Ans\text{-}D_{str}$(⟦How rich a man did she marry?⟧) =
λw'λw"[$Ans\text{-}D_{wk}$(⟦how rich a man did she marry?⟧)(w') =
$Ans\text{-}D_{wk}$(⟦how rich a man did she marry?⟧)(w")]
applied to w2 =
λw"[{ w2, w3 } = $Ans\text{-}D_{wk}$(⟦how rich a man did she marry?⟧)(w")] = { w2 }
"She married a d2-rich man."
(note that w2 is also a world where she married a d1-rich man)

Moving onto the predicational pseudosluice, it is important that the pronominal subject of the predicational question be co-construed with the discourse referent of *a rich man*, so that it receives an E-type reading paraphraseable as *the man she married*. A semantics for the predicational pseudosluice is as in (3.37):

(3.37) λp∃d[p = λw[he/the man she married is d-rich in w]]

Sticking to the model in (3.35), we get a set of propositions like that in (3.38):

(3.38) { λw[he is d1-rich in w], λw[he is d2-rich in w], λw[he is d3-rich in w] }

It should be clear that $Ans\text{-}D_{str}$ will return the same answer at w2 if she married a d2-rich man, so that the Sluice Condition is met. Indeed, the propositions in the QuD's meaning

each have a mutually entailing member in the predicational pseudosluice's meaning, so that Ans-D_{str} will return identical answers at any world of evaluation for each question.[13]

Many open issues in the analysis of adjectival pseudosluicing will be left untreated here, though the above is sufficient to make the point that the identity conditions proposed here are consistent with the availability of predicational pseudosluicing. One property of adjectival sluicing that does not immediately follow from the identity condition proposed herein, is that noted in Merchant 2001, where sprouting of DegP remnants is ungrammatical in the usual case:

(3.39) * She married a businessman, but I don't know how rich.

Merchant (2001) provides an account in terms of e-GIVENness for this observation, noting that prosodic prominence (F-marking) rests most naturally on *rich* in (3.39). We discuss e-GIVENness more thoroughly in the following chapter, though the gist of Merchant's account is that F-marking on *rich* interrupts the semantic equivalence condition between the antecedent and the sluice. I assume such an account can be extended to the Sluice Condition, as there is, of course, a close connection between F-marking and information structure, though I leave such an exercise aside here. One possibility for how such cases may fall under the Sluice Condition, is by assuming that antecedents with implicit adjectival remnants have difficulty introducing degree QuDs, though what this might follow from is mysterious.

The acceptability of examples like (3.40) seem to cast some doubt on the notion that F-marking alone is behind the pattern. Such cases are more in keeping with the expectations of a QuD-based approach (though it is admittedly difficult to think of such examples). In

[13] Veneeta Dayal (p.c.) has provided me with the example in (i), which seems to pose a challenge in that the de dicto reading of *a rich man* persists under sluicing, but seems to be lost under the predicational pre-sluice:

(i) She wants to marry a rich man, but I don't know how rich (#he is).

I assume that in such cases, the pre-sluice is actually as in (ii):

(ii) She wants to marry a rich man, but I don't know how rich (she wants him to be).

The pre-sluice in (ii) preserves the relevant meaning and also counts as a predicational pseudosluice, in that a non-isomorphic copular clause is embedded in the E-site (though at least part of the sluice is isomorphic, in this case to the antecedent's matrix clause).

(3.40), lexical choices in the antecedent seem to do the pragmatic job of making certain QuDs salient. Importantly, in each case, just as in (3.39), F-marking is most naturally on the head of the remnant:

(3.40) a. She bought a car, but I don't know what color/make/year.

b. She is dating a basketball player, I don't know (exactly) how tall.

c. Jack discovered a supernova while stargazing, but I don't know how bright.

d. There was an {earthquake/a tornado} yesterday, but I don't know how strong.

e. There is a hurricane approaching, but I don't know how powerful/what category.

Similarly, sluices such as those in (3.42) are similarly not subject to the ban on sprouting adjectival remnants, for reasons which will remain mysterious here. Merchant 2001 dubbed such cases "concessive sluices,"[14] where he notes that constraints on remnant/correlate pairs in such cases seem to be suspended more generally (though it is worth noting that in (3.41), F-marking is on *how*, in keeping with Merchant's 2001 explanation for examples like (3.39)).

(3.41) She'll marry anyone! It doesn't matter how rich!

(3.42) a. She won't talk to anyone! It doesn't matter who!

b. * She won't talk to anyone, but I don't know who.

3.4 Summary

To summarize, we've seen how the Remnant Condition and an answerhood-based approach to the Sluice Condition lets in clefts despite their exhaustivity (in p-or-q pseudosluices or otherwise). We've also seen how the Remnant Condition and the Sluice Condition promise

[14]Merchant 2001, footnote 8, pg. 175

to let in adjectival sluices, though details of analysis remain to be worked out. The identity conditions also let in isomorphic sluices straightforwardly alongside pseudosluices. It should be clear, then, that whenever pseudosluicing is independently unavailable, for instance, when a violation of Stubborn case Matching would result, as in a remnant-case language, an isomorphic structure may be sluiced, so that the Remnant Condition in tandem with the Sluice Condition captures the full paradigm discussed in Chapter 2. At the same time, whenever neither pseudosluicing nor an isomorphic structure are ruled out, the identity conditions imply that such sluices are, strictly speaking, structurally ambiguous.

Chapter 4
Identity Puzzles

In the rest of the thesis, I turn to issues independent from pseudosluicing surrounding the proper formulation of the identity condition. I review the sorts of evidence that have been brought to bear on determining the identity condition in the literature and extant theoretical conclusions which have been motivated by such evidence. In subsequent chaptes, I illustrate how Split Identity captures such evidence.

There are three main possibilities that have been entertained in the literature; the first assumes E-sites and antecedents must match syntactically in some sense (e.g. Ross 1969, Rooth 1992a, Fiengo and May 1994, Chung et al. 1995, Fox and Lasnik 2003, Chung 2006, Fortin 2007, Chung et al. 2011, Merchant 2013); the second requires them to match semantically (e.g. Merchant 2001, Potsdam 2007, AnderBois 2010, 2011, forthcoming).[1] The third sort of approach seems to be the growing consensus, where the identity condition is taken to be "hybrid," in that it is sensitive to semantic isomorphism alongside (a perhaps limited degree of) syntactic identity (e.g., Chung 2006, AnderBois 2011, forthcoming, Chung 2013). The Split Identity condition proposed here can be seen as a case of this latter approach, in that it makes (very limited) reference to both syntactic and semantic aspects of the sluice and its antecedent in the Remnant Condition.

(4.1) "Split Identity"

[1]There are, at least, two additional non-standard sorts of theories of ellipsis that differ from Merchant's in not assuming that E-sites have complex unpronounced syntax. Both sorts of theories adopt a semantic approach to ellipsis resolution. One sort of approach assumes the E-site hides a silent pro-form, anaphoric to the antecedent's meaning (e.g. Hardt 1993, Lobeck 1995, Barker 2013), and the other eschews any silent material altogether (e.g. Stainton 1995, Ginzburg and Sag 2000, Jäger 2001, Culicover and Jackendoff 2005). The works referenced in the main text are those that, in keeping with the standard view, assume a syntactically rich E-site (see e.g. Merchant 2001, Merchant to appear for relevant argumentation against non-standard approaches).

a. The Remnant Condition:

   The remnant must have a syntactic correlate, which is a semantically identical XP in the antecedent.

b. The Sluice Condition:

   The sluiced question and the Question under Discussion (QuD) made salient by the antecedent must have the same answer at any world of evaluation.

To this point, we have established that Split Identity is capable of handling both pseudosluices as well as isomorphic sluices. That such a condition is needed was argued for in Chapter 2, given the various sorts of evidence in support of the pseudosluicing hypothesis. The challenges posed by pseudosluicing were primarily E-site specific; as we saw, the Remnant Condition did little work in ruling pseudosluicing out, or in, alongside isomorphic sluices (Modulo stubborn case Matching). In Chapter 5, we will see that, despite its very limited reference to syntax, the Remnant Condition is nonetheless capable of accounting for much of the data that has been marshalled in support of a stricter syntactic identity component in the isomorphism condition.

4.1 Syntactic identity, advantages and problems

4.1.1 Advantages of Syntactic identity

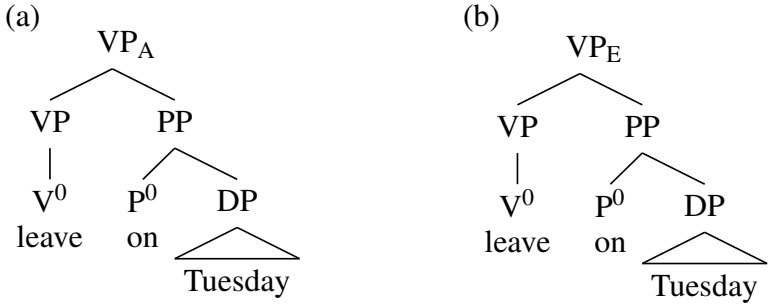
The basic idea behind syntactic identity is stated in Fiengo and May 1994 (pg. xi):

> "*Under what circumstances can bits of syntactic structure be said to be the same as or different from other bits of syntactic structure? . . . The grounds on which expressions are identical . . . are twofold. One, there must be lexical identity—they are composed of the same lexical expressions; and two, there must be structural identity—the constituent elements that dominate the lexical expressions must be syntactically organized in the same way*."

This notion of identity is easy enough to illustrate with forms of ellipsis that do not involve extraction of some element from within the E-site. Sluicing involves extraction of the Wh-phrase from within the E-site to [Spec, CP] (as is usual in English Wh-questions). This immediately raises non-trivial issues regarding how a syntactic identity condition should

be stated for sluicing (since the antecedent lacks movement). Before seeing how this issue pans out for sluices, consider, first, how such an approach applies to a case of VPE, in the absence of extraction from the E-site (VP_E = E-site, VP_A = antecedent).[2]

(4.2) Abe may [$_{VP_A}$ leave on Tuesday], but Sally may not [$_{VP_E}$ ~~leave on Tuesday~~].



The structures of VP_E and its antecedent VP_A match in (4.2), satisfying syntactic identity in Fiengo and May's 1994 sense. Additionally, this intuitively corresponds to our interpretation for the E-site; it receives the same interpretation as its antecedent, which trivially follows from a syntactic identity condition, since VP_E and VP_A are identical.

4.1.2 Problems for a purely syntactic approach

We've already seen many empirical challenges to a strict Fiengo-and-May style approach to syntactic identity in Chapter 2. These included p-or-q sluices which seem to require a pseudosluicing analysis, as well as evidence for pseudosluicing more generally (such as the P-stranding facts surrounding PSG-compliant/deviant languages, adjectival sluices). These observations supplement the well known fact that at least the reference to lexical identity in Fiengo-and-May's definition is too strong, as there are many instances of detectible lexical mismatches between E-site and antecedent. This is true for VPE, NPE as well as sluicing.

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[2]Though extraction from VPE sites is also possible (the earliest analysis of the conditions on extraction from VPE sites I'm aware of is in Schuyler 2001).

(4.1) Bill might [$_{VP_A}$ want the Camaro], but I don't know which car$_i$ Sally might [$_{VP_E}$ ~~want t_i~~].

Here is a sample of such cases from the literature (mismatches in bold):[3,4]

(4.3) a. El profesor **viajó** con Juan ayer, pero los estudiantes no
The teacher travelled.3rd.sg with Juan yesterday, but the students not
sé con quién ~~[$_{TP_E}$ **viajaron**]~~.
know with who ~~[$_{TP_E}$ travelled.3rd.pl]~~

'The teacher travelled with Juan yesterday, but, the students? I don't know with who ~~they travelled~~.'

(number mismatch: TPE) Depiante and Hankamer 2006, example (2a), pg. 1

(my gloss/translation)

b. Juan visitó a su **tío** y Pedro visitó a los ~~[$_{NP_E}$ **tíos**]~~
Juan visited to his uncle.sg and Pedro visited to the.pl ~~[$_{NP_E}$ uncles.pl]~~
suyos.
his.pl

'Juan visited his uncle, and Pedro visited his ~~uncles~~.'

(number mismatch: NPE) Depiante and Hankamer 2006, example (7b), pg. 3 (my gloss/translation)

c. **Cerrá** la puerta! Creo que no te tengo que decir cómo ~~[$_{TP_E}$ **cerrarla**]~~.
Close the door! believe that not CL have to say how ~~close.CL~~

'Close the door! I believe I don't have to tell you how ~~to close it~~.'

Inflectional mismatch (imperative/infinitive). Saab 2003

(my gloss/translation)

d. Quiero que **termines** de escribir tu tesis, y no me importa
I.want that you.finish.subj of writing your thesis, and not CL concerns
cuándo ~~[$_{TP_E}$ **terminás** de escribir tu tesis]~~.
when ~~[$_{TP_E}$ **you.finish.indic** of writing your thesis]~~.

'I want you to finish writing your thesis, I don't care when.'

Inflectional mismatch (subjunctive/indicative). Depiante and Hankamer 2006, example (15a), pg. 5

(my gloss/translation)

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[3]Importantly, it is not the case that such mismatches are always allowed, these examples are intended to show that they are sometimes. See, e.g., Depiante and Hankamer 2006 for a brief survey, and Merchant 2011, in press for an account of the variable availibility of gender mismatches in Greek NPE. See Johnson 2001 for discussion of various cases of mismatch in VPE.

[4]Glosses and translation are mine where indicated.

e. The boss is going to fire **Sally$_i$**, but she$_i$ doesn't think he will ~~[$_{VP_E}$ fire **her$_i$**]~~.
(“Vehicle change” amnestying condition C)

f. First, Jack **left**, then Sally did ~~[$_{VP_E}$ **leave**]~~.
Inflectional mismatch.

g. A: Amuse me!
B: With what ~~**should** I amuse you~~?
New modal in the E-site (from Thoms 2013, example 4)

h. Bill mentioned **his plans** to do away with someone, but he didn't mention who ~~[$_{TP_E}$ **he plans** to do away with]~~.
Category and inflection mismatches. From Ross 1969, example (69)

i. I remember **meeting** him, but I don't remember when ~~[$_{TP_E}$ I **met** him]~~.
inflectional/finiteness mismatch (met/meeting).
Merchant (2001), example (33), pg. 23

j. **Decorating** for the holidays is fun, if you know how
~~[$_{TP_E}$ **to decorate** for the holidays]~~.
Inflectional mismatch. Merchant 2001, example (30), pg. 22

The challenge is to formulate an identity condition that allows such mismatches. It has been proposed that such mismatches can be seen as consistent with a strict view of identity, if we assume a more articulated syntax. For instance, consider an inflectional mismatch in VPE like that in (4.4):

(4.4) Jack kicked the wall, and Sally didn't ~~kick the wall~~.

Johnson 2001 proposes that mismatches in VPE can be captured under syntactic identity if we assume the *-ed* suffix is dissociated from the V root at some stage of the derivation, such that it lies outside of VP. Both VPs in (4.4) would be identical at that stage:

(4.5) Jack -ed [$_{VP_A}$ kick the wall], and Sally didn't [$_{VP_E}$ ~~kick the wall~~].

Merchant 2005 suggests this idea may be generalized to other cases of apparent mismatch (though it is unclear how such an approach would generalize to vehicle change).

For sluicing, identity between E-site and antecedent is additionally complicated by the fact that there is movement in the sluice, but not in the antecedent. There are two immediate complications; the first is that there is a trace of movement in the E-site left by the Wh-phrase, but not in the antecedent. Under Fiengo and May's 1994 conception of syntactic identity, we are left with the question of what the lexical content of a trace is, if any. If the syntactic identity approach is correct, then it must be the case that the trace left behind by *who*, in (4.6), counts as identical to its structural correlate in the antecedent, *someone*.

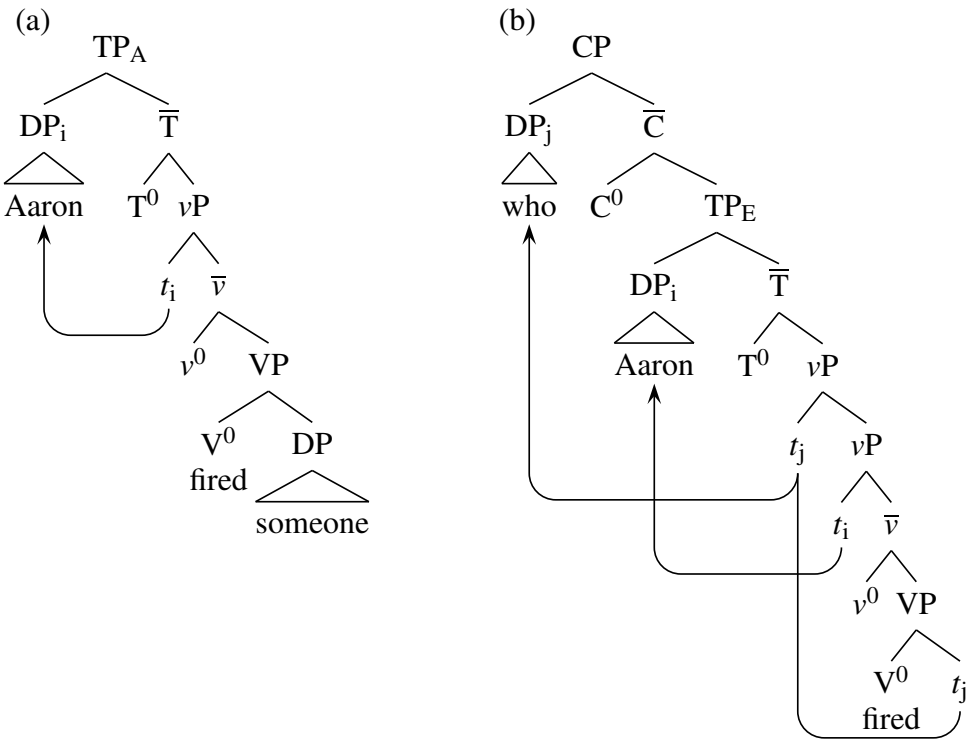
(4.6) $[_{TP_A}$ Aaron fired someone], guess $[_{CP}$ who$_i$ $[_{\overline{C}}$ $C^0{}_{[+E]}$ $[_{TP_E}$ ~~Aaron fired t_i~~]]]

This is an easy challenge to overcome. For instance, one might treat the difference between Wh-phrases and indefinites as inflectional, or stipulate that such a difference is recoverable by virtue of the Wh-phrase being outside the ellipsis site (see Chung 2006 for such a move).[5]

In addition to this issue, there is a second complication, namely, that introduced by successive cyclicity. It is standardly assumed that Wh-movement of object Wh-phrases proceeds via adjunction to *v*P; this straightforwardly yields lack of identity.

(4.7)

[5]Importantly, in some languages this is not a problem at all, namely, languages in which indefinite pronouns like *someone* do double duty as Wh-phrases in questions (see e.g. Cheng 1994 for Mandarin Chinese, Haida 2007 for German, Lakhota, and Korean, and AnderBois 2011, AnderBois 2012 for Yucatec Maya).



As is evident in comparing the structures for TP_A and TP_E above, even if we could argue that the trace of *who* was lexically identical to *someone* in some sense, Fiengo and May's second 1994 requirement for identity is arguably not met, since the constituent elements that dominate the lexical expressions are not syntactically organized in the same way (i.e. the structures do not match as there is an additional *v*P level and trace in TP_E). One solution to this challenge comes from Fox and Lasnik 2003, who propose a strict, Fiengo-and-May-style LF-identity condition on E-sites, where they must be LF-identical to their antecedents, and propose that Wh-movement proceeds in "one-fell swoop" in E-sites, so there are no intermediate traces to worry about.[6]

While such defenses of a strict isomorphism approach have much to bargain with, it is difficult to see how they may be extended to more dramatic mismatches, for instance, as required by the pseudosluicing hypothesis and its empirical victories (e.g., p-or-q sluices, cross-linguistic P-stranding patterns, adjectival sluices).

[6]Though see Agüero-Bautista 2007 for empirical evidence to the contrary, from remnant reconstruction into E-site internal intermediate A′-positions.

4.2 Semantic identity, advantages and problems

Citing the basic puzzles introduced for syntactic identity by Wh-movement, and mismatches like those in (4.3), Merchant 2001 proposes a purely semantic identity account as an alternative. The motivation for a semantic account is simply that a semantic identity condition would allow for syntactic mismatches between the ellipsis site and its antecedent, provided that their respective structures encode the same meaning.

There are many dimensions of meaning along which a semantic identity condition could be stated. The approach in Merchant 2001 involves focus-theoretic representations of meaning. The motivation for such an account comes from the close relationship between ellipsis and *deaccenting* (prosodic reduction). Both phenomena are forms of *redundancy reduction* (borrowing the term from Rooth 1992a), where *redundancy* pertains to repetition of semantic content and *reduction* is how redundancy is encoded in the speech signal.

Merchant follows Romero 1998 in applying Schwarzschild's 1999 theory of focus and deaccenting to sluices.[7] In Schwarzschild's 1999 theory, material may be deaccented if it encodes old and salient information in the discourse (an XP encoding old information is 'GIVEN'). An informal definition for how GIVENness may be calculated is provided below:

(4.8) a. *Definition of GIVEN*

i. A constituent, XP_E, is GIVEN iff it has a salient antecedent, XP_A and

ii. Modulo existential type-shifting, XP_A entails the Existential Focus Closure of XP_E (written 'F-clo(XP_E)').

b. *Definition of Existential Focus Closure*

The result of replacing F(ocus)-marked parts of XP_E with variables and existentially closing the result, modulo $\exists$-type-shifting.

[7] As noted in Merchant 2001, Romero 1998 shows that the same results hold using the theory in Rooth 1992b, so that the reliance on Schwarzschild's 1999 theory is not crucial.

Calculating GIVENness for an XP without F-marking, γ (e.g. E-sites, non-F-marked antecedents), F-clo(γ) is equivalent to the meaning of γ if it is propositional, or equivalent to γ's existential closure (a.k.a. $\exists$-type shift). Using this definition, VP_E is GIVEN in (4.9), and may be deaccented (in italicized smaller font). The $\exists$-type-shift of VP gives a propositional meaning, where variables corresponding to arguments are existentially bound (Here, XP_E means "ellipsis *or* deaccenting candidate"−not an elided XP)

(4.9) Abe was [$_{VP_A}$ reading a book], but Sally wasn't [$_{VP_E}$ *reading*].

$\exists$-clo(VP_A) = F-clo(VP_A) = $\exists$y[reading-a-book(y)]

$\exists$-clo(VP_E) = F-clo(VP_E) = $\exists$x[reading(x)]

$VP_A \models$ F-clo(VP_E), so VP_E is GIVEN, and may be deaccented.

Merchant notes that GIVENness overgenerates as an identity condition on ellipsis.[8] It is not the case that whenever deaccenting is licensed, ellipsis also is. In the elliptical version of (4.9), in (4.10), the E-site asserts that Sally was not reading *a book*, in particular; this contrasts with the situation in (4.9), where nothing is said about *what* Sally wasn't reading.

(4.10) Abe was [$_{VP_A}$ reading a book], but Sally wasn't [$_{VP_E}$ ...].

a. * [$_{VP_E}$ ~~reading~~] (e.g., she may have been reading a magazine.)

b. ✓ [$_{VP_E}$ ~~reading a book~~]

Merchant 2001 proposes a stronger version of Schwarzschild's 1999 GIVENness; e-GIVENness. With GIVENness, entailment is unidirectional; XP_A must entail F-clo(XP_E). E-GIVENness is cast as a "mutual entailment" condition between the antecedent and E-site, in adding to GIVENness an additional relation; XP_E must also entail F-clo(XP_A).

(4.11) *Definition of e-GIVEN*

A constituent, XP_E, counts as e-GIVEN iff XP_E has a salient antecedent XP_A and, modulo $\exists$-type shifting,

a. XP_A entails F-clo(XP_E), and

[8] The same observation is made in Rooth 1992a for Rooth's 1992b theory of focus.

b. XP_E entails F-clo(XP_A)

(4.12) *Focus condition on ellipsis*

A constituent, XP_E, can only be elided if XP_E is e-GIVEN.

This formulation captures the interpretation of VP_E in (4.10). While the structure, [$_{VP_E}$ reading], is GIVEN, since its focus closure is entailed by ∃-clo([$_{VP_A}$ reading a book]) (and therefore may be deaccented), it is not e-GIVEN, since condition (4.11b) is not met (i.e. *reading* does not entail reading *a book*). On the other hand, the VP corresponding to the interpretation for the E-site in (4.10) counts as e-GIVEN, trivially, since VP_A and VP_E are syntactically identical, and syntactic identity implies e-GIVENness.

4.2.1 Advantages of semantic identity

The fundamentally semantic nature of e-GIVENness allows for syntactic mismatches between the E-site and its antecedent. To start with, consider the basic challenges to a Fiengo and May 1994-style syntactic identity account for sluicing, namely, lexical identity and identity of constituent organization. In the e-GIVENness approach, neither lexical identity, nor constituent structure matter, so long as e-GIVENness is met.

We can now entertain a simple example of e-GIVENness calculation for sluicing. In Schwarzschild's 1999 theory, we take the existential closure of a Wh-question for the purposes of GIVENness calculation (existentially binding any variables in TP_E introduced by Wh-traces). The same will apply to the calculation of e-GIVENness. This much gives us e-GIVENness in a simple sluicing example, such as that in (4.13), below:

(4.13) [$_{TP_A}$ Acrisio likes someone], but I don't know who$_i$ [$_{TP_E}$ Acrisio likes t_i]

TP_A = F-clo(TP_A) = ∃x[Acrisio likes x]

∃-clo(TP_E) = F-clo(TP_E) = ∃y[Acrisio likes y]

a. Checking (4.11a): $TP_A \models$ F-clo(TP_E)

b. Checking (4.11b): ∃-clo(TP_E) $\models$ F-clo(TP_A)

Since both (4.11a) and (4.11b) are met, e-GIVENness is met and TP_E may be elided.

Of course, the representation given in (4.13) is incomplete in that it leaves out the intermediate trace of Wh-movement, presumably an adjunct to *v*P. A more precise representation of the structure in (4.13) might be as in (4.14):

(4.14) $[_{TP_A}$ Acrisio$_j$ $[_{vP}$ t_j $[_{\overline{v}}$ v^0 $[_{VP}$ likes someone]]]], but I don't know who$_i$ $[_{TP_E}$ Acrisio$_j$ $[_{vP}$ t_j $[_{\overline{v}}$ t_i $[_{\overline{v}}$ v^0 $[_{VP}$ likes t_i]]]]]

Since the contribution of intermediate traces is trivial, e-GIVENness will not be interrupted by successive cyclic movement in TP. This much gives us how e-GIVENness does better than a syntactic identity condition in accounting for basic mismatches between TP_E and TP_A. Also worth noting is that Merchant's 2001 system promises to account for more dramatic cases of syntactic mismatch:

(4.15) a. <u>He told us about his plans to do away with someone</u>, but he wouldn't say who.
= he wouldn't say who $[_{TP_E}$ he plans to do away with].

b. <u>Swimming is fun</u>, if you know how.
= if you know how $[_{TP_E}$ to swim].

c. <u>She remembers meeting him</u>, but she doesn't remember when.
= she doesn't remember when $[_{TP_E}$ she met him].

Merchant 2001 does not illustrate how e-GIVENness calculation would work in such cases, though he does mention in passing that the notion of *antecedent* must be more nuanced than indicated in (4.15) (i.e. the underlined constituents are not the real antecedents for the E-sites in (4.15)). I do not provide an illustration of exactly how e-GIVENness is met in these examples here, as that would take us too far afield, but merely sketch what must be said in order to ensure e-GIVENness in Merchant's theory.

First, only a sub-part of the underlined constituents in (4.15) may count as antecedent; in (4.15a), planning does not entail telling, so that e-GIVENness would not be met since $\exists$-clo(TP_E) would not entail F-clo(TP_A). Intuitively, the antecedent for TP_E in (4.15a) is the possessive DP (or some sub-constituent of it) *his plans to do away with someone*.[9]

[9]In fact, Ross's 1969 claim, couched in the framework of early transformational grammar, was that the

(4.16) He told us about [$_{DP_A}$ <u>his plans to do away with someone</u>], but he didn't say who$_i$ [$_{TP_E}$ he has plans to do away with t_i].

Similar observations can be made for (4.15b) and (4.15c):[10]

(4.17) a. <u>Swimming</u> is fun, if you know how [$_{TP_E}$ to swim].
$\neq$ *If you know how [$_{TP_E}$ swimming is fun].

b. She remembers <u>meeting him</u>, but not when [$_{TP_E}$ she met him].
$\neq$ *She doesn't remember when [$_{TP_E}$ she remembers meeting him].

As indicated in (4.17), taking the entire preceding utterance as the antecedent for TP_E does not map to our intuitions about what the E-site means.

For examples like (4.16), under e-GIVENness, we would require a propositional meaning for some constituent in the antecedent that entails F-clo(TP_E) (i.e., that there is someone he has plans to do away with). One way in which this could be achieved is to $\exists$-bind the variable contributed by the correlate *someone* in the possessive. An appropriately vague semantics for the saxon genitive, where it contributes a relation between the possessum and possessor could be paraphrased as "*have*," so that e-GIVENness is satisfied as below:

(4.18) [$_{DP}$ he [$_{D'}$'s/"have" [$_{NP}$ plans to do away with someone]]]

(4.19) $\exists$-clo(DP) = F-clo(DP) = $\exists$x[he (has) plans to do away with x]
F-clo(TP_E): $\exists$x [he (has) plans to do away with x]
$\exists$-clo(DP) $\models$ F-clo(TP_E)
$\exists$-clo(TP_E) $\models$ F-clo(DP)

---

possessive DP, "his plans to do away with someone," and the sentence "he plans to do away with someone" should have identical structures at some stage of the derivation.

[10]Interestingly, non-embedded sluices do not work with these antecedents:

(4.1) a. A: Swimming is fun.
B: Oh yeah? *How ~~do you swim~~? (c.f. ✓Do you know how ~~to swim~~?)

b. A: She remembers meeting him.
B: Oh yeah? *When ~~did she meet him~~? (c.f. ✓Does she remember when ~~she met him~~?)

I lack an account for this observation here, though its relevance to determining the ultimately correct characterization of an identity condition should be obvious.

As with possessive antecedents, I do not give an illustration of how mutual entailment can be met in these cases. There is much work on gerunds and how their structure should be modeled (e.g. Chomsky 1970, Abney 1983, Marantz 1998, Pires 2007, inter multi alia). That e-GIVENness may be met in the cases in (4.17), however, is, once again, plausible given the nature of the puzzles gerunds pose for their proper analysis. Gerunds have the external syntactic distribution of DPs, and a clause-like internal syntax, so it should be possible to give a mutually entailing semantics for [$_{XP_A}$ *swimming*] and [$_{TP_E}$ *to swim*] (though the details still need to be worked out in this regard).[11]

4.2.2 Problems for e-GIVENness: AnderBois 2010, et seq.

Despite its advantages, a purely semantic approach runs into trouble in the face of evidence for some form of syntactic identity condition. A basic prediction of a purely semantic approach is that the syntax of the antecedent and E-site is, strictly speaking, irrelevant in determining whether ellipsis is licensed, so long as the semantic condition is met. We will see that this prediction is too strong. Before discussing the evidence for some degree of syntactic identity, I first review the recent semantic theory proposed in AnderBois 2010, 2011, forthcoming, and the challenges for e-GIVENness AnderBois points out.

AnderBois 2010, 2011, forthcoming, notes antecedents with doubly negated correlates do not license sluicing:

(4.20) a. * Sally didn't see *no one*, but I don't know who ~~Sally saw~~.

b. * It's not the case that no student left, but I don't know which student ~~left~~.

c. * It's not the case that John didn't meet with a student, but Fred still wonders {who/which student} ~~John met with~~.[12]

[11] Perhaps $\exists x[_{XP_A}$ *swimming* in some manner x] $\models$ (how$_i$) $\exists y_i$ [$_{TP_E}$ *to swim* in some manner y_i] and vice versa.

[12] (4.20c) is from AnderBois 2011 (pg. 63, example (87b)) - though I added *which student* as an alternative control; as Dayal and Schwarzschild 2010 note, sluices are best when the remnant and its correlate agree on the absence/presence of a contentful head noun (their *Antecedent/Correlate Harmony* generalization).

As AnderBois notes, e-GIVENness predicts such cases should go through, since double negation is truth-conditionally vacuous:

(4.21) * [$_{TP_A}$ Sally didn't see no one], but I don't know who$_i$ [$_{TP_E}$ ~~Sally saw t_i~~].

TP_A = F-clo(TP_A) = $\neg\neg\exists$x[Sally saw x].

$\exists$-clo(TP_E) = F-clo(TP_E) = $\exists$y[Sally saw y].

$TP_A \models$ F-clo(TP_E)

$\exists$-clo(TP_E) $\models$ F-clo(TP_A)

TP_E is e-GIVEN, so it may be deleted (contrary to fact).

AnderBois also notes that sluicing is ungrammatical when the antecedent is contained in an appositive relative clause, something which is not predicted by e-GIVENness alone.[13]

(4.22) (from AnderBois forthcoming)

a. Joe, who once killed a man in cold blood, doesn't even remember who *(he killed in cold blood).

b. The valiant knight, who defeated a masked enemy, still wonders who *(he defeated).

c. Amy, who coined a new word last night, forgot what/which word *(she coined last night).

To capture these patterns, AnderBois 2010, 2011, forthcoming couches his proposal in the *Inquisitive Semantics* framework (Groenendijk and Roelofsen 2009), proposing that sluices are anaphoric to the inquisitive meaning of the antecedent. In Inquisitive Semantics, sentences denote sets of alternative propositions (called possibilities), receiving a question-like meaning. A sentence makes an inquisitive contribution to the discourse when it denotes a non-singleton set of possibilities. This happens for instance in questions or in assertions with indefinites or disjunctions (such sentences are called inquisitive). The advantage of AnderBois's treatment for semantic equivalence is that in inquisitive semantics, negation

[13]Though see Collins et al. 2014 for a careful examination of this empirical claim; under certain discourse conditions, sluicing out of appositives becomes possible.

and double negation are not vacuous, and may render an otherwise inquisitive sentence non-inquisitive. In AnderBois's theory, sluiced CPs must be inquisitive, so that sluicing is correctly predicted to fail in such cases. AnderBois follows AnderBois et al. 2011 in taking appositives to not have inquisitive denotations, also capturing the unacceptability of sluicing in examples like (4.22). Below, I illustrate how AnderBois's theory works in inquisitive semantics below.

To give a brief illustration of how AnderBois's theory works, consider an inquisitive assertion with a disjunction like (4.23), below:

(4.23) Jack left or Sally left.

In inquisitive semantics, a sentence is taken to be a proposal to update the common ground (a Stalnakerian set of propositions interlocutors presuppose in the conversation) - an inquisitive sentence is taken to be a multi-alternative proposal to update the common ground. That is, it raises an *issue* as to which alternative it profers we should update the common ground with. An issue is a question-like meaning, so that an inquisitive sentence's denotation is a set of alternative propositions, as in a Hamblin semantics for questions. The inquisitive denotation of a sentence, S, is written [S]. An inquisitive sentence need not be a question, however, it may be a sentence with an indefinite or a disjunction. In (4.23), for instance, the issue of whether we should update the common ground with the proposition that Jack left or the proposition that Sally left is raised. In short, (4.23) has an inquisitive denotation which is the set of propositions [S] = { Jack left, Sally left }.

In AnderBois's system, this is achieved with the following machinery. First, consider the (non-)inquisitive contribution of the first conjunct in (4.23): that Jack left. Assume this is true in worlds w1 and w2. Ignoring, for the moment, the contribution of ALT in (4.24), (4.24) gives us { {w1}, {w2}, {w1, w2} } (the powerset of worlds in which *Jack left* is true). ALT takes $\mathscr{P}$ and gives the singleton set of propositions (in this case) containing the *maximal* proposition in the set, { { w1, w2} } (ALT is defined in (4.25)):[14]

[14]W is the set of possible worlds, x, y, are individual variables, p and q are propositional variables (sets of worlds), ϕ, ψ, are variables over atomic formulas (sets of propositions). M stands for a model, g, an assignment function, and w, a world. R^n stands for function with n-many arguments.

(4.24) Atomic Formulas:

$[\![R^n(x_1, \ldots, x_n)]\!]^{M,g,w} =$

$\textsc{Alt}\{\ p \subseteq W \mid \forall w' \in p[\langle [\![x_1]\!]^{M,g,w'}, \ldots, [\![x_n]\!]^{M,g,w'} \rangle \in [\![R^n]\!]^{M,g,w'}\ ]\ \}$

(AnderBois forthcoming, S1)

(4.25) $\textsc{Alt}\mathscr{P} = \{\ p \in \mathscr{P} \mid \neg\exists q \in \mathscr{P} : p \subset q\ \}$

(AnderBois forthcoming, example (13))

$\textsc{Alt}\{\ \{w1\}, \{w2\}, \{w1, w2\}\ \} = \{\ \{w1, w2\}\ \}$

ALT takes a set of propositions and returns a set containing just the maximal proposition(s) in that set. Disjunction is defined as in (4.26):

(4.26) Disjunction: $[\![\phi \vee \psi]\!]^{M,g,w} =$

$\textsc{Alt}\{\ p \subseteq W \mid \exists p'\ [[\![\phi]\!]^{M,g,w}(p') : p \subseteq p'] \vee \exists p''[[\![\psi]\!]^{M,g,w}(p'') : p \subseteq p'']\ \}$

(AnderBois forthcoming, S4)

We end up with an inquisitive meaning consisting of the maximal propositions of each disjunct.[15] For (4.23), assuming nobody left in w3, Jack left in w1 and w2, and Sally left in w2 and w4, we get the set of propositions { { w1, w2 }, { w2, w4 } } (or, equivalently, { Jack left, Sally left }). Existential quantification is a special case of disjunction in inquisitive semantics - one way to think about it is that each possible value for the variable contributed by an indefinite ends up contributing a distinct disjunct. In a model with Jack and Sally, for instance, the inquisitive denotation of the sentence *someone left* is exactly that of the sentence *Jack left or Sally left*.

(4.27) Existential Quantification:

$[\![\exists x\phi]\!]^{M,g,w} = \textsc{Alt}\{\ p \subseteq W \mid \exists d \in D_e[\exists q \in [\![\phi]\!]^{M,g^{[x/d]},w}[\ p \subseteq q\ ]\ ]\ \}$

(AnderBois forthcoming, S5)

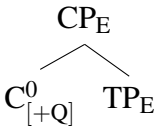
AnderBois assumes that Wh-phrases and indefinites both contribute inquisitiveness to their containing expressions in the same way (i.e., the contribution of *someone* to its containing

[15] Since the proposition *Jack left and Sally left* is not in $[\![\text{Jack left}]\!]^{M,g,w}$ or in $[\![\text{Sally left}]\!]^{M,g,w}$, it does not make it into the set of propositions that ALT operates on.

assertion is identical to the contribution of *who* to its question). The sentence *someone left*, has an inquisitive denotation equivalent to the corresponding Wh-question *who left?*[16] AnderBois 2012 gives the following condition on sluicing alongside e-GIVENness.[17] AnderBois defines entailment in between two expressions A and E in terms of whether the possibilities in A entail the possibilities in E (i.e., whether for any possibility in A, p, there is a possibility in E, q, such that $p \subseteq q$).[18]

(4.28) Symmetric entailment condition on sluicing:

Given a structure:



TP_E can be elided only if there is some salient antecedent CP_A such that:

a. $CP_E \models CP_A$, and

b. $CP_A \models CP_E$

Since [*someone left*] (e.g., { Sally left, Jack left } in a model with just Jack and Sally) = [*who left?*] (e.g. { Sally left, Jack left } in a model with just Jack and Sally), sluicing is correctly predicted to go through:

(4.29) a. Someone left, but I don't know who ~~left~~.

b. Jack left or Sally left, but I don't know who ~~left~~.[19]

---

[16]To achieve this, AnderBois assumes Wh-questions come with an existential presupposition. This has the effect of excluding worlds where nobody left in a context where *who left?* may be felicitously asked. This is the same sort of context where the Q's existential presupposition has been accepted into the common ground: i.e., that *someone left*, and is thus equivalent to the inquisitive contribution of the assertion that *someone left*. Presumably, a polar issue like *did someone leave?* is not a part of a given assertion's inquisitive contribution, so that we must apparently understand the inquisitive contribution of an utterance as an object which obtains only when that utterance's truth has been accepted (i.e., *who left?* is only an "issue" in the inquisitive semantic sense, once we have accepted that "someone left").

[17]It remains mysterious to me why AnderBois's equivalence condition is insufficient on its own. As far as I can tell, it does the work of Merchant's 2001 condition and more. AnderBois 2012 does not justify the move of adding his condition alongside Merchant's, so I have little to go on in attacking such a move. I will proceed as if AnderBois's condition is sufficient, at least in the context of an analytical competition about whether we should adopt Merchant's 2001 condition or AnderBois's. Unless I'm missing something very obvious.

[18]For non-inquisitive sentences with a singleton set of possibilities, this is classical (non-inquisitive) entailment.

[19]Admittedly, native speakers of English prefer *which* in (4.29b). Perhaps this is due to some pragmatic

The way in which AnderBois captures the unacceptability of sluicing with doubly negated correlates involves a formal property of inquisitive semantics, where double negation is not vacuous. A single negation has the effect of excluding certain alternatives from the set of possibilities denoted by a given sentence, yielding only a singleton possibility; double negation reverses the effect, but also yields only a singleton set of possibilities (Assuming $[\phi]$ is a non-singleton set of possibilities, $[\neg\phi]$ is the singleton set of worlds where no p in $[\phi]$ is true; $[\neg\neg\phi]$ is the singleton set of propositions that is the union of $[\phi]$).

(4.30) Negation:

$[\![\neg\phi]\!]^{M,g,w} = \text{ALT}\{\ p \subseteq W \mid \forall q \in [\![\phi]\!]^{M,g,w}[\ p \cap q = \varnothing\ ]\ \}$

(AnderBois forthcoming, S6)

Thus, doubly negated *someone left* is non-inquisitive (e.g. it is not the case that someone didn't leave), in the sense that it does not denote a non-singleton set of alternatives. Instead, it denotes the non-inquisitive classical disjunction, a singleton set consisting of the set of worlds where either Jack left, or Sally left, or both left. This is a superset of any proposition in the corresponding inquisitive meaning. Thus, (inquisitive) mutual entailment fails in (4.31), since e.g., *that Jack left* in $[\text{CP}_\text{E}]$ does not entail that *either Jack or Sally or both left* in $[\text{CP}_\text{A}]$, or vice versa.

(4.31) $[_{\text{CP}_\text{A}}$ It is not the case that someone didn't leave], but I don't know
$[_{\text{CP}_\text{E}}$ who ~~left~~].

Thus, AnderBois's theory does better than pure e-GIVENness in capturing this empirical pattern. AnderBois's theory counts as a Question under Discussion (QuD) based approach to anaphora resolution in sluicing. As such, it's empirical advantages are not tied to the inquisitive semantic framework in particular (see, e.g. Ginzburg and Sag 2000, Roberts 2010, Barros 2012 for alternative implementations). The Sluice Condition proposed herein also counts as such an approach. In Chapter 5, we will see additional evidence for adopting

effect of explicit mention of alternatives in the A clause, I am not sure. Regardless, the sluice as presented in (4.29b) is acceptable, in keeping with AnderBois's theory, despite being less preferable to the *which* alternant.

a QuD based approach, and entertain some ways in which AnderBois's empirical motivations for adopting the inquisitive semantics framework can be captured in a more standard Hamblin-Karttunen system.

Inquisitive mutual entailment, like any purely semantic theory, is still insufficient on its own. As we saw in Chapter 1, there are well known syntactic generalizations that cannot be captured under mutual entailment (inquisitive or otherwise). One such class of cases is violations of Chung's 2006 Generalization, "no new words." AnderBois adopts this condition alongside inquisitive mutual entailment, constraining the space of possible sluiced clauses (thus AnderBois's theory counts as a hybrid approach to identity). In the following section, we will discuss such challenges to purely semantic approaches in more detail.

4.3 Evidence for (some) syntactic identity

In this section, we explore some evidence in favor of (at least some degree of) syntactic isomorphism which challenges extant semantic proposals. We will see additional ways in which a purely semantic approach overgenerates, ways which seem to beg for a syntactic condition to reign in the semantic condition. The growing consensus is that a hybrid condition is needed, one that is syntactically sensitive (just) enough to handle the data that follows. Such a "limited/loosened" syntactic condition *requires* a concomitant semantic condition alongside it, to, in turn, prevent such a limited syntactic identity condition from overgenerating on its own.

As mentioned previously, a basic prediction of a purely semantic theory is that the syntactic structures and lexical content of the antecedent and E-site are, strictly speaking, irrelevant in determining whether ellipsis is licensed, so long as the semantic condition is met. At the same time, a consequence of e-GIVENness and Inquisitive mutual entailment, is that, for the most part, the syntax and lexical content of the E-site will roughly match that of the antecedent, since differences in lexical choice and constituent organization have consequences for equivalence and entailment.

This predicts that sluicing in (4.32a) is out; it is out by mutual entailment and inquisitive entailment, since calling someone a republican does not entail insulting them, or vice versa. On the other hand, (4.32b), (4.32c) are predicted to be possible, since the anaphoric relationship between the pronouns in the E-site and their correlates will ensure identity of sense, allowing mutual entailment/equivalence to go through (e.g. *did that* in (4.32c) = *call Ben a republican*).

(4.32) Adel called Ben a republican for some reason, but I don't know why [$_{\text{TP}_\text{E}}$ . . .]

a. * . . . why [$_{\text{TP}_\text{E}}$ Adel insulted Ben].

b. ✓ . . . why [$_{\text{TP}_\text{E}}$ { Adel / she } called { Ben / him } { a republican / that }].

c. ✓ . . . but I don't know why [$_{\text{TP}_\text{E}}$ { Adel / she } did { that / so }].

Thus, semantic identity predicts that, for any given antecedent/E-site pair, there is a non-empty set of candidate syntactic structures for the E-site, call it E_S, that satisfy the semantic condition.

The evidence discussed in this section tells us that the cardinality of E_S in any given case, is smaller than the purely semantic approach predicts (i.e. not all semantically equivalent structures may be elided). We are left with evidence against a purely semantic condition, and, as discussed in the preceding sections, evidence against a purely syntactic condition; the growing consensus is that both a semantic identity condition and a syntactic identity condition are needed (see especially Merchant 2005, Chung 2006, AnderBois 2010, 2011, forthcoming, Chung 2013).

Empirical evidence for syntactic identity can only be indirect, since E-sites don't offer any clues as to their exact syntactic composition. Such evidence, then, typically comes from elements which have been extracted from within the E-site (remnants); by examining their properties, we can reason about what sort of structure it could have been extracted from. There are four main generalizations, which we turn to immediately, concerning properties of remnants in sluices that argue in favor of some degree of sensitivity to syntactic

isomorphism between the E-site and its antecedent.

4.3.1 Generalization 1: No New Words

There is a sub-type of sluicing, called *sprouting*, where the remnant lacks a structural correlate in the antecedent. For instance, (4.33a) is an instance of sprouting, as the remnant *when* does not correspond to any XP in the antecedent, whereas (4.33b) is not a sprout, as *where* corresponds to *somewhere* in the antecedent.

(4.33) a. Aelbrecht left, but I don't know when.

b. Afton went somewhere, but I don't know where.

Chung 2006 notes that preposition stranding (P-stranding) is impossible in sprouting. We can tell a preposition has been stranded in a sluice, when the remnant's correlate is, itself, the object of a preposition, for instance, in (4.34), the correlate *someone* is the object of a preposition; the remnant, however, is not a prepositional phrase (PP), so the preposition must have been stranded in the E-site:

(4.34) Agustin is jealous of some student, but I don't know which student [$_{\text{TP}_\text{E}}$ ...].
which student$_\text{i}$ [$_{\text{TP}_\text{E}}$ Agustin is jealous of t_i].

In a corresponding sprout, however, the preposition must be pied piped:

(4.35) Agustin is jealous, but I don't know *(of) which student.

Chung 2006 proposes the following lexical identity constraint on E-sites to capture the pattern; (4.35) is out because the preposition *of*, in the E-site, has no correlate in the antecedent, as required by her generalization:

(4.36) *Chung's Generalization*:
Every lexical item in the numeration of the sluice that ends up (only) in the elided TP, must be identical to an item in the numeration of the antecedent CP.

Chung's generalization also correctly rules in P-stranding in examples like (4.34), since the stranded preposition has an identical correlate in the antecedent. The generalization extends beyond P-stranding. Consider the contrast in (4.37), in (4.37a) and (4.37b), the pied piped PP *by which author* originates as a modifier of *something* in the E-site, though in (4.37b), there is no correlate for this lexical item in the antecedent, in violation of (4.36).

(4.37) a. ✓ [$_{TP_A}$ She read something], but I'm not sure
by which author [$_{TP_E}$ ~~she read something t_I~~].

b. * [$_{TP_A}$ She read], but I'm not sure by which author [$_{TP_E}$ ~~she read something t_I~~].

From Chung 2006, example (34a,b)

The data motivating Chung's generalization does not follow from Merchant's 2001 theory; in (4.37), the presence or absence of the internal argument of *eat* has no consequence for mutual entailment, as is the case in the P-stranding example (4.35). Straightforwardly, Chung's generalization limits the content of E_S. If Mutual entailment were the only condition, preposition stranding would be optionally available in (4.35), as it is in (4.34).

Worth noting, is that Chung's generalization leaves room for lack of syntactic identity in Fiengo and May's 1994 sense, so long as there are no new lexical items in the E-site (i.e. the numeration of the E-site may be a proper subset of the numeration of the antecedent). This would, for instance, rule in sluices such as that in (4.38) below:[20]

(4.38) [$_{TP_E}$ Ahab ate something], but I don't know when [$_{TP_E}$ . . .].
when [$_{TP_E}$ Ahab ate]

Chung 2006 notes that her generalization alone will not suffice as an identity condition, as it lets in "crazy cases" such as in (4.39); Chung's generalization is met, as each element in the E-site matches an element in the antecedent, though sluicing is impossible:

(4.39) * Joe said something or other to Zelda, but I don't know

[20] Assuming there is one, optionally transitive *eat* in the lexicon.

what$_i$ [$_{TP_E}$ ~~Joe said t_i to Zelda or Zelda said t_i to Joe~~].

From Chung 2006, examples (41a)

Chung 2006 gives two solutions. The first is a hybrid approach, where e-GIVENness is adopted alongside Chung's generalization. e-GIVENness would straightforwardly rule out ellipsis in (4.39), as needed. The other solution suggested in Chung 2006 is a more nuanced version of syntactic identity, which promises to obviate the need for an additional semantic identity condition (Chung 2006):

> "*On the other hand, suppose the numeration of a sentence (or of some phase of a sentence) could be viewed as a highly structured collection of lexical items that must be combined deterministically, in exactly one way. Then 'crazy' cases of sluicing would not satisfy the lexico-syntactic requirement after all, because the lexical items in the elided [TP] are not combined with one another in the same way as their analogues in the antecedent CP. More generally, the lexico-syntactic requirement would guarantee that except for traces of the moved interrogative phrase, the elided [TP] would be homomorphic to the antecedent [TP].*"

This latter possibility loosens a Fiengo and May 1994-style notion of identity, so as to allow for Wh-movement in the E-site when there is no analogous movement in the antecedent. Informally, under such a view, a sluice is identical to its antecedent if it is a Wh-question version of the antecedent (e.g. *someone left = who left?*).

While this does factor out the basic issues for syntactic identity introduced by movement in the E-site, we are still left with more dramatic cases of lack of identity, repeated below. In each case, there is some word or words (to use a pretheoretic term) in the E-site which is absent in the antecedent (in bold).

(4.40) a. He told us about [$_{DP_A}$ his plans to do away with someone], but he didn't say who [$_{TP_E}$ **he** plans to do away with].

b. She remembers [$_{XP_A}$ meeting him], but she doesn't remember when [$_{TP_E}$ **she met** him].

c. [$_{XP_A}$ Swimming] is fun, if you know how [$_{TP_E}$ **to swim**].

On the surface, it is difficult to see how such cases can be brought under the umbrella of Chung's generalization, or Chung's notion of syntactic identity, though perhaps the surface is not the right place to look. We've already seen that, there is, perhaps, some systematicity to the nature of these mismatches, which could be exploited in an effort to save the syntactic identity account. Recall that there have been suggested attempts along these lines in the literature (e.g. Johnson 2001, Merchant 2005), though it remains unclear how the availability of such analyses lets us understand the availability of pseudosluicing.

Merchant 2005 suggests a view where identity is calculated not only over structural identity (i.e. constituent organization), but also featural content at LF; LF-identity in these cases would be sensitive to categorial and selectional features, though not inflectional features (which are relevant to PF instead). Under this approach, the gerund *meeting him*, for instance in (4.40b) would then be syntactically identical to the finite TP_E *she met him*;[21] morphological differences between the overt paraphrase for the E-site and its antecedent would have to be triggered by E-site external elements in each case (e.g. possibly Fin^0).

While such an approach could be fleshed out for cases like those in (4.40), even more dramatic cases of mismatch are possible which pose more serious challenges to syntactic identity. One property of simple cases of sluicing is that the remnant DP corresponds to a DP correlate in the antecedent. In such cases, it is easy to imagine a grammatical paraphrase for the E-site, namely the Wh-question version of the antecedent:

(4.41) $[_{TP_A}$ Ahab likes someone], but I don't know who$_i$ $[_{TP_E}$ Ahab t_i likes t_i].

By ignoring Wh-movement in the E-site, proposals like Merchant 2005, Chung 2006, allow us to define identity such that TP_E in (4.41), is identical to the antecedent.

However, in p-or-q sluices,[22] the remnant's correlate is "too big" for us to construct a plausible isomorphic paraphrase. AnderBois argues convincingly that disjunctions like those bracketed in (4.42) may be correlates for sluicing remnants just as indefinites like

[21] See Merchant 2005 for details of how this might proceed.

[22] From AnderBois 2011, examples (115a-c), pgs. 77-78.

someone in (4.41). The remnant, *which one*, in (4.42a), for instance, intuitively takes the VP disjunction in the antecedent as its correlate.

(4.42) a. [$_{TP_A}$ Estelle either [[walked in the park] or [took out the trash]]].
If you wait, you'll find out which (one).
Plausible paraphrase: which one she did/which one it was.

b. Either [$_{TP_A}$ [Freddie is baking a cake again] or [something is on fire]], but I can't tell which (one).
"which one it is/which one is happening/which one is the case."

c. [$_{TP_A}$ [Russ is in the back] or [Ali is working alone]],
but I can't tell which (one)
"which one it is/which one is happening/which one is the case."

There are, of course, plausible (non-isomorphic) paraphrases for such cases, as indicated. So the challenge for a syntactic identity approach lies in how to understand such paraphrases as syntactically identical to the antecedent in each case, and more challengingly, how Chung's generalization is obeyed.

We are left in a somewhat paradoxical position; the data motivating Chung's Generalization is robust. At the same time we have cases which straightforwardly require a view of the E-site that wildly violates it (as with pseudosluicing). We have already seen, however, how pseudosluices, including p-or-q pseudosluices like those in (4.42), are let in by Split Identity. Crucially, Split Identity makes no reference to the content of the E-site. We will see in Chapter 5 how the Remnant sub-condition of Split Identity accounts for the data discussed in this section.

4.3.2 Generalization 2: Fixed argument structure

As noted in Chung et al. 1995, diathesis alternations are not possible under sluicing. For the causative/inchoative alternation, sprouting of an agent with an inchoative antecedent is impossible.

(4.43) Causative/inchoative alternations

a. ✓ Someone broke the television, but I don't know who ~~broke it~~.

b. * The television broke, but I don't know who ~~broke it~~.

c. ✓ Someone melted the ice, but I don't know who ~~melted it~~.

d. * The ice melted, but I don't know who ~~melted it~~.

The generalization also applies to non-sprouts. For instance, for spray/load verbs, and dative shift, pied piping a PP that implies that the E-site hides a distinct alternant from that instantiated in the antecedent results in unacceptability, despite that the E-site appears to otherwise respect Chung's generalization:

(4.44) Spray/load alternation

a. ✓ John sprayed the wall with something, but I don't know with what ~~John sprayed the wall~~.

b. * John sprayed something on the wall, but I don't know with what ~~John sprayed the wall~~.

c. ✓ John sprayed paint on something, but I don't know on what ~~John sprayed paint~~.

d. * John sprayed something with paint, but I don't know on what ~~John sprayed paint~~.

(4.45) a. ✓ John loaded the truck with something, but I don't know with what ~~John loaded the truck~~.

b. * John loaded something onto the truck, but I don't know with what ~~John loaded the truck~~.

c. ✓ John loaded the hay onto something, but I don't know onto what ~~John loaded the hay~~.

d. * John loaded something with hay, but I don't know onto what ~~John loaded the hay~~.

(4.46) Dative shift

a. ✓ John gave someone a book, but I don't know who ~~John gave a book~~.

b. * John gave someone a book, but I don't know to whom ~~John gave a book~~.

c. ✓ John gave a book to someone, but I don't know to whom ~~John gave a book~~.

d. ✓ John gave a book to someone, but I don't know who ~~John gave a book to~~.

Voice alternations are also impossible under sluicing.[23]

(4.47) Passive antecedent

a. * Jack was mugged, but we don't know who ~~mugged Jack~~.

b. ✓ Jack was mugged, but we don't know by whom ~~Jack was mugged~~.

(4.48) Active antecedent

a. * Someone mugged Jack, but we don't know by whom ~~Jack was mugged~~.

b. ✓ Someone mugged Jack, but we don't know who ~~mugged Jack~~.

It is easy to come up with examples of this sort, the recipe is simple; find an alternation where some property of the remnant will imply an alternant in the E-site distinct from the antecedent, and the result should be unacceptability.

Many of these cases can be captured by a semantic theory, but not all. Consider (4.43b), for instance, since the inchoative antecedent does not entail that anyone in particular broke the television, e-GIVENness would not be met. Likewise, inquisitive mutual entailment would arguably not be met, assuming that the inchoative antecedent does not introduce an issue about who broke the television, correctly predicting that sluicing should be out.

Additionally, it has been noted that the entailments of each alternant in the spray/load alternation differ. For example, in (4.49), the entirety of the hay was loaded onto the wagon, whereas this is not the case in (4.49b); likewise in (4.49c), the implication is that John somehow managed to jam an entire jar with a single pencil (perhaps a very fat pencil, or a very narrow jar) (Anderson's 1971 "holistic" readings):

(4.49) a. # John loaded the hay onto the wagon, but still needed a truck for the rest.

[23]Though not under VPE. See Merchant 2013.

b. ✓ John loaded the wagon with the hay, but still needed a truck for the rest.

c. # John jammed the jar with a pencil.

d. ✓ John jammed a pencil into the jar.

Unfortunately for the semantic approach, the entailment patterns converge between alternants in many cases. For starters, even with the spray/load alternation, the entailment relations may converge depending on the particular form of the theme argument. Consider (4.49a), for instance, which entails that the entirety of the hay was loaded onto the wagon; if we switch the definite description *the hay* for a bare plural or partitive indefinite, the "holistic" reading disappears (as noted in Beavers 2008):

(4.50) ✓ John loaded { some of the hay / hay } onto the wagon, but still needed a truck for the rest.

Example (4.50) straightforwardly entails that *John loaded the wagon with some of the hay*; e-GIVENness would (incorrectly) predict sluicing to go through in such a case:

(4.51) John loaded some of the hay bales onto the wagon, but I don't know (*with) which bales.

Consider also image/impression alternations with verbs like *embroider*, dative shift, and passive/active mismatches. The verb *embroider* has two argument structures associated with it:

(4.52) a. John embroidered a peace sign on his jacket.

b. John embroidered his jacket with a peace sign.

Sluicing is out when the remnant includes a pied piped PP associated with a distinct alternant from the antecedent:

(4.53) John embroidered something on his jacket, but I don't know (*with) what.

Clearly, (4.52a) and (4.52b) are mutually entailing. If one embroiders something *with* a pattern, then one has embroidered that pattern *on* that same thing. The same can be said

for dative shift, and active/passive mismatches; if John gave Sally something, then he gave something to Sally, and vice versa; if Someone mugged John, then John was mugged by someone, and vice versa.

Merchant's recent 2013 approach to the ban on argument structure alternations under sluicing is a syntactic one. The empirical patterns discussed can clearly be marshalled in support of a syntactic identity account. Regardless of whether argument structure alternations involve a transformational relationship to some common base structure (as in e.g. Baker 1988, Larson 1988) or, on the other hand, distinct selections of valency/grammatical function-changing heads in a numeration (as in, e.g., Marantz 1993, Pylkkänen 1997); at some stage of the derivation, the antecedent and E-site have distinct syntactic content, and sluicing will be correctly predicted to be impossible.

Merchant's particular 2013 implementation derives the ban on argument structure alternations from Chung's generalization. That is, he adopts the view that grammatical function changing alternations stem from distinct elements in the numerations of the alternants. This approach has the advantage of capturing both those cases where a semantic approach can do the work (as with causative/inchoative and the spray/load alternation) as well as those where a semantic approach runs into trouble (e.g. embroidery).

To give a simple example, consider voice mismatches. Example (4.47a), for instance (repeated below), is out in Merchant's 2013 theory because the Voice^0 head in the E-site is specified [+active]; since the antecedent is passive, this head lacks an identical correlate.

(4.54) * [$_{\text{TP}_\text{A}}$ Jack$_\text{j}$ was Voice$^0_{[+\text{passive}]}$ mugged t_j], but we don't know
who$_\text{i}$ [$_{\text{TP}_\text{E}}$ ~~t_i Voice$^0_{[+\text{active}]}$ mugged Jack~~].

The challenge for semantic accounts is in deriving such cases without reference to Chung's generalization or syntactic identity. But Merchant's approach still runs into the puzzles raised in Chapter 2, especially with respect to the stronger version of Chung's 2006 generalization.

Syntactic approaches seem, so far, well suited to capture the empirical evidence discussed in this section. However, we still must face those cases of p-or-q sluices that are

so challenging for syntactic identity accounts. In such cases, it is as if argument structure isomorphy does not enter into the equation of identity at all; part of the question rests on what the argument structure of a cleft is (if clefts have an argument structure at all):

(4.55) Either something is on fire or Sally is baking a cake again, but I don't know which (one) ~~it is~~.

In (4.55), there seems to be no coherent notion of argument structure to appeal to here, so that one may conclude that clefts do not have an argument structure on their own. In support, it appears as if, at best, a cleft may inherit the argument structure of the antecedent predicate:

(4.56) a. Someone$_{\text{AGENT}}$ broke the TV, but I don't know who$_{\text{AGENT}}$ it was.

b. Jack shot someone$_{\text{THEME}}$, but I don't know who$_{\text{THEME}}$ it was.

c. Jack gave Sally something$_{\text{THEME}}$, but I don't know what$_{\text{THEME}}$ it was.

d. Someone$_{\text{EXPERIENCER}}$ is angry, but I don't know who$_{\text{EXPERIENCER}}$ it is.

A semanticized version of the ban on argument structure alternations in sluicing could take advantage of this observation in a way consistent with the pseudosluicing hypothesis, under the assumption that the cleft pronoun picks up the antecedent predicate's semantics, ensuring satisfaction of such a reformulation of the argument structure condition.

Relatedly, p-or-q cases differ from the other data considered in this section in terms of the relationship between the remnant and its correlate in the antecedent; in cases where argument structure matching is "active" (i.e. where argument structure must match between TP_A and the TP_E), the remnant corresponds to a correlate in the antecedent that stands for an event participant (i.e. a participant in the antecedent predicate's event), whereas in cases of p-or-q sluices the remnant ranges over the events themselves (taking a coordinated predicate or clause as its correlate). This observation points in the direction of some degree of semantic sensitivity in the identity condition, where the correlate/remnant relation (and the nature of the remnant) plays a central role.

Additionally, it is not the case that all argument structure alternations are out in sluicing (an observation that, to my knowledge, has not been previously made). The verb *bake* for instance shows a direct object beneficiary/oblique alternation, also possible under sluicing.

(4.57) a. ✓ He baked a cake for someone.

b. ✓ He baked someone a cake.

c. ✓ He baked someone a cake, but I can't recall for whom.

To conclude this section, argument structure effects in sluicing are mostly consistent with a syntactic identity account, though many questions remain. The challenge for a theory of identity in ellipsis licensing is to reconcile fixed argument structure effects with pseudosluicing, as well as data like that in (4.57). Insofar as extant semantic theories fail to cover all the facts, a syntactic approach holds more promise, with the proviso that something more is said to account for cases of pseudosluicing. We will see in the following chapter that the Remnant sub-condition of Split Identity proposed here (where the remnant and correlate must be semantically identical) can capture the data motivating the ban on argument structure mismatches in the same was as the data motivating Chung's Generalization.

4.3.3 Generalizations 3 and 4: Stubborn case Matching and the PSG

As discussed in Chapter 2, Merchant's 2001 case matching and PSG generalizations are often taken as evidence for syntactic isomorphism. Consider the case-matching generalization as "Generalization 3," and the PSG "Generalization 4."

(4.58) Case-matching generalization:

The sluiced Wh-phrase must bear the case that its correlate bears.

(4.59) Preposition-stranding generalization (PSG):

A language L *will allow preposition-stranding under sluicing iff* L *allows preposition stranding under regular Wh-movement.*

The standard assumption is that these generalizations follow from isomorphism, but we saw this assumption runs into trouble in many domains (e.g., the crosslinguistic distribution of P-stranding sluices, case-mismatches with ECM correlates in German, p-or-q sluices). Here, I compare Stubborn case Matching to the recent Case condition in Chung 2013.

Before proceeding, it is worth recalling that, in chapter 2, the PSG was argued to follow from Stubborn case Matching (repeated below). Since Merchant's 2001 PSG generalization, many counterexamples have been uncovered, motivating the pseudosluicing hypothesis. The conclusion in Chapter 2 was that Stubborn case Matching was needed as an independent constraint on sluices, one which was only active whenever the correlate for the remnant was a case bearing category (i.e., a DP or KP). Under the pseudosluicing hypothesis, the distribution of PSG violations follows from the distribution of pseudosluicing, as constrained by Stubborn case Matching. It stands that Stubborn case Matching is the real challenge to purely semantic accounts, with the PSG being derivable from it via the pseudosluicing hypothesis.

(4.60) Stubborn case Matching:

In sluicing, given a correlate, C, and a remnant, R, if C is a case-bearing category, R and C must have the same case morphology.

By referring to 'case' and not 'Case,' depending on one's beliefs about case morphology in languages with radically impoverished case systems (non-remnant-case languages like, e.g., English), Stubborn case Matching may be considered inactive in those languages if there are no case-bearing categories in the language. Alternatively, one could implement radical impoverishment of case features in such a way that every R/C pair would satisfy Stubborn case Matching, so that it would effectively behave the same as if it were inactive. As we saw, in remnant-case languages, where Stubborn case Matching was active, it had the effect of imposing a degree of syntactic isomorphism on the sluice. This is essentially the reverse of the isomorphism-based explanation for Merchant's 2001 case matching generalization, since isomorphism follows from the case condition instead of the other way around.

An interesting consequence of this formulation of the case condition is that in any sluice where Stubborn case Matching is satisfied, and the remnant bears a certain case, that case must be licensed on the remnant by virtue of its syntactic relationship to the elided clause. In short, the remnant's case licensor, for whatever case the remnant bears, must exist in the E-site, with concomitant consequences for identity (assuming, as is fairly standard, there is a morphosyntactic implicational relationship between Case and case).[24] This comes very close to Chung's 2013 recent hybrid proposal, where her Case condition imposes a sort of "limited syntactic identity" in the E-site, requiring exactly what our case condition does when it is active (importantly: not necessarily when it is satisfied). However, there are two important differences between our formulation of Stubborn case Matching and Chung's Case condition. Below, I give Chung's 2013 Case condition, which is intended to operate alongside an appropriate semantic condition (her approach is a hybrid proposal):

(4.61) Limited Syntactic Identity in Sluicing (The Basic Idea)

The interrogative phrase of the sluice must be integrated into a substructure of the syntax in the ellipsis site that is identical to the corresponding substructure of the antecedent clause.

Chung 2013, example (61), pg. 29

(4.62) Limited Syntactic Identity in Sluicing (specifics)

a. *Argument structure condition: If the interrogative phrase is the argument of a predicate in the ellipsis site, that predicate must have an argument structure identical to that of the corresponding predicate in the antecedent clause.*

b. Case condition: *If the interrogative phrase is a DP, it must be Case-licensed in the ellipsis site by a head identical to the corresponding head in the antecedent clause.*

Chung 2013, example (64), pg. 30

[24] One question is whether inherent case on the remnant would result in more flexibility in isomorphism than morphological exponents of structural cases such as nominative and accusative. I am not currently aware of any sluicing examples in the literature which bear on this question, either explicitly or accidentally, but perhaps I have not looked carefully enough.

Like Stubborn case Matching, Chung's 2013 limited condition also imposes ('local') isomorphism on a structure in its satisfaction.[25] I focus on Chung's Case condition here.

The first difference is that Stubborn case Matching does not make any reference to the E-site's content, whereas Chung's 2013 version does. The second is that Chung's condition makes reference to abstract Case, and not case; as we saw in Chapter 2, there is good evidence to believe the case matching requirement is "stubborn."

Let us review some of that evidence here. The relevant contrast was between the availability of a felicitous sluice in German corresponding to the English example in (4.63a). The sluice in (4.63a) entails an abstract Case mismatch, but is felicitous/acceptable, as is its overt continuation with an abstract Case mismatch between the Wh-phrase and its correlate in the antecedent (which receives accusative Case(/case) in English). On the other hand, the sluice in (4.63b), which respects Case matching as Chung's 2013 condition would require, would force us to posit a continuation like that in (4.63b), which is infelicitous.

(4.63) a. I saw [$_{TP_A}$ someone leave], but I didn't see who$_i$ ([$_{TP_E}$ t_i left]).

b. # [$_{TP_A}$ I saw someone leave], but I didn't see who$_i$ ([$_{TP_E}$ I saw t_i leave]).

In (4.63a), the antecedent for the sluice is presumably the embedded infinitival TP: [$_{TP_A}$ someone leave]. However, this assumption also requires a commitment to the prediction that (lowercase) case mismatches should be detectible in remnant-case languages like German (that is, that counterexamples to the case matching generalization of Merchant 2001 should be attested/available). As we saw in Chapter 2, this is not the case in German.

(4.64) a. * Klaus hat jemanden weglaufen sehen, aber er hat nicht gesehen,
Klaus has someone.acc leave seen, but he has not seen,
wer$_i$ ([$_{TP_E}$ t_i weggelaufen ist]).
who.nom ([$_{TP_E}$ t_i left is]).
'Klaus saw someone leave, but he didn't see who.'

[25] 'Local' in that it is only those syntactic objects with which the remnant has entered into merge relations with which must have structural twins in the antecedent.

b. # Klaus hat jemanden weglaufen sehen, aber er hat nicht gesehen,
Klaus has someone.acc leave seen, but he has not seen,
wen_i ([$_{\text{TP}_E}$ er weglaufen gesehen hat]).
who.acc ([$_{\text{TP}_E}$ he leave seen has])
'Klaus saw someone leave, but he didn't see who.'

By virtue of its reference to the content of the E-site/abstract Case, Chung's 2013 Case condition incorrectly rules out *both* (4.63a) and (4.64a), whereas Stubborn case Matching, in making reference to neither Case nor the content of the E-site, correctly rules in (4.63a) while ruling out (4.64a). Interestingly, regarding the status of (4.64b), both Stubborn case Matching and Chung's condition make similar predictions; i.e., the E-site should contain the right sub-structure to license case/Case on the remnant. However, in terms of Stubborn case Matching, this is epiphenomenal, and not to be built into the identity condition with explicit reference to the content of the E-site. We independently need the sluice to be well formed, and any E-site which did not contain such a sub-structure would result in an ungrammatical sluice clause, as the case on the remnant would not be licensed. The result is that in remnant-case languages, Chung's Case condition and Stubborn case Matching make the same predictions, though the predictions diverge for non-remnant-case languages like English.

To summarize, we are left with Stubborn case Matching, which also derives the PSG and its counterexamples, as shown in Chapter 2. Worth repeating here, is that an abstract Case matching requirement promises to rule out pseudosluicing altogether as an explanation for P-stranding in langauges like BP (recall that BP marks cleft pivots as nominative). Chung's particular implementation of Case matching also seems to rule out p-or-q sluices, since the correlate is not a Case bearing category (e.g., with VP or TP disjunction antecedents). Perhaps moreso than either Chung's Generalization and the ban on diathesis alternations, the data motivating Stubborn case Matching seem the least likely to be captured under a purely semantic approach.

4.4 A summary of identity puzzles

As we've seen, neither a purely semantic or purely syntactic approach seems sufficient to capture the empirical picture alone. There is much evidence for mismatches between the sluice and its antecedent. The evidence for mismatches is of two sorts. The most challenging to standard assumptions about isomorphism is the evidence for pseudosluicing. Less dramatic mismatches include tense/finiteness mismatches and new pronouns in the E-site, which, as noted in Johnson 2001 and Merchant 2001, may be analyzed as consistent with a strict syntactic identity approach with a more articulated syntax. At the same time, the evidence motivating Chung's Generalization and the ban on argument structure mismatches argues for some degree of sensitivity to syntax in the identity condition. Given that P-stranding can be collapsed under Stubborn case Matching, the evidence for a syntactic component can be reduced to Generalizations 1-2 (Chung's 2006 Generalization and fixed argument structure) and Stubborn case Matching.

The challenge for the unconstrained pseudosluicing hypothesis is to come up with an identity condition that allows for detectible mismatches, including pseudosluices, while capturing the data motivating Chung's Generalization and the ban on diathesis alternations. In the following chapter, I show that the Remnant sub-condition of Split Identity, repeated below, meets these desiderata:

(4.65) Split Identity.

a. The Remnant Condition:
   The remnant must have a syntactic correlate, which is a semantically identical XP in the antecedent.

b. The Sluice Condition:
   The sluiced question and the QuD made salient by the antecedent must have the same answer at any world of evaluation.

To preview how this is achieved, it is the Remnant Condition that will capture the data motivating Chung's Generalization (Generalization 1) and the ban on diathesis alternations

(Generalization 2). Since the Remnant Condition does not make reference to the content of the E-site, pseudosluicing along with other detectible mismatches will be straightforwardly allowed, provided the Sluice Condition is also met. The way in which the Remnant Condition captures data motivating Generalizations 1 and 2 is that in those cases, either a semantic difference between the remnant and its correlate can be pointed to, or the antecedent lacks a correlate altogether, both are states of affairs which violate the Remnant Condition.

Chapter 5
The Remnant Condition

The proposal I defend here, repeated below, consists of two conditions, one that pertains to the Remnant and one that pertains to the sluice as a whole.

(5.1) Split Identity.

a. The Remnant Condition:
The remnant must have a syntactic correlate, which is a semantically identical XP in the antecedent.

b. The Sluice Condition:
The sluiced question and the QuD made salient by the antecedent must have the same answer at any world of evaluation.

The syntactic component is also partially semantic. Roughly, a remnant requires a syntactic consituent in the antecedent with which it is semantically identical. This syntactic constituent in the antecedent consitutes the remnant's correlate. The relevant characterization of semantic identity is equivalence. There is no requirement that the phrasal category of the correlate be identical to the remnant's (that is, a DP remnant may take a disjunction of VPs or TPs as a correlate). This condition pertains only to the part of the ellipsis clause that survives ellipsis (the remnant), so I call it the Remnant Condition. The Remnant Condition will be shown to derive Chung's Generalization and the ban on diathesis alternations, as well as new data that has the same character as the types of evidence used to motivate Chung's Generalization and the ban on diathesis alternations, but does not fall under those generalizations. The Case Condition will remain mysterious, though I will discuss some ways in which we may see it as a sub-condition of the Remnant Condition. The

second condition is semantic in nature, pertains to the sluice CP as a whole. The relevant QuD in sluicing is that introduced by the antecedent. For TP-sized domains, we will see that this condition also seems to be required for the licensing of deaccenting, so that it is not, strictly speaking, a sluicing-specific condition, an observation that has not been made, to my knowledge (the same could be said for AnderBois's inquisitive mutual entailment condition).

5.1 New data and the remnant/correlate relation

The data in (5.2) consist of antecedents which constitute *discontinuous reciprocal* constructions (in Dimitriadis's 2008 terminology, henceforth DRCs) and pose some interesting challenges to extant semantic and syntactic proposals for the identity puzzles discussed above. In each case, the order of the arguments in the antecedent is switched in the sluice, as indicated by the plausible hypothesized continuations (call these switched argument sluices):[1]

(5.2) a. Someone was making out with Bill, but I don't know
{ who ~~Bill was making out with~~/
{*with whom / *who with } ~~Bill was making out~~.}

b. Someone met with Bill, but I don't know
{ who ~~Bill met with~~/
{*with whom / *who with } ~~Bill met~~.}

c. Someone was having a conversation with Bill, but I don't know
{ who ~~Bill was having a conversation with~~/
{ *with whom / *who with } ~~Bill was having a conversation~~.}

d. Someone was dancing with Bill, but I don't know
{ who ~~Bill was dancing with~~/

[1] Such constructions constitute a strategy for reciprocalization of the predicate by virtue of the contribution of the comitative oblique *with* PP. The resulting reciprocal is considered *discontinuous* because of the intuitive synonymy with alternants like *Bill and someone were making out*, without a comitative oblique.

{*with whom / *who with } ~~Bill was dancing~~.}

One question is why such sluices are ruled out. Importantly, each example above involves an (irreducibly) *symmetric* predicate, in the sense of Dimitradis 2008. Such predicates denote events in which the arguments are equal participants, casting serious doubt on the notion that an argument-structure-condition-based explanation will do the trick. Symmetric predicates are predicates for which the arguments may be switched, preserving truth conditions (e.g., for (5.2a), if someone was making out with Bill, then Bill was making out with someone). According to Dimitriadis 2008:

> *A predicate is irreducibly symmetric if (a) it expresses a binary relationship, but (b) its two arguments have necessarily identical participation in any event described by the predicate.* I avoid the question of how to compositionaly achieve such a meaning, as all that will be crucial for our purposes, as we will soon see, is the (safe) assumption that the semantics of comitative PPs is distinct from the semantics of DPs.[2]

As we will soon see, the examples in (5.2) fail to run afoul of any of the syntactic generalizations discussed above, precluding any account of the paradigm on those grounds. e-GIVENness and inquisitive mutual entailment also fail to rule such sluices out. Before showing this, I illustrate how the Remnant Condition rules such data out.

Following Karttunen 1977, I assume Wh-phrases are existentially quantified. It is easy to see how the Remnant Condition is satisfied in a simple case of sluicing with *who* as a remnant and *someone* as a correlate.

(5.3) Someone left, but I don't know who.

$[\![\text{someone}]\!] = [\![\text{who}]\!] =$

$\lambda P \exists x[\ \text{person}_w(x)\ \&\ P(x)\ ]$

I claim that the problem with the examples in (5.2) is that the PP remnant *with whom* has no semantically equivalent XP in the antecedent. The correlate should be, intuitively, *someone*, in subject position in e.g., (5.2a). However, PPs are standardly assumed to have

[2]See Dimitriadis 2005 for a preliminary characterization of the desiderata for a compositional account.

meanings distinct from argumental DPs. The PP in the antecedent *with Bill* is not semantically equivalent to *with whom*, since the latter has an existentially quantified DP as its prepositional object.

We need a way to talk about PP meanings in checking the Remnant Condition. Semantically, PPs can serve many functions, for instance, as NP modifiers ("a poem by William Blake," a relation between individuals) or VP modifiers (a relation between individuals and VP meanings). However, we run into a compositional issue with quantificational DPs as PP objects since they introduce a type-mismatch as they do not denote individuals. Quantifier Raising won't help, since we need to check the Remnant's meaning in isolation from the rest of the structure (i.e., as a remnant). For our purposes, it will do to abstract away from the specific semantics of any given preposition, and simply adopt the uncontroversial assumption that $[\![\text{with someone/whom}]\!] \neq [\![\text{someone}]\!]$.[3]

We will see below that the Remnant Condition also rules out violations of Chung's Generalization in the same way as it accounts for data like that in (5.2), but unlike Chung's 2006 proposal, does not refer to the content of the E-site. Since one condition is better than two, there is independent conceptual justification for abandoning Chung's Generalization and the ban on argument structure mismatches in favor of the Remnant Condition.[4] I should qualify my statement that "DPs cannot be correlates for PP remnants." Empirically, it seems to depend on the particular DP and the PP involved, consider, for instance (5.4) below, where it seems DP correlates are possible for locative and temporal PP remnants (remnants and correlates underlined). Additionally, p-or-q sluices with PP disjunctions are possible with *which* as a remnant:

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[3]The problem for checking the Remnant Condition given these assumptions comes from the need to check the meaning of the remnant *in isolation* from the rest of the structure. Here, we cannot appeal to Quantifier Raising to fix the type mismatch. In providing a more fully integrated account, we could depart from the view that DPs like *whom* and *someone* are quantificational, adopting, for instance, a choice functional approach such as that in Reinhart 1998, or assume that indefinites denote sets of Hamblin alternatives such as in Kratzer and Shimoyama 2002. Instead, I will abstract away from this compositional issue in lieu of providing a fully integrated approach.

[4]Of course, the assumption that remnants require correlates raises questions about how Sprouting proceeds. We will return to this issue below, but to foreshadow, I assume that even sprouted remnants have (implicit) correlates. This assumption, in fact, will be shown to derive the data in support of Chung's generalization.

(5.4) a. She left yesterday, but I can't remember at what time yesterday.

b. She went somewhere, but I can't remember where to, exactly.

c. Felix is either in the barn or up a tree, I don't know which.

These facts underscore the importance of the semantic relationship between remnants and correlates, which doesn't seem to care about the syntactic category so much as the meanings associated with the syntactic categories. Arguably, *yesterday* in (5.4a) has a similar semantics to the remnant *at what time yesterday*, in that both are temporal adjuncts. This is the motivation for the formulation of the Remnant Condition where it makes reference to a correlate being *some* XP in the antecedent with which the remnant is semantically isomorphic.

I show below that e-GIVENness and inquisitive mutual entailment predict sluicing to go through in the unacceptable sluices with PP remnants in (5.2), and that the data in (5.2) does not follow from any extant syntactic explanation for generalizations 1-3 (argument structure/voice mismatches, Chung's Generalization or case matching).[5]

5.1.1 The failure of the syntactic generalizations

The data in (5.2) cannot be explained away by Chung's Generalization. This is because there are no new morphemes in the E-sites in (5.2). The continuations in (5.2) are plausible continuations for the bad sluices with PP remnants in (5.2), under standard assumptions about the content of E-sites. The problem in such cases seems to have to do with material that is outside the E-site, namely, the remnant and correlate.

Relatedly, we cannot derive the pattern from the ban on argument structure mismatches. This is because the elided predicate is identical to the predicate in the antecedent. Argument order switches do not constitute argument structure alternations. This can be illustrated with non-symmetric predicates, though the resulting interpretation is somewhat odd

[5]The puzzles surrounding a proper analysis of comitative PPs in DRCs in the context of a broader theory of strategies of reciprocalization is beyond the scope of this thesis. Ultimately, we want the effect of the comitative oblique to be the contribution of an additional (equal) participant in the symmetric predicate's event structure, following Dimitradis 2008; Dimitriadis 2005.

(precisely because it does not constitute an argument structure alternation).

(5.5) a. She embroidered a peace sign onto her Jacket. (non-symmetric predicate)

b. # She embroidered her Jacket onto a peace sign.

c. Bill made out with someone. (symmetric predicate)

d. Someone made out with Bill.

Here, we see that with non-symmetric predicates, switching the order of arguments, while yielding a strange interpretation, does not constitute an argument structure alternation on its own.[6] On the other hand, switching the order of arguments with a symmetric predicate is felicitous, but does not count as an argument structure mismatch just the same.

There is a looming scarecrow worth knocking over, having to do with the intuition that one's choice of where to place each argument in a discontinuous reciprocal construction is not without interpretive consequences, at least in some cases. For instance, in *Bill met with Sally*, there is a sense available in which Bill is somehow more relevant, perhaps this word order might be chosen in a context where Bill set up the meeting, for instance. Following Dowty 1991, Dimitriadis 2008, I assume such intuitions have more to do with pragmatic Figure/Ground distinctions associated with subjecthood, and do not compromise the claim that argument order switches do not constitute argument structure alternations.[7] In support of setting such asymmetric intuitions about symmetric predicates aside, it is worth noting that depending on the particular choice of predicate, it can be more difficult to achieve an asymmetric intuition, as with e.g. *make out (with)*:

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[6]Example (5.5b) could be felicitous, for instance, if there is some piece of fabric in the shape of a peace sign, and (5.5b) asserts that she embroidered an image of her jacket onto the fabric. This has the same argument structure as (5.5a).

[7]Svenonius 2007 notes that prepositional phrases in general tend to introduce their objects as the Ground, but that *with*, in particular, seems not to do so; the object of *with*'s Figure/Ground status is, instead, entirely dependent on the main predicate the *with*-PP modifies. Consider, for instance, the well known case of *collide*, which, while it is a symmetric predicate, imposes a fixed syntactic Figure/Ground mapping, in contrast to symmetric predicates like *make out with*:

(i) a. [The car]$_{\text{Figure}}$ collided with [the lamppost]$_{\text{Ground}}$.

b. # [The lamppost]$_{\text{Ground}}$ collided with [the car]$_{\text{Figure}}$.

The example in (ib) could be felicitous, however, if the car was parked, and the lamppost was rolling down a hill (in which case it would be the Figure, and the car the Ground).

(5.6) # Bill made out with Sally for 20 minutes, though { Bill / Sally } resisted the entire time.

What this example wants to mean given the *though* clause, is that Bill assaulted Sally (or conversely, that Sally assaulted Bill), but it cannot, since *make out (with)* implies mutual consent/intention/agentivity on the part of the participants in the event.

Case Matching also runs into trouble. One might think it shows some promise, in that the correlates in (5.2) are all nominative, yet the Wh-phrase in the sluice is the object of a preposition (presumably receiving accusative in English). However, the remnant is not itself a Case bearing category, as it is always a PP in (5.2), so it seems difficult to argue that such examples are out on the basis of case matching.[8]

Given data like (5.2), one may be tempted to propose an additional syntactic generalization (let us call it Generalization 5: categorial matching), namely, where the remnant and correlate must share phrasal category (see Barros 2009, van Craenenbroeck 2009b, Sag and Nykiel 2011, Vicente 2012, Barker 2013, among others, for precedents). Such a generalization would be consistent with the observation that apparent P-stranding is possible in non-P-stranding languages, since a DP remnant in a P-stranding case, schematized in (5.7), will have a DP correlate (the object of the prepositional correlate to the stranded preposition in the E-site. The correlate is underlined in (5.7)):

(5.7) $[_{TP_A}$ S V [P <u>DP</u>]] but I don't know $[_{CP}$ DP_i ~~$[_{TP_E}$ S V [P t_i]]~~]].

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[8] Veneeta Dayal (p.c.) points out an interesting example involving case mismatch and symmetric predicates in English:

(i) Someone resembles Jack, but I don't know who(*m) ~~Jack resembles~~.

Stubborn case Matching, as stated, only requires that if the correlate is a case-bearing category, the remnant must have the same case. Since *someone* in English is syncretic for every case, one might argue that it is a non-case-bearing category, so that examples like (i) seem to counterexemplify Stubborn case Matching. However, there are several ways to defend Stubborn case Matching in the face of such data. One such way is to assume that the notion of "case bearing category" pertains to XPs which are compatible with case morphology (i.e., since DPs can, in principle bear case, they count as a case bearing category). Once this assumption is made, that the case features on *someone* and *whom* differ should be sufficient to rule examples like (i) out on the basis of Stubborn case Matching.

Another way to meet the challenge is to simply assume that even in radically case-impoverished languages like English, DPs nonetheless bear case features, just very few. Thus *someone* receives (radically) syncretic case morphology by virtue of bearing case feature α, whereas *whom* bears a superset of the case features of *someone* (e.g. $[+\alpha,+\beta, \ldots]$), in violation of Stubborn case Matching.

This is also compatible with the pseudosluicing hypothesis, since it does not make reference to the content of the E-site, just formal properties of the remnant and its correlate. Additionally, categorial matching promises to capture cases of argument structure mismatch with PP remnants. It seems that inevitably such cases involve a DP correlate for the PP remnant, so that categorial matching would rule such mismatches out:[9]

(5.8) * Sally loaded something with hay, but I don't know
onto what ~~she loaded the hay~~.

However, this is a non-starter. Specifically, we have seen that the phrasal category of the correlate need not match that of the remnant. Recall the examples from AnderBois 2011 which involved disjunctions of VPs or TPs as correlates for the remnant. These cases would seem to directly challenge Generalization 5:

(5.9) a. [[$_{TP}$ Either something is on fire], or [$_{TP}$ Sally is baking a cake]], but I don't know which { ~~it is~~ / ~~is true~~ / etc. }. (TP disjunction correlate)

b. It's so cold! Either Bill [[$_{VP}$ left the windows open] or [$_{VP}$ turned on the air conditioner]], I wonder which { ~~it is~~ / ~~is true~~ / ~~he did~~ / etc. }.
(VP disjunction correlate)

Additionally, many such approaches lump Case or case morphology in with the definition of category, which introduces its own problems, not only with respect to p-or-q sluices, where there can be no case matching since the correlate lacks case altogether, but also in non-remnant case languages where abstract Case mismatches are possible.

Such cases are troublesome for settling on a unique paraphrase for the E-site, though as we saw in Chapter 2, there is some reason to believe that the cleft paraphrase is required for TP disjunction correlates/antecedents. Regardless of the paraphrase for the E-site, however, it is intuitively the disjunction which serves as the correlate for the remnant, which naturally receives an analysis as asking about which disjunct in the correlate answers the

[9] I leave it as an exercise to the reader to check that this is the case more generally.

question. This is an intuition consistent with the observation that disjunctions and indefinites seem to share much in common, semantically and pragmatically (supported by the fact that both seem to constitute natural correlates in sluices). Independently of the pseudosluicing hypothesis, it seems any account of p-or-q sluices requires at least the suspension of Generalization 5 in just these cases, an ad-hoc move. I therefore abandon Generalization 5 as a viable generalization.[10]

5.1.2 The failure of e-GIVENness and Inquisitiveness

As for the semantic conditions, the data in (5.2) constitute a challenge to inquisitive mutual entailment. This is simply because the inquisitive denotation of the antecedent CP is equivalent to the inquisitive denotation of the sluiced CP. AnderBois's semantics for existential quantification give example (5.2b), for instance, in a model with just three individuals, Jack, Bill and Sally, an inquisitive denotation like { Jack met with Bill, Sally met with Bill }.[11] Likewise for the sluiced CP, we end up with an equivalent set of propositions, incorrectly predicting sluicing to go through.[12]

As for e-GIVENness, it seems difficult to avoid its satisfaction in the unacceptable cases in (5.2). The antecedent clearly entails the presupposition of the sluiced question in each case (e.g., for (5.2b), *if someone met with Bill* then *Bill met with someone*), though whether this intuition indicates that TP_A entails F-clo(TP_E) depends on one's assumptions about how such presuppositions are generated in questions. In AnderBois's theory, it is the antecedent CP and the CP containing TP_E that must be in an (inquisitive) mutual entailment relation. One could exploit this difference in the size of constituents which are subject to mutual entailment in the two theories in creating an argument that e-GIVENness fails with

[10] At best, Generalization 5 would follow from the independently observable close relationship between syntactic and semantic categories (e.g., semantic type to (phrasal) category correspondence). As such, distinctions in syntactic category interrupt the successful satisfaction of the Remnant Condition. Generalization 5's exceptions are built into and accounted for by the Remnant Condition.

[11] Ignoring the incoherent option, "Bill met with Bill."

[12] To AnderBois's credit, his was a hybrid approach, though he relied on Chung's Generalization (no new words) to reign in P-stranding cases under sprouting (see AnderBois 2011 for discussion), which we've already seen will not account for these facts.

PP remnants. Assume that comitative PPs are VP adverbs, so that the trace left behind by a PP remnant in the E-site contributes a variable, V, over VP adverbs (relations between individuals and VP meanings). If this much is assumed, then, as shown below, while TP_A entails TP_E, the converse is not the case, since $\exists$-clo(TP_E) is a superset of TP_A:

(5.10) TP_A = F-clo(TP_A): $\exists$x[x met with Bill]
$\exists$-clo(TP_E) = F-clo(TP_E): $\exists V_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}$[Bill met V]

However, in order to ensure failure of mutual entailment (and thus, the success of e-GIVENness in accounting for the paradigm in (5.2)), it seems we have to violate the semantic requirements of symmetric predicates like *meet*. It is incoherent to assume that V varies over non-comitative meanings. In order to avoid this, we must restrict V to just comitative meanings anyways; this is tantamount to reconstruction of the PP, ensuring mutual entailment, incorrectly predicting such cases to go through:

(5.11) TP_A = F-clo(TP_A): $\exists$x[x met with Bill]
$\exists$-clo(TP_E) = F-clo(TP_E): $\exists$x[Bill met with x]
$TP_A \models$ F-clo(TP_E)
$\exists$-clo(TP_E) $\models$ F-clo(TP_A)

5.2 The Remnant Condition and diathesis alternations

The data used to motivate the ban on argument structure is of two sorts: sprouting cases, and PP remnants for DP correlates. We first examine how the Remnant Condition handles the latter class of alternations before discussing the sprouting data:

(5.12) (non-sprouted) PP-remnants

a. * She loaded something with hay, but I don't know onto what ~~she loaded the hay~~.
(image impression/spray load alternations)

b. * She loaded something onto the truck, but I don't know what with ~~she loaded the truck~~.

c. * She embroidered something on her jacket, but I don't know what with ~~she embroidered her jacket~~.

d. * She embroidered something with a peace sign, but I don't know what on ~~she embroidered a peace sign~~.

e. * Someone mugged her, but we don't know who by ~~she was mugged~~.
(active/passive voice mismatches)

(5.13) Sprouted remnants

a. * The ice melted, but I don't know who ~~melted it~~.
(causative/inchoative alternation)

b. * She served the food, but I don't know who ~~she served the food to~~.
(dative shift)

c. * She gave the money away, but I don't know who ~~she gave the money to~~.

d. * He was mugged, but we don't know who ~~mugged him~~.
(passive/active voice mismatches)

It should be clear how one might proceed in ruling the cases in (5.12) out with the Remnant Condition, as the examples in these cases have the same character as switched argument sluices with PP remnants and DP correlates like those in (5.2). The trick is to ensure that the intuitive correlates in each case have a distinct semantics from the remnant PP.

As with comitative obliques, it is safe to assume that such PPs do in fact have a distinct semantics from DPs. As before, I abstract away from the specific semantics of each preposition involved in the relevant paradigm, and assume such PP remnants are VP modifiers (e.g., $[\![\text{onto something}]\!] \neq [\![\text{something}]\!]$). This much will rule out examples like (5.12a) by failure to satisfy the Remnant Condition. Intuitively, it is the indefinite pronoun *something* that should count as the correlate, but since its meaning is distinct from the PP remnant *onto what*, the sluice is correctly ruled out.

For sprouted remnants, I assume the Remnant Condition is also at work. By the Remnant Condition, remnants must have syntactic correlates. We must assume that sprouted remnants have syntactically represented implicit correlates (we will have to assume this is

the case even for non-argumental sprouted remnants, more on the justification for such a move soon).[13] Let us examine how the Remnant Condition may be met in an acceptable instance of a sprouted argument. Implicit correlates are represented in parentheses:

(5.14) She ate (something), but I don't know what ~~she ate~~.

There is a well known distinction in definiteness between implicit arguments.[14] Certain verbs idiosyncratically require an anaphoric reading for the implicit argument. For instance, *Bill won*, is only felicitous in a context where there is a salient contest, whereas this is not the case for *eat*. In (5.14), if the implicit argument is indefinite as indicated, then the Remnant Condition is met just as it would be with an explicit argument, as *what* and *something* are semantically identical. The Remnant Condition also captures the observation that remnants cannot take definite implicit arguments as correlates:[15]

(5.15) * Jack won (the race), but I don't know which race.

Now consider causative/inchoative mismatches like that in (5.13a). The reason, I claim, that such examples fail to satisfy the Remnant Condition is that the antecedent simply lacks a syntactic implicit agent argument altogether. The Remnant Condition is violated for a much more basic reason in these cases, namely, that there is no syntactic correlate for the remnant.

To show how the Remnant Condition covers cases like (5.13b), we must make additional assumptions about the syntax of implicit arguments. If we simply assume they are just like overt arguments, but silent, then the Remnant Condition is met:

(5.16) She served the food *(to someone), but I don't know who ~~she served it to.~~

This is simply because the fully represented implicit PP contains a valid candidate correlate for the DP remnant, namely, its object, *someone*. On the other hand, while I cannot

[13]This assumption is not novel, see e.g. Fortin 2007, Fortin 2011, Merchant 2007, Thoms 2014 for precedents.

[14]See Fillmore 1986, and Chung et al. 1995, Fortin 2011, AnderBois 2011 for the relevance of this distinction in sprouting.

[15]Modulo focussed correlates in contrastive sluicing. Of course, implicit correlates cannot, by their very nature, be focussed.

think of any compelling independent empirical evidence against a representation like that in (5.16), if we assume, instead, that implicit obliques are syntactically simplex (or implicit arguments are in general), (5.16) can be ruled out by the Remnant Condition provided we can give such a simplex implicit argument a semantics distinct from that of DPs.

This is achievable for cases like (5.13), since a simplex implicit argument would have to compose with its containing structure in the same way as its explicit alternant. Such a simplex argument, then, should have the same semantics as a PP with a meaning like ⟦to someone⟧.[16] Since ⟦to someone⟧ ≠ ⟦who⟧, sluicing is correctly ruled out by the Remnant Condition.

The problem posed by examples like these is that, despite the intuitive synonymy of the implicit and explicit versions of the PP, the implicit version only supplies a syntactic object with the meaning of a PP as a correlate. This is essentially the reverse of cases with PP remnants and DP correlates in terms of the Remnant Condition.

Merchant 2001 provides another explanation for the datum in (5.13b). He proposes that at least these argument structure mismatches may be captured by e-GIVENness, noting that the existence of a recipient argument is not entailed when it is omitted:

(5.17) She served the food, but there were no guests.
(cf. #She served the guests, but there was no food)

This suggests that there is no implicit recipient argument syntactically represented (or otherwise) in the antecedent in (5.17). If we take this as an indication that such an argument is never present when omitted, e-GIVENness will not be met in examples like (5.13b), since F-clo/∃-clo(TP_E) does entail the existence of a recipient argument. However, if we are to follow Merchant's 2001 reasoning here, we are left wondering how e-GIVENness may be met in sprouting cases where there is no argument structure mismatch, that is, when the remnant is a PP, as in (5.18):

(5.18) She served the food, but I don't know who to.

[16] In an event semantics, this would be an implicit event modifier introducing a goal argument for *serve*.

If e-GIVENness is to capture (5.18) as a possibility, then it must be the case that the implicit recipient argument is not obligatorily absent, but optionally present, so that it may be present in the antecedent in (5.18). However, if this is the case, we lose Merchant's 2001 e-GIVENness based account for sentences like (5.13b), since nothing stops the implicit argument from being optionally present in the antecedent when the remnant is a DP. On the other hand, the Remnant Condition accounts for the paradigm, and is compatible with the optionality examples like (5.17) imply.

The analysis can be extended straightforwardly to passive/active mismatches like that in (5.13d), repeated below as (5.19) with the implicit by-phrase indicated.

(5.19) * He was mugged ($\text{pro}_{\text{AGENT}}$), but I don't know who ~~mugged him~~.

On analogy with the implicit recipient argument of *serve*, the implicit *by*-phrase has a PP meaning ⟦by someone⟧ which is distinct from ⟦who⟧, so that mismatches like (5.19) are ruled out by the Remnant Condition in the same way as (5.13b). For Active/passive mismatches, the problem is in the other direction, where a passive *by*-phrase remnant has as its correlate, the DP subject in the active antecedent.

A word is in order about the predictions of the Remnant Condition regarding voice mismatches and argument structure mismatches in sluices. First, it is worth noting that the Remnant Condition alone predicts such mismatches to be possible in sluicing, provided of course that the Remnant condition is satisfied. The sluice in (5.12e), for instance, an active/passive mismatch, is predicted to go through if the preposition is stranded in the E-site, since ⟦who⟧ = ⟦someone⟧:[17]

(5.20) Someone mugged Jack, but we don't know who ~~he was mugged by~~.

Likewise, a passive/active mismatch is predicted to be possible, provided the problem posed by the an implicit correlate, as in (5.19), is avoided, which can be done by having the correlate be the explicit object in a *by*-phrase:

(5.21) He was mugged by someone, but I don't know who ~~mugged him~~.

[17]Note that in remnant-case languages, Stubborn case Matching would rule such alternations out provided a by-phrase object receives a case non-syncretic with its correlate in the language.

In fact, argument structure alternations like this are predicted to be possible in general:

(5.22) a. She served the guests, but I don't know which dishes ~~she served to the guests~~.

b. She embroidered a pattern on her jacket, but I don't know which pattern ~~she embroidered her jacket with~~.

c. She loaded one of the trucks with hay, but I don't know which truck ~~she loaded the hay onto~~.

Of course, such parses for E-sites are standardly assumed to be impossible, due to fixed diathesis effects/voice mismatches in E-sites. But the only empirical motivation for these bans is the same data that the Remnant Condition has been shown to account for. Since such data are consistent with the Remnant Condition, they cannot be used to argue against it.[18,19]

5.3 The Remnant Condition and sprouting

This much covers how the Remnant Condition derives Generalization 2 (fixed diathesis). I now proceed to show that the Remnant Condition also captures the data motivating Chung's 2006 Generalization (Generalization 1: No New Words). Chung's Generalization was primarily motivated by sprouting data. There is some overlap with the data motivating the ban on argument structure mismatches. We have, in fact, already seen how the Remnant Condition can account for some of the sprouting data motivating Chung's Generalization. For instance, in (5.16), repeated below, the preposition *to* is stranded in the E-site, though it lacks a correlate in the antecedent:

[18]As Merchant 2013 shows convincingly, voice mismatches are allowed under VP ellipsis (though Merchant's 2013 claim is that they are not allowed under sluicing; this claim motivated by the usual data). If the Remnant Condition is ultimately on the right track, we may assume voice mismatches are generally allowed under ellipsis, though the Remnant Condition clouds the issue for sluicing because of the semantics of (implicit) by-phrases and remnants.

[19]Mark Baker (p.c.) notes that there is some convergence between these results and assumptions required in defense of a dependent case theory of ergative and accusative, as defended in e.g., Baker and Vinokurova 2010, Baker 2013, Baker 2014. In Shipibo and Kurmanji, 'eat' used intransitively requires a covert argument to trigger ergative on its subject; in Sakha, there must be a covert agent to trigger accusative on the object of a passive; and in, e.g., Sakha, inchoatives must lack a covert agent, given that inchoative arguments do not receive accusative case.

(5.16) She served the food *(to someone), but I don't know who ~~she served it to~~.

There are, however, cases where there is no argument structure mismatch, yet Chung's Generalization can still be motivated:

(5.23) a. Sally is jealous *(of someone), but I don't know who ~~she's jealous of~~.

b. Jack was talking *(to someone), but I don't know who ~~he was talking to~~.

c. Sally was reading *(something), but I don't know from which bookstore ~~she was reading something~~.

d. Jack left *(in one of the cars), but I don't know which car ~~he left in~~.

Of course, it should be clear by now that the Remnant Condition can proceed in ruling such examples out on the same grounds as examples like (5.16). The Remnant Condition does not make any reference to argument structure in ruling out (5.16), so that lack of argument structure mismatches in (5.23) are unproblematic for the Remnant Condition. For instance, we can assume, just as we did with *serve*, that *jealous* in (5.23a) contributes an implicit PP correlate with a VP modifier meaning like ⟦of someone⟧. This would be distinct from ⟦who⟧, so that the Remnant Condition correctly rules such cases out. In each case, an explicit correlate fixes things by providing a syntactic DP ⟦someone⟧ which is semantically identical to ⟦who⟧.[20]

[20]Worth noting is that this view of prepositional phrases headed by *of* is not entirely innocent. Under standard assumptions, some prepositions in English are pleonastic. A suitable semantics for *of*, in *jealous of someone*, under such an assumption, is that *of* is an identity function on its complement, which passes the meaning of its complement up to the PP level. As such, the implicit *of someone* argument of *jealous* may be seen as semantically identical to a *who* remnant, so that it is not forced that such cases can be ruled out by virtue of violating the Remnant Condition as it stands. It is clear, however, that if the Remnant Condition is to be responsible, that even pleonastic prepositions cannot be seen as pleonastic in this way. There are other ways to achieve "intuitive pleonasticity," without jeopardizing the role of the Remnant Condition here. For instance, one might take "pleonastic" prepositions like *of*, to nonetheless serve an "argument introducing" function, perhaps in a Davidsonian event semantics. The meaning of the P^0, *of* in the PP *of someone* (and its corresponding implicit version), then, could be seen as, e.g. $\lambda x \lambda e$[Theme(e,x)], or somesuch. This would be the meaning of an event modifier, which would differ from the meaning of the remnant *who*, so that the Remnant Condition correctly rules such cases out. In short, our Remnant Condition requires, for any prepositions that are unstrandable under sprouting, that the corresponding implicit PP meaning be non-identical to the remnant.

The more interesting cases are in (5.23c) and (5.23d), where the remnants are non-arguments. Since sprouting is possible with non-argumental XPs in general, we have to assume, by the Remnant Condition, that even such XPs have implicit syntactic correlates. In this respect, I follow Fortin 2011 in assuming "there is no sprouting" in the sense of Chung et al. 1995, where sprouting is defined as sluicing with correlateless remnants.

Merchant 2007 considers such a move, and raises the worry, given the inventory of possible sprouted remnants for any given antecedent (infinite in cardinality for each such antecedent), that we would seem to have to posit an equally daunting ambiguity in the syntactic structures of antecedents. As Merchant puts it, "Are regular TPs bristling with unpronounced nodes corresponding to all possible kinds of implicit arguments?:"

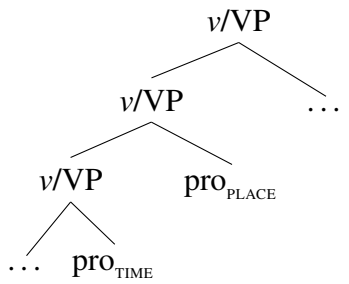
(5.24) Jack is sleeping, but I don't know
{ why / where / for how long / with whom / in which car / near which domesticated giraffe from France / . . . }

The answer I give to Merchant's question here is "yes" and "no". First, I do not think such an assumption is as troubling as his wording implies, at least for implicit arguments. For implicit adjuncts on the other hand, there is indeed a worry, which I address below.

First, this assumption has been adopted in the literature on implicit arguments (Landau 2010, Martí 2006, 2011) and sluicing (Fortin 2007, 2011, Thoms 2014), and the specifics of implementation will ultimately determine conceptual plausibility. Suppose there are nodes in TP that correspond to *classes* of adjuncts, such as temporal, locative, manner, reason (and perhaps some others). Such a claim is consistent with the intuition that, in the absence of explicit phonetic exponents in the string, a simple episodic sentence such as *Jack ate some cake*, must be understood (minimally), by virtue of its event's having taken place in the space-time-continuum, as having taken place at some time, in some manner, in some location, and perhaps for some reason. We might then posit nodes corresponding to these notions; such syntactic objects would be implicit adjuncts with an indefinite-like semantics

(remaining agnostic as to whether they adjoin at VP or *v*P):[21]

(5.25)



One may wonder whether such a move is necessary; surely it is uncalled for to build such complexity into the system to capture basic intuitions which otherwise fall under general world knowledge. Sentences must be understood in context, after all, so that when such spatio-temporal notions are left unexpressed, they are perhaps filled-in semantically or ignored depending on their relevance to the particular utterance context.

From the standpoint of theoretical parsimony, it does seem excessive to posit so many arguably unnecessary syntactic objects. However, this does not mean that they are unavailable. Whether independent evidence in support or to the contrary can be found, in the interests of pursuing the theory defended here, I shall stubbornly stick to the assumption that such nodes are, in principle, available, though we will see below that, perhaps, we only need one such node. There is, in fact, much precedent in the literature for positing the existence of various syntactic objects for which there is little to no *direct* evidence, in the form of, e.g., a morphological exponent in one or another language, for instance, but where the adoption of such an object nonetheless allows a theory to proceed (e.g., silent determiners in determinerless languages), perhaps leading to a better understanding of the phenomenon down the road. I concede that in such cases, these theoretical objects may constitute "placeholders for a better theory," but their utility in making progress in understanding should be obvious.

Importantly, there is no need to posit so many implicit nodes, so that even making reference to "classes of adjuncts" is unnecessary. An argument can be made that, when it comes

[21]For temporal adjuncts as remnants, it may be possible to analyze T^0 or perhaps aspectual heads as somehow constituting a correlate of sorts in our sense.

to implicit non-argumental XPs, there need be only one such node, contributing a variable to the semantics whose value is contextually supplied. Additionally, there is no need to posit its presence in every structure. Adjuncts, are, after all, "optional" in some sense, introducing some flexibility in terms of how different syntactic structures may nonetheless come to mean the same thing. Consider, for instance, B's response in (5.26), where "yesterday" is understood due to speaker A's question, but may nonetheless be optionally included in B's response, yeilding synonymy in context:

(5.26) A: What did you do yesterday?
B: I went to the mall (yesterday).

The particular implementation of the idea that implicit adjuncts may be syntactically represented is as follows. I make the following assumptions:

(5.27) a. There is an implicit variable, v_i, over VP-modifier meanings in VP meanings whose value may be contextually supplied.

b. There is a syntactic object pro_{Adv} in the lexicon (an implicit adjunct) optionally adjoinable to *v*P, VP, or TP (and perhaps other categories), that contributes a variable, v_i, over VP modifier meanings to the semantics.

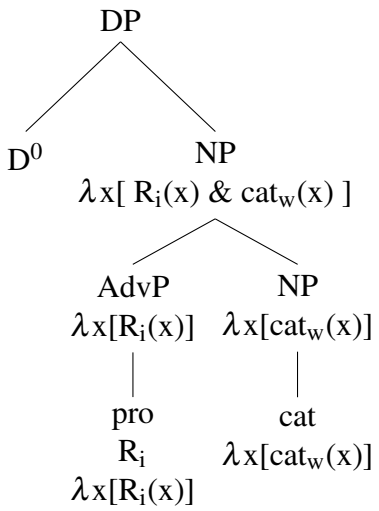
These ideas extend some proposals in the literature. In particular: Bach and Cooper 1978, Cooper 1979, Heim and Kratzer 1998, in the domain of NP meanings, to event modifiers meanings. Bach and Cooper 1978, Cooper 1979 posit an implicit property variable in the lexical entries of predicative XPs (NPs and relative clauses), $R_{i,\langle e,t\rangle}$; this is a semantic object, not syntactic. A Bach and Cooper style entry for NP 'cat' is given below:

(5.28) $[\![\text{cat}]\!] = \lambda x[\text{cat}_w(x) \,\&\, R_i(x)]$

Heim and Kratzer 1998, in a suggested treatment for E-type anaphora (see Evans 1977, Cooper 1979, Cooper 1990), propose a structure where R is syntactically represented in pronominal DPs. Here, assume both options are available. That is, a syntactic analog of

Bach and Cooper's R_i may optionally be realized, as in the structure below.[22]

(5.29) Implicit NP-modifier (inspired by Heim and Kratzer 1998)

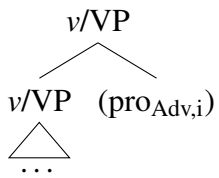


For v_i, it is present semantically in VP meanings, and optionally also syntactically in our system.[23]

The fact that the value for v may be contextually supplied lets us get away with a single, optional, syntactic implicit argument in antecedents in cases of sprouting, addressing Merchant's worry. That is, it does not matter what sort of sprouted remnant (locative PP, temporal PP, comitative PP etc.) is present in a sluice, if its meaning is salient in the discourse, it may be supplied as the value for v.

We no longer need to worry about antecedents "bristling" with implicit nodes:

(5.30)



[22]Heim and Kratzer 1998 actually give R type ⟨e,⟨e,t⟩⟩ (see Heim and Kratzer 1998, pg 291, example (2)), though the representation in (5.29) will do for our purposes.

[23]I will leave v out of our representations, however, unless relevant to the discussion at hand. Though it should be understood as "available," if needed.

Importantly, we would need some way to ensure that for a remnant like *near which domesticated giraffe from France*, pro_{Adv} (as an implicit correlate) would have a suitable meaning. In this case, the value for $\text{Pro}_{\text{Adv,i}}$ would have to be identical to ⟦near some domesticated giraffe from France⟧. This is, of course, inheritance of content, which, as Chung et al. 1995 note, is obligatory in sluicing (indeed, our Remnant Condition requires it). How is inheritance of content achieved in sprouting? This is an important question since, in sprouting, the requisite restriction for the implicit correlate is presumably unavailable until we hear the remnant.

(5.31) Jack is sleeping, but I don't know near which giraffe.

The term "inheritance of content" implies a directionality; it is the remnant that inherits the correlate's content, though in Sprouting, in the absence of an explicit correlate, our puzzle is characterizable in terms of how it is that the correlate may inherit the remnant's restriction.

First, I reject the premise that the restriction is unavailable "until we hear the remnant." That is, I argue that in "well formed sprouting," an idealization to be sure, the remnant's content is available in the prevailing discourse, and also salient. In support of this point, it is worth highlighting an important distinction between sprouting and non-sprouting (let us call non-sprouts "e(xplicit)-correlate sluices" when the distinction is relevant, henceforth, and sprouts, i(mplicit)-correlate sluices). In e-correlate sluices, it is the presence of an explicit correlate in the antecedent which renders salient a value that may serve as the domain restriction of the remnant. In such cases, the antecedent is typically entirely "at fault" for rendering such a semantic object salient. Consider (5.32), for instance, where the explicit correlate's restriction *giraffe* is picked up by the anaphor *one*, in the remnant:

(5.32) Jack is sleeping near [one of the giraffes]$_{\text{i}}$, but I don't know which one$_{\text{i}}$.
Where "which one$_{\text{i}}$" = "which one of the giraffes"

Importantly, such "mini-discourses," as that represented in (5.32), require no prevailing question under discussion about which giraffe Jack is sleeping by prior to the utterance of the antecedent; the antecedent may count as completely informative. Here, the Remnant

Condition is trivially satisfied provided the remnant is, in fact, restricted by the correlate's restriction, a possibility that would be difficult to prevent on independent grounds, given that the antecedent renders the correlate's restriction salient. Once domain restriction is achieved, the remnant and the correlate have identical meanings in satisfaction of the Remnant Condition.

On the other hand, antecedents with implicit adjunct correlates, by virtue of the implicitness of the adjunct, may not be informative in their discourses. This is different from implicit argument antecedents, which imply the argument by virtue of (at least) their lexical implications. We will return to the issue of implicit argument antecedents below. At the moment, I focus on implicit adjunct correlates, for which, no adjunct meaning in particular is implied by such an antecedent. Such an antecedent is one like that in (5.31), where nothing about the place, or time, or manner of Jack's sleeping is contributed to the discourse by the antecedent itself.

What I argue is that, in such discourses, the informational contribution of the remnant is (must be) redundant, and is therefore available to serve as the value for pro_{Adv} in the antecedent. This is simply because sluices are questions, and questions come with existential presuppositions. Presuppositions, by definition, are information that is already in the common ground of the discourse, so that, the sluice in e.g., (5.31), comes with the presupposition that there is some giraffe near which Jack is sleeping. Since this presupposed proposition cannot have come from the antecedent itself, it must have have been available prior to the utterance of the antecedent, and thus, its informational content, available to restrict the content of pro_{Adv} in the antecedent.

Intuitively, this is the only sort of discourse in which sprouts like those in (5.31) can be seen as felicitous at all. In fact, the sprout in (5.31), while I doubt anyone would call it ungrammatical, is not entirely felicitous. Presumably, this is because it is difficult to imagine a context in which there is a prior expectation that, if Jack is sleeping, it must be near some giraffe, and furthermore, that identifying which giraffe (implying the giraffes in question are distinguishable in a useful way), is a useful means of ascertaining Jack's

whereabouts.

In support of this point, it is worth noting two things about adjunct sprouting. First, the required context for the felicity of the utterance is entirely determined by the informational content of the remnant (which has direct consequences for the existential presupposition of the (sluiced) question). This is the opposite of the case for sluicing with e-correlates, which may be entirely informative (by virtue of the explicitness of the correlate and its ability to add information to the discourse). Consider a simple sprout like that in (5.33):

(5.33) A: Jack is sleeping.
B: In which cabin?

This sprout requires us to accommodate a context in which it is presupposed that if Jack is sleeping, he must be sleeping in some cabin (i.e., that there is some cabin in which he is sleeping). Such a dialogue would be entirely felicitous if uttered at a summer camp or a national park, for instance. In such a context, the question's presupposition is satisfied, so that pro_{Adv} may be appropriately restricted in the antecedent, providing a suitable correlate for the remnant, in satisfaction of the Remnant Condition. Compare this sprout to that in (5.34), for instance, which is, due to the remnant's informational content, felicitous in a different set of contexts, namely, in a context where it is likely that, if Jack is sleeping, it must be in a hotel room.

(5.34) A: Jack is sleeping.
B: In which hotel room?

The antecedent string, in each case, remains the same; it is entirely the informational content of the remnant which determines which contexts the sprout is felicitous in. It is hardly worth illustrating that this is not the case for e-correlate sluices, but perhaps to emphasize the point; antecedents with e-correlates may "set the stage," so to speak, for the sluice, in a way that antecedents with i-correlates may not:

(5.35) A: Jack is sleeping in one of the hotel rooms.
B: #In which cabin?

I call this the "ideal case" for sprouting, that is, where the sluice's existential presupposition is met in the discourse, prior to the utterance of the antecedent. There is more to say; there is a sense in common with e-correlate sluices, in which the antecedent's contribution is uninformative with respect to the sluice. For both e-correlate and i-correlate sluices, a sense is detectible where the antecedent comes across as a sort of "admission of guilt" on the part of the speaker, in not knowing the answer to the sluiced question, which seems to echo a prevailing "question under discussion" in the context of utterance. In these cases, the antecedent may be non-informative in the discourse. This sense can be brought out by prefixing the antecedent with "all I know is that . . . ."

(5.36) a. A: So, I heard that Bill is dating someone now. Is it Sally?
B: All I know is that [$_{TP_A}$ Bill is dating someone], but I don't know who ~~[$_{TP_E}$ Bill is dating]~~.
(e-correlate sluice: non-sprout)

b. A: I heard one of my cars is missing, and Bill, who always uses my cars, apparently has left!
B: All I know is that [$_{TP_A}$ Bill left], but I don't know in which car ~~[$_{TP_E}$ Bill left]~~.
(i-correlate sluice: adjunct sprout)

Importantly, unlike i-correlate sluices with implicit adjuncts, e-correlate sluices may also be informative in contributing the very proposition existentially presupposed by the sluiced question. Here, the focus is on the "uninformative meaning" that both e-correlate and i-correlate sluices may share, where their informative contribution is presupposed *prior* to the utterance of the antecedent and the sluice. This observation is consistent with the claim that, in keeping with Fortin 2007, 2011, "there is no sprouting." The relevant difference between i-correlate sluices and e-correlate sluices here is entirely consistent with the view that only e-correlate sluices may also be informative, contributing the proposition presupposed by the sluiced question, whereas i-correlate sluices (by virtue of the implicitness of the correlate), may not (and require a prevailing discourse at the time of utterance of the antecedent in

which the informational content of the remnant is already salient).

In further support of this point, it is worth noting that, depending on the ease/plausibility with which a sprout's sluiced question's existential presupposition may be accommodated, the sprout may come across as more or less felicitous out of context (the sort of context in which most sluicing/sprouting examples in the sluicing literature are presented):

(5.37) a. A: Jack is sleeping.
B: #In which tree?

b. A: Jack is sleeping.
B: #In which car?

c. A: Jack is sleeping.
B: #On which giraffe?

d. A: Jack is sleeping.
B: { In which room? / on which bed? / where? / why? / ?with whom? }

While it is perhaps too strong to unequivocally mark such examples with an infelicity hash-tag, there is a sense of "surprise" which seems to beg for accommodation in each case, at least, in the absence of a prevailing context in which the sluiced question's existential presuppositions are not only met, but come across as "sensible" (a determination arguably governed by non-linguistic principles). What the data in (5.37) show, is that, when examples of sprouting are presented out of context (as they might be in a linguistics paper on sluicing, for instance), we have access to accommodation mechanisms that allow for the accommodation of an "appropriate context" for the sprout. Such an accommodation mechanism appears to be constrained, on (presumably non-linguistic) grounds of plausibility and "easy access." Most people sleep in rooms, for instance, but not on giraffes (once again, in the absence of a special context which renders such a meaning relevant/reasonable). I have nothing to say about the constraints on such an accommodation mechanism, but the data in (5.37) seems to support the point empirically.

In further support of the above line of argumentation, it is worth pointing out that sprouting/questioning can sometimes be used to inform an addressee. This is also true

in the absence of sluicing, as shown in (5.38) by the optionality of the sluiced continuation:

(5.38) A: Guess what! Sally finished her science fair project on time!
B: Oh yeah?
And { with whose help!? [$_{\text{TP}_\text{E}}$ ...] / with whose help did she do so? }

In such a context, there is no expectation in the common ground that Sally had anyone's help in finishing her project on time. Nonetheless, speaker B, intuitively, manages to inform speaker A, that she had help. What's more surprising is that speaker B manages to do this with a presupposition, which, by definition, is something which is supposed to be accepted in the common ground by each interlocutor in the discourse... that is, B's "informative presupposition" is an oxymoron, theoretically. Worth emphasizing is that speaker B did not have to sluice here, and may, just as felicitously, have conveyed the same message with the overt question *Oh yeah? With whose help did she finish her project on time?*

What I assume is happening here is that speaker B is flouting the Gricean maxim of Manner by asking a question which is unlicensed (under widely adopted constraints on questioning in discourse). By virtue of this, speaker B contributes a conversational implicature, which is none other than the question's existential presupposition, to the discourse. In effect, instructing speaker A to accommodate the proposition that Sally could not have finished her project in time all on her own, and that there must be someone with whose help she managed to do so. This is a rhetorical device, and should not be taken as challenging the basic point made here, namely, that adjunct sprouting requires contexts in which the informational contribution of the remnant is *already available* in prior discourse, and, by virtue of such, available to restrict the content of the implicit adjunct in the antecedent (requisite in order to satisfy the Remnant Condition).

In short, what I suggest is that i-correlate sluicing, in requiring prevailing context prior to the utterance of the antecedent, automatically gives us what we need to restrict pro$_{\text{Adv}}$

with in the licensing of sprouting, by the Remnant Condition. There is an interesting difference here, worth highlighting, between the sprouting of implicit adjuncts and the sprouting of implicit arguments. Sluicing antecedents with implicit arguments differ from antecedents with implicit adjuncts in being, potentially, more like e-correlate sluices, in that, by virtue of having idiosyncratically recoverable implicit arguments, they contribute to the discourse a meaning which implies the existence of such an argument. Thus *Jack is jealous*, arguably renders salient an issue about who Jack is jealous of, in comparison to e.g., *Jack left*, which does not render salient, an issue about which car Jack left in, or for what reason Jack left (in the absence of prior context at least).

Thus, like e-correlate sluicing, there is no reason to analyze i-correlate sprouting in cases like that in (5.39), where the remnant corresponds to an implicit argument, along the same lines as i-correlate sprouting where the remnant corresponds to an implicit adjunct:

(5.39) $[_{\text{TP}_\text{A}}$ Jack is jealous], but I don't know of whom $[_{\text{TP}_\text{E}} \ldots]$.

Here, TP_A arguably raises an issue about who Jack is jealous of. In these cases, i-correlate (argumental) antecedents behave like e-correlate sluices, in that, one might argue that it is the antecedent itself that introduces the existential presupposition of the sluiced question (i.e., for (5.39), the antecedent implies that there is someone that Jack is jealous of).

What is interesting, and supports the general analysis adopted here, however, is that, when the remnant is not a simple "bare" Wh-phrase (e.g., *whom*), but a *complex* DP (e.g., *which student*), the sense in which it is the remnant that determines the appropriate context of utterance, and not the (implicit) correlate, returns. Consider (5.40), for instance:

(5.40) Jack is jealous, but I don't know of which of his camp counselors.

Such a sprout would only be felicitous in a context in which there were camp counselors, in contrast to (5.39), which may be felicitous in a variety of contexts. Here, we see that descriptively rich remnants have an effect on the sorts of discourses in which the implicit argument sprout may be uttered. In this respect, implicit argument sprouts with descriptively rich remnants behave like sprouting with adjunct implicit arguments. A straightforward explanation for this comes from the observation that the capacity of an implicit argument

to contribute new information to a discourse is constrained. That is, all the antecedent in (5.40) may manage to imply, by virtue of its phonetic impoverishment, is that jack is jealous of *someone*; in the absence of prior context, this is the limit of the informational contribution of such an antecedent. This captures why it is that such antecedents may behave just the same as e-correlate sluices when the remnant contains a "bare" Wh-phrase like *whom*. This is because in such cases, *of whom* and pro_{Adv} encode the same information, so that such sluices behave just the same as, e.g. cases like (5.41), with an explicit *of* PP:

(5.41) Jack is jealous (of someone), but I don't know of whom (exactly).

On the other hand, when we further explicitly specify the restriction of the remnant, there is no signal available in the antecedent that would render such additional information salient by virtue of the antecedent's utterance; here, implicit argument sprouting is forced to behave just as implicit adjunct sprouting; that is, there must be prior discourse, by virtue of the sluiced question's existential presupposition and licensing conditions. This is why (5.40) behaves more like an implicit adjunct sprout pragmatically, than e.g., (5.39).

To summarize, if the above observations/arguments are on the right track, then, there is no problem in assuming that, even in sprouting, there is an implicit correlate XP which may receive the same restriction as the remnant does (explicitly or implicitly), in straightforward satisfaction of the Remnant Condition. In what follows, I will presuppose as much. The basic points made above can be summarized as below:

(5.42) a. Explicit correlates:
May introduce the remnant's restriction.
Prior discourse may do so as well.

b. Implicit adjunct correlates:
May not introduce the remnant's restriction.
Prior discourse must do so.

c. Implicit argument correlates:
May introduce, to a limited extent, the remnant's restriction (i.e. licensing "who"/"what" remnants).

If the remnant is complex "e.g. which/what NP," prior discourse is responsible.

In each case where prior discourse may be appealed to, or where the correlate may, itself, introduce the remnant's restriction, the Remnant Condition will be met. In the former case, because prior discourse provides the value for the correlate's restriction; in the latter case because the remnant may, on general principles, inherit the correlate's restriction. Deviations from this pattern imply accommodation of an appropriate discourse, a process that is subject to various non-linguistic factors, having more to do with the plausibility of e.g., contexts involving sleeping on giraffes vs. sleeping in bedrooms and such.

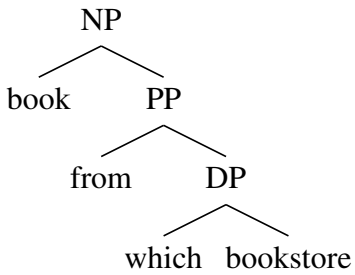
With this much in hand, we may now examine how the Remnant Condition accounts for data like that in (5.23c), (5.23d), repeated below:

(5.43) (5.23c) Sally was reading *(something), but I don't know from which bookstore ~~she was reading something~~.

(5.23d) Jack left *(in one of the cars), but I don't know which car ~~he left in~~.

Let's start with (5.23c). Here, we have an implicit theme argument, and the remnant is a modifier. Syntactically, it is safe to assume such an implicit theme argument is of the category DP, since that would satisfy *read*'s syntactic selectional requirements. By the Remnant Condition, a correlate for the remnant must be a syntactic XP with an identical semantics. To motivate the assumption that the remnant in (5.23c) lacks such a correlate in the antecedent, first note that the remnant *from*-phrase is reasonably analyzed as an NP modifier contained in DP:

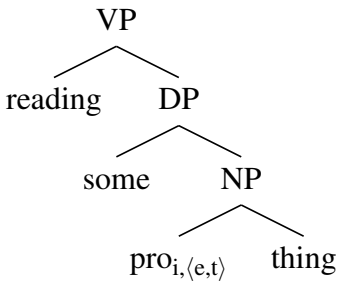
(5.44)



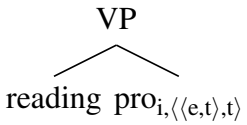
DPs and NP modifiers are of distinct semantic types, and would thus have distinct meanings. The remnant in (5.23c), being a property itself, would fail to find a suitable correlate in the antecedent since the implicit DP has the same denotation as an existentially quantified DP (i.e., ⟦something⟧).

I adopt the structures for the antecedent VPs in (5.23c) below, with/without an explicit argument, respectively. I adopt our previous assumptions about implicit NP modifiers, in keeping with e.g., Heim and Kratzer 1998, Bach and Cooper 1978. In short, syntactic NPs may come with an implicit NP modifier whose value may be contextually supplied.

(5.45) a.



b.



To ensure that the Remnant Condition is met in (5.45a) with an explicit argument, we need the implicit modifier in (5.45a) to have the same semantics to that of the remnant. ⟦from some/which bookstore⟧ is a property of individuals. I assume the remnant's meaning is salient enough in such contexts to render it available as a value for R_i in $pro_{i,\langle e,t\rangle}$, given the above discussion re: i-correlate sprouting with implicit adjunct correlates, so that $[\![pro_{i,\langle e,t\rangle}]\!]$ is also a property of individuals. The Remnant Condition will be met, correctly predicting such examples to go through.

The Remnant Condition also rules out sprouts like that in (5.23c):

(5.46) * Sally was reading (pro), but I don't know from which bookstore.

Here, I assume the implicit correlate has the semantics of an indefinite. This much will allow us to capture the possibility of sluices like that in (5.47):

(5.47) Sally was reading (pro), but I don't know what.

Assuming $[\![\text{pro}]\!] = [\![\text{something}]\!]$, we end up with the same meaning as $[\![\text{what}]\!]$.

Having accounted for examples like (5.23c), we now move onto examples like (5.23d), repeated below, which exemplify the ban on P-stranding in sprouting:[24]

(5.23d) Jack left *(in one of the cars), but I don't know which car ~~he left in~~.

It is plausible to analyze the implicit adjunct here as either a manner or locative adverb. The choice will not matter, however, assuming its meaning is that of a VP modifier. This will differ from the meaning of the remnant: an existentially quantified DP. Thus, the above example is ruled out. Similar illustrations are available for any other case of P-stranding in sprouting with an implicit adjunct correlate whose meaning corresponds to an explicit adjunct PP, under the assumption that PP meanings are (at least in the relevant cases) fundamentally of a different character than the meanings of their object DPs.

To summarize, the Remnant Condition has the advantage of capturing the data motivating Chung's Generalization as well as the ban on argument structure mismatches, and also captures argument-order-switches with symmetric predicates (something which follows neither from Chung's Generalization nor fixed diathesis).

An additional desirable empirical result of the Remnant Condition, is that it straightforwardly captures "Inheritance of Content" effects, first noted in Chung et al. 1995, where the remnant's restriction must match that of its correlate. For instance, in (5.48a): the sluice is necessarily interpreted as a question about which *students* left the party early, which follows if the remnant *who*, is necessarily implicitly restricted by the explicit restriction of its correlate *students* in the antecedent. This intuition dissapates in the absence of sluicing, as

[24]Such cases are not terrible in a very colloquial register. I have no explanation for this observation, but assume that perhaps in such cases we are not really dealing with sluicing, per se, but scripted bare argument utterances in the sense of Merchant 2004, Merchant 2010, which seem to be easiest with D-linked *which* remnants.

is detectible in (5.48b), where Jack need not know that it was students who left the party, and may be wondering who left the party at all (perhaps it was some professors).

(5.48) a. Some students left the party early, but Jack didn't see who ~~left the party early~~.

b. Some students left the party early, but Jack didn't see who left the party early.

It is only under the reading where *who* is restricted by the correlate's restriction that both the remnant and the correlate will have identical semantics. A main difference between our characterization of inheritance of content under the Remnant Condition and that of Chung et al.'s 1995 characterization is that inheritance of content (domain restriction) is not unidirectional in our treatment. In their proposal, the remnant quite literally takes a copy of the correlate's restriction as its own (see Chung et al. 1995 for details of implementation). In our proposal, on the other hand, the Remnant Condition just requires semantic equivalence between the remnant and correlate, however this is achieved (whether anaphorically through domain restriction of the correlate or the remnant, or by virtue of them having explicit identical NP restrictions). In the next chapter, we discuss the Sluice Condition, and see that it also has consequences for inheritance of content, following observations in Barros 2013.

Chapter 6
The Sluice Condition

The Remnant Condition only makes reference to the content of the Remnant and its correlate. We need some way to constrain the content of E-sites of course, in order to prevent sluices like that in (6.1) from going through:

(6.1) * Someone left, but I don't know who ~~sang~~.

The Sluice Condition, repeated below, counts as a QuD-based approach, such as those in Ginzburg and Sag 2000, AnderBois 2011. We've already seen some of the advantages of a QuD based approach over e-GIVENness in Chapter 4, we will review these motivations along with others below.

(6.2) a. The Remnant Condition:
The remnant must have a syntactic correlate, which is a semantically identical XP in the antecedent.

b. The Sluice Condition:
The sluiced question and the QuD made salient by the antecedent must have the same answer at any world of evaluation.

6.1 Motivations for a QuD-based approach

In Chapter 4, we saw there are empirical motivations for abandoning e-GIVENness in favor of a QuD-based approach for a semantic condition on sluicing. Specifically, as noted in AnderBois 2011, the antecedent lacked an inquisitive denotation when the correlate scoped under double negation or was contained in an appositive. Neither scenario was predicted to block sluicing under e-GIVENness, but was predicted to block sluicing under

inquisitive mutual entailment. Such approaches establish an anaphoric connection between the sluice's meaning and the QuD at the time of utterance (the inquisitive meaning of the antecedent in AnderBois 2011). Here, we provide new empirical arguments in support of AnderBois's basic claim that sluices must be analyzed as anaphoric to QuDs, supporting the abandonment of e-GIVENness in favor of QuD-based approaches.

Under AnderBois's inquisitive approach, it is not entirely clear why it is that sluices with doubly negated antecedents should be ungrammatical, since, in principle, nothing should stop the correlate from taking wide-scope over double negation. Given AnderBois's semantics, such a state of affairs should straightforwardly yield an inquisitive meaning for the antecedents. For instance, for "Jack didn't not see someone", this should be a set of propositions varying with respect to choices of individuals Jack didn't not see (i.e., individuals Jack saw); a corresponding sluice "but I don't know who ~~Jack didn't not see~~" may receive the same semantics. There must, then, be an independent constraint on the scope of correlates in doubly negated antecedents, such that they must take narrow scope under double negation in order to capture AnderBois's reported judgements. I do not endeavor to derive the ban on doubly negated antecedents in sluicing here, instead simply assuming that an antecedent's ability to introduce a QuD that a sluice may be anaphoric to is subject to such a constraint; namely, that only antecedents with wide-scope correlates may antecede sluices, and that doubly negated antecedents prevent correlates from taking wide scope. This is especially mysterious given the widely known exceptional scope-taking properties of indefinites (and will remain mysterious here).[1] It is important to recall, however, that AnderBois's approach still enjoys an advantage over e-GIVENness, in that e-GIVENness predicts sluicing to go through regardless of the scope of the correlate, as illustrated in chapter 4.[2]

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[1]Scott AnderBois (p.c.) acknowledges the puzzle, but considers it more of an empirical observation, noting that many authors in the philosophical and semantic literature use such locutions to force narrow scope readings for (non-NPI) indefinites (e.g. "it is not the case that Jack didn't see someone").

[2]Collins et al. 2014 report experimental results where participants rated sluices with doubly negated antecedents poorly, and importantly, just as poorly as those same examples without sluices, so that AnderBois's reported judgements with double negation may not bear on sluicing at all, but instead have to do with the oddness of double negation.

The evidence from appositives in favor of a QuD is more compelling, since appositives are standardly assumed not to encode at-issue content (Potts 2003, Koev 2013). Thus, the reason examples like (6.3) are out is simply because the antecedent does not render a QuD like *Who did John kill in cold blood?* salient.

(6.3) * Joe, who once killed a man in cold blood, doesn't even remember who ~~he killed in cold blood~~.

From AnderBois forthcoming, example (53)

The way in which this is achieved in AnderBois's implementation is via a COMMA operator, which renders the appositive's content non-inquisitive, ensuring inquisitive mutual entailment with a sluice will not obtain. However, Collins et al. 2014 provide much evidence that many of AnderBois's examples, such as that in (6.3), can be ruled out by appeal to Dayal and Schwarzschild's 2010 Antecedent-Correlate Harmony generalization (ACH). In (6.3), for instance, the correlate has a contentful NP complement *man*, whereas the sluice lacks such an NP in the remnant. Indeed, the sluice is improved with *which man* as a remnant:

(6.4) Joe, who once killed a man in cold blood, doesn't even remember which man.

(6.5) Antecedent-Correlate Harmony (ACH):

The remnant and correlate must agree on the presence/absence of a contentful head NP.

The conclusion in Collins et al. 2014 is that AnderBois's basic claim, that sluicing is anaphoric to QuDs, is correct, though AnderBois's empirical claim is too strong. The sensitivity to ACH, they claim, follows from a distinction in the informativity of *which* remnants, which in general fare better than simplex Wh-phrases like *who* or *what*. Remnants with contentful head NPs presumably aid in the recovery of a salient QuD that may serve as the antecedent for the sluice. Another factor Collins et al point to in ameliorating sluices with appositive-bound antecedents is the degree to which the appositive's content engages with prior discourse.

Collins et al. 2014 support this claim experimentally. The examples below illustrate the relevant distinction; in (6.6a), the appositive engages with prior context, but not in (6.6b). They report that examples like (6.6a) were rated significantly more acceptable than examples like (6.6b).[3]

(6.6) a. Context: My relatives have had occasional brushes with fame.
Target: My cousin Joni, who spent the night with a Beatle, can't even remember which Beatle (she spent the night with).

b. Context: My relatives all enjoy live music to some extent.
Target: My cousin Joni, who spent the night with a Beatle, can't even remember which Beatle (she spent the night with).

Koev 2013 notes that the position of an appositive in the string seems to matter for whether its content counts as at-issue. Only at-issue content may be directly challenged in a response. In (6.7), a non-final appositive may not be challenged, whereas in (6.8), a final-appositive may:

(6.7) a. Edna, who is a fearless leader, started the descent.

b. # No, she isn't. (She is a coward.)

c. No, she didn't. (Someone else did.)
Koev 2013, pg. 18 example (10)

(6.8) a. A: Jack invited Edna, who is a fearless leader.

b. B: No, she isn't. (She is a coward.)

c. B: No, he didn't. (Jack invited someone else.)
Koev 2013, pg. 18 example (12)

As expected under a QuD-based approach, sluicing is much improved with string-final appositives.

[3] Wilcoxon rank-sum test, $\alpha = 0.99$, $p = 0.01$.

(6.9) Yesterday, Jack met Bill, who had done time for shooting a famous politician, but I don't know who.

Interestingly, this example is also an ACH violation, in that the correlate *a famous politician*, has a contentful NP, but not the remnant, *who*. Collins et al 2014 claim, contra Barros 2013, Dayal and Schwarzschild 2010, that ACH violations are unacceptable across the board. Barros 2013, Dayal and Schwarzschild 2010 note that ACH violations are acceptable, in general, with *who* remnants, but not so much with *what* remnants.

(6.10) a. Jack met with a (famous) phonologist, but I don't know who.

b. * Jack ate a (delicious) donut, but I don't know what.

The datum in (6.9), however, is clearly more acceptable than, e.g., AnderBois's (6.3), more in keeping with (6.10a) than (6.10b). The relevant generalization seems to be that when the antecedent for the sluice is at issue, Barros 2013 and Dayal and Schwarzschild 2010 are correct; animate remnants more easily circumvent ACH than inanimate remnants, but when the antecedent is not at-issue, ACH becomes more relevant in resolving the sluice (pace Collins et al 2014).

There are also other ways to render content not-at-issue besides appositives. Clauses embedded in restrictive relative clauses under the scope of definiteness, for instance, seem to make for especially bad antecedents.

(6.11) * The man who shot someone was arrested, but I don't know who ~~he shot~~.
(cf. Jack shot someone, but I don't know who)

It is worth noting, given examples like (6.11), that the role of ACH is not clear with respect to at-issueness, given that (6.11) and (6.12) both respect ACH, but only (6.12) is acceptable (in keeping with results in Collins et al 2014):

(6.12) The man who shot a policeman was arrested, but I don't know which policeman.
(cf. Jack shot a policeman, but I don't know which policeman)

I assume that AnderBois's basic claim is correct. That is, antecedents which are part of the main assertion of a sentence are better than those which are not. While the data is not well-behaved in this regard, given contrasts like those in (6.11-6.12), and results in Collins et al. 2014, a QuD based approach fares better than e-GIVENness in that e-GIVENness alone fails to predict there should be any distinctions along these lines at all.

Barros 2013 brings additional evidence in favor of a QuD-based approach for the semantic identity condition in sluicing. Barros 2013 starts from the observation in Dayal and Schwarzschild 2010 that sluices like that in (6.13) are impossible, which is captured under the ACH.

(6.13) a. * Sally ate a donut for lunch, but Jack doesn't know what ~~she ate~~.

b. * Chris broke a night stand, but Jack doesn't know what ~~he broke~~.

c. * Zak brought an umbrella, but Chris doens't know what ~~he brought~~.

Since *what* lacks a contentful head NP, but its correlate *a donut* does not, (6.13a) is out by the ACH. Barros 2013 (pace Dayal and Schwarzschild 2010) argues that examples like (6.13a) run afoul of Barker's 2013 "Answer Ban" Generalization, where the antecedent for a sluice cannot be an answer (partial or complete) to the sluiced question.

Barros 2013 considers nouns like *donut*, *night stand*, and *umbrella*, "basic level" nouns (Brown 1958, Cruse 1977, Rosch et al. 1976, Rosch 1978). Basic Level nouns are cognitively privileged in comparison to non-basic level nouns like *food*, in that in most utterance contexts, a basic level head noun will be chosen to refer to some object over a less or more specific alternative (e.g. "he saw a cat" (basic level) vs. "mammal" or "Maine Coon" (non-basic level)). The relevant notion of "level" here refers to a taxonomic hierarchy with different levels on the hierarchy corresponding to relative "specificity" of a noun (non-basic level *food* is less specific than basic level *donut*). The rough definition of basic level nouns in the psychological literature is that they seem to denote objects at a level of specificity relevant for most conversational purposes. Less specific nouns (Non-basic level) like *food* can be correlates for *what*, unlike *donut*:[4]

[4]See Heller and Wolter 2008 for a discussion of the relevance of Basic Level nouns in the analysis of

(6.14) Jack bought some food, but I don't know what ~~he bought~~.
(i.e., what kind of food)

Barros 2013 shows that antecedents with basic level correlates count as answers to sluiced *what* questions. For instance, the antecedent in (6.13a) counts as an answer to the sluiced question *what she ate*. Importantly, in Barros's 2013 approach, the relevant notion of answerhood pertains to the sluiced question's CP, so that it does not matter that the sluiced question in (6.13a) is indirect. As Barros contends, whether a given assertion counts as an answer to a given question (indirect or direct) can be ascertained intuitively by checking a discourse where the sluiced question is asked directly; if such a question can be felicitously asked directly after the antecedent has been asserted, or embedded under "but I don't know," by the person who utters the assertion, then the antecedent does not count as an answer to the sluiced question (and sluicing should be able to go through). On the other hand, if the question cannot be felicitously asked in response to the antecedent assertion, or embedded under "but I don't know," the antecedent must (at least partially) answer the question. This follows from standard assumptions about the felicity conditions on asking questions in discourses. That is, in order to ask a question in a given discourse, the asker must not know an answer to the asked question, and must believe the addressee has some answer to the question (see also Romero 1998). In short, uttering an answer to Q renders Q un-askable. As (6.15) shows, given the antecedent in (6.13a), the sluiced question is unaskable:

(6.15) A: Sally ate a donut for lunch.
B: #What did Sally eat for lunch?
#Sally ate a donut for lunch, but I don't know what she ate for lunch.

Dayal and Schwarzschild 2010 note that *which donut* is a possible remnant given the antecedent in (6.13a). As Barros correctly predicts, the answerhood test above goes through accordingly:

Wh-ever free relatives.

(6.16) a. Sally ate a donut for lunch, but Jack doesn't know which donut.

b. A: Sally ate a donut for lunch.

B: Which donut did she eat for lunch?

Sally ate a donut for lunch, but I don't know which donut she ate for lunch.

c. Sally bought some food/something for lunch, but Jack doesn't know what.

d. A: Sally bought some food/something for lunch.

B: What did she buy?

Sally bought some food/something for lunch, but I don't know what she bought.

Thus, *Sally ate a donut for lunch* does not count as an answer to the sluice *which donut she ate for lunch*, nor the direct Q *which donut did she eat for lunch?* This much is intuitively correct. The resulting generalization is that sluicing antecedents cannot be answers to the sluiced question, noted independently in Barker 2013, where the generalization is dubbed "the Answer Ban."

As Barros 2013 shows, Barker's Answer Ban follows straightforwardly from Ander-Bois's 2011 inquisitive mutual entailment proposal, and, by extension, from any QuD-based approach. The point can be made independently of the inquisitive semantics framework. QuD's are salient (possibly implicit) questions which structure the flow of information-exchange in discourses, following Roberts 1996 et seq. In order for a question, Q, to be salient in this way in a discourse, D, it must be askable in D, and therefore, its answer not known. A prevailing QuD is a question that is accepted as "asked" in D by the interlocutors. As such, the felicity conditions on asking are expected to apply to (possibly implicit) QuDs just as much as they are expected to apply to explicit direct questions (i.e., they must not be answered questions in D).

If a sluiced Q requires a semantically identical salient QuD, it follows that an antecedent for the sluiced Q in D which answers some imaginable QuD, Q', renders Q' "un-askable" in D, as such, preventing Q' from being a QuD in D. In other words, asserting that "Sally ate a donut" does not raise the issue it addresses "what did Sally eat?" Likewise, "Sally met

Bill" does not raise an issue as to "who Sally met," and so on. For QuD/sluice equivalence approaches, such antecedents block sluicing when the sluiced Q is semantically identical to a Q' the antecedent answers, since in such a case the sluiced Q would fail to find an identical QuD in D.

The same reasoning applies to our Sluice Condition, which requires a salient QuD that seeks the same answer as the sluice. It follows that if the antecedent is an answer to the sluice, then there can be no such QuD and the Sluice Condition will correctly rule such cases out. Since the antecedent in (6.13a) counts as answer to the sluiced question, *What did Sally eat for lunch?*, the antecedent prevents such a QuD from prevailing in subsequent discourse. Therefore, it does not make such a question salient, and the Sluice Condition is not met.[5]

One might wonder whether ACH cannot be derived by an appeal to the Remnant Condition. On the surface, it certainly seems as if ⟦a donut⟧ and ⟦what⟧ should be semantically distinct. However, nothing in principle blocks inheritance of content/implicit domain restriction of ⟦what⟧ by the correlate's restriction in, e.g., (6.13a), so that the Remnant Condition should be met, supporting a QuD-based explanation for the Answer Ban and ACH as above.

Of course, this raises an interesting question; why is it that domain restriction does not render the antecedent a non-answer to the sluiced question? And furthermore, why is it that domain restriction of *what* to donuts in (6.13a) does not yield a question meaning equivalent to that in (6.16a)? In comparison, note that ACH violations are available with *who* (as noted in Dayal and Schwarzschild 2010), provided inheritance of content obtains:[6]

(6.17) Jack met a phonologist, but Sally doesn't know who ~~he met~~.
(i.e., Sally doesn't know which phonologist he met)

Inheritance of content in (6.17) gives an interpretation for the sluiced question where it is

[5]See Barros 2013 for an elucidation of similar reasoning in the inquisitive semantics framework.

[6]The presluice for (6.17) is ambiguous between the restricted reading and the unrestricted reading, where Sally has no idea at all about who Jack met.

paraphraseable as a *which phonologist* question. Under inheritance of content, then, since the antecedent does not address the question of *which phonologist* Jack met, the Answer Ban is respected. As such, the antecedent is free to render the QuD *which phonologist did Jack meet?* salient, so that sluicing should be able to go through under any QuD-based approach. Why isn't this possible in (6.13a) however? That is, why isn't the sluiced *what* question paraphraseable as a *which donut* question?

Barros 2013 provides an account in terms of an ambiguity in the head noun of the correlate, and Heim's 1987 semantics for *what*. Heim 1987 proposes that *what* quantifies over entities in the domain of kinds. Below is Barros's 2013 meaning for *what* (superscript 'k' indicates a variable over kind-level entities).

(6.18) $\lambda Q \exists x^{k}[\text{non-human}_{w}(x^{k}) \,\&\, Q(x^{k})]$

For kind-level arguments with object-level predicates, Barros adopts Chierchia's 1998 derived kind predication (DKP), which involves type-shifting the kind into a predicate of its instantiations (Chierchia's 1998 PRED type shift: $\cup$), and introduces an existentially quantified object level variable (indicated via a superscript 'o').

(6.19) Derived Kind Predication (DKP): If P applies to objects, and x^{k} denotes a kind:
$P(x^{k}) = \exists y^{o}[^{\cup}x^{k}(y^{o}) \,\&\, P(y^{o})]$

Following Krifka et al. 1995, Dayal 2004, Barros takes N^{0}'s to be ambiguous between a property-of-kinds and a property-of-individuals reading. The extension of the property of kinds reading for N^{0}s like *donut* is a singleton set with just the kind { $donut^{k}$ }, whereas its extension under the property of individuals reading is a set of object-level individual donuts { $donut^{o}_{1}$, $donut^{o}_{2}$, ... }. In order to meet *what*'s sortal restrictions, only the correlate's property-of-kinds denotation may be inherited. The resulting question meaning, after inheritance of content, is a singleton set, containing just the proposition that Sally ate a donut:

(6.20) $\lambda p \exists x^{k}[\text{donut}_{w}(x^{k}) \,\&\, p = \lambda w \exists y^{o}[^{\cup}x^{k}(y^{o}) \,\&\, \text{ate}_{w}(\text{Sally},y^{o})]]$
{ $\lambda w \exists y^{o}[^{\cup}\text{donut}^{k}_{w}(y^{o}) \,\&\, \text{ate}_{w}(\text{Sally},y^{o})]$ }

Of course, since the antecedent entails the single possible answer in the question's meaning in such cases, the Answer Ban is violated, with the result that once the antecedent is accepted as true by the interlocutors, *what did Sally eat?* can no longer be a QuD in the discourse. This also captures the intuition that the antecedent counts as an answer to a direct-question version of the sluice, as shown in (6.15). Such a sluice would then run afoul of any QuD-based approach, since there simply is no QuD antecedent for the sluice available. This much explains why it is that inheritance of content does not help examples like (6.13a).

To reiterate, examples like (6.13a) help us tease the effect of the Remnant Condition apart from the Sluice Condition. The Remnant Condition is met under inheritance of content in (6.13a), so that we cannot appeal to the Remnant Condition in ruling such cases out.

(6.21) $[\![\text{a donut}]\!] = [\![\text{what}]\!] =$
$\lambda Q \exists x^{k}[\ \text{donut}_{w}(x^{k}) \ \&\ Q(x^{k})]$

For acceptable violations of ACH like that in (6.17), both the Remnant Condition and the Sluice Condition are met. Unlike *what*, which quantifies over entities in the kinds domain, *who* quantifies over individual level entities (persons). Inheritance of content in (6.17), then, would avoid the trouble with examples like (6.13a), since a non-singleton property of individuals would be inherited, resulting in a non-singleton question meaning. Since the antecedent in (6.17) does not entail any answer in the resulting question, the Answer Ban would be respected, and the antecedent would be free to render a relevant QuD salient.

(6.22) $[\![\text{a phonologist}]\!] = [\![\text{who}]\!] = \lambda Q \exists x^{o}[\ \text{phonologist}_{w}(x^{o}) \ \&\ Q(x^{o})]$
$[\![\text{who he met.}]\!] = \lambda p \exists x^{o}[\text{phonologist}_{w}(x^{o}) \ \&\ p = \lambda w[\text{met}_{w}(\text{he},x^{o})]\ ]$
$\{\ \lambda w[\text{met}_{w}(\text{he},\text{phonologist Jack})], \lambda w[\text{met}_{w}(\text{he, phonologist Chris})], \ldots\ \}$

Importantly, e-GIVENness does not distinguish between cases like (6.13a) and (6.17), so that sluicing is predicted to go through in both cases.

(6.23) a. Sally ate a donut, but Jack doesn't know what (donut) ~~she ate~~. TP_A = F-clo(TP_A) =

$\exists x^k[\ donut_w(x^k)\ \&\ \exists y^o[^{\cup}x^k(y^o)\ \&\ eat_w(Sally,y^o)\ ]\ ]$

$\exists$-clo(TP_E) = F-clo(TP_E) =

$\exists x^k[\ donut_w(x^k)\ \&\ \exists y^o[^{\cup}x^k(y^o)\ \&\ eat_w(Sally,y^o)\ ]\ ]$

$TP_A \models$ F-clo(TP_E)

$\exists$-clo(TP_E) $\models$ F-clo(TP_A)

b. Jack met a phonologist, but Sally doesn't know who (phonologist) ~~he met~~.

TP_A = F-clo(TP_A) = $\exists x^o[\ phonologist_w(x^o)\ \&\ meet_w(Jack,x^o)\ ]$

$\exists$-clo(TP_E) = F-clo(TP_E) = $\exists x^o[\ phonologist_w(x^o)\ \&\ meet_w(Jack,x^o)\ ]$

$TP_A \models$ F-clo(TP_E)

$\exists$-clo(TP_E) $\models$ F-clo(TP_A)

To summarize, there is much in favor of a QuD based approach. AnderBois 2011 notes that sluicing out of appositives is degraded, which follows if not-at-issue content generally does not raise issues/render QuDs salient. Additionally, in keeping with results in Barros 2013, a QuD-based approach straightforwardly derives Barker's 2013 Answer Ban where the antecedent cannot be an answer to the sluice.

6.2 Some closing thoughts on the status of the Sluice Condition

The Sluice Condition has some generality beyond sluicing, so that it is not a sluicing-specific constraint. Specifically, it also seems to apply to deaccenting in pre-sluices. As noted in Chapter 4, Merchant 2001 proposed e-GIVENness as a stronger, ellipsis-specific version of Schwarzschild's 1999 GIVENness. Since Rooth 1992a, it is common knowledge that the set of VPs which may be elided is a proper subset of the set of VPs which may be deaccented. For instance, in (6.24), while deaccenting is possible under GIVENness in (6.24a), VP ellipsis is impossible, though not in (6.24b) (deaccenting represented in small text):

(6.24) a. Jack was [$_{VP_A}$ reading a book], and Sally was *([$_{VP1_E}$ reading]) too.

b. Jack was [$_{VP_A}$ reading a book], and Sally was ([$_{VP2_E}$ reading a book]) too.

Deaccenting is licensed in both cases since the Schwarzschildian Focus closure of the elided VP in each case is entailed by the existential closure of the antecedent VP. That is:

(6.25) $\exists$-clo(VP_A) (= $\exists$x[x was reading a book]) $\models$ F-clo($VP1_E$) (= $\exists$x[x was reading]) and $\exists$-clo(VP_A) (= $\exists$x[x was reading a book]) $\models$ F-clo($VP2_E$) (= $\exists$x[x was reading a book]).

e-GIVENness made GIVENness bi-directional, and since $\exists$-clo($VP1_E$) does not entail F-clo(VP_A) in (6.24a), VPE is correctly ruled out.

Similar observations pertain to cases of *implicational bridging* (Rooth 1992b). In (6.26a) for instance, deaccenting is, strictly speaking, unlicensed, since calling someone a republican does not entail insulting them. Deaccenting in (6.26a) seems to require the accommodation of an implicational relation between calling someone a republican and insulting them (i.e., calling someone a republican is tantamount to insulting them). This sort of bridging does not seem to be available under VPE (see Fox 1999 for an account of this distinction):

(6.26) a. First, $Jack_F$ called her a republican, then $Bill_F$ insulted her.

b. * First, $Jack_F$ called her a republican, then $Bill_F$ did ~~insult her~~.

e-GIVENness promises to capture this distinction (provided, once again, that implicational bridging is suspended under VPE).

To my knowledge, it has not been previously noticed, however, that the distinction between the acceptability of deaccenting and ellipsis becomes blurred in sluicing. Consider, for instance, examples like those in (6.27):

(6.27) a. * Someone was reading a book, but I don't know who (was reading).

b. * Someone called her a republican, but I don't know who (insulted her).

For (6.27a), Schwarzschild's theory predicts deaccenting to be possible in the pre-sluice since *that someone was reading a book* entails the F-closure of the question *who was reading*: ∃x[x was reading]. Schwarzschild (1999) does not consider cases of implicational bridging, however, but certainly it can be amended in the proper way, so that calling someone a republican entails insulting them (as required in Rooth's theory). Then, *that someone called her a republican* entails the F-closure of *who insulted her*: ∃x[x insulted her].

The generalization seems to be that e-GIVENness pertains to pre-sluices just the same as it does to sluices (i.e., it is not an ellipsis specific condition in the domain of sluicing, though it appears to be, in the domain of VP ellipsis). Of course, we have already seen some reasons to abandon e-GIVENness as an identity condition on ellipsis, in favor of a QuD-based approach like that in AnderBois 2011 and the one adopted here for the Sluice Condition. As it turns out, the Sluice Condition, just like e-GIVENness, also rules out mismatches like those in (6.27). It is easy to see this simply by noting that none of the possible answers in the QuD's meaning ⟦who was reading a book?⟧ will be identical to any possible answers in the sluiced question's meaning ⟦who was reading?⟧, and vice versa. Thus, no matter which answerhood operator we apply to either question, it is guaranteed that distinct answers will be returned for each question, in violation of the Sluice Condition. As far as I can tell, similar results will obtain for any QuD-based approach that relies on equivalence between sluices and the antecedent's QuD. The Sluice Condition, then, might more precisely be characterized as a condition on questions which are anaphoric to salient QuDs at the time of utterance (we might call it the *Pre-sluice Condition*).

Importantly, it is not the case that questions must be anaphoric to QuDs, but it appears to be the case that sluiced questions must. There are at least two sorts of questions that are not anaphoric to QuDs; questions that are "new" in their discourses (starting a new discourse altogether), and questions which have been answered prior to the time of utterance. An example of the first kind of question is an out-of-the-blue question such as "what's your favorite color?" Such questions cannot be sluiced in the absence of any antecedent or prevailing QuD they may be anaphoric to.

The second sort of non-anaphoric question is more interesting, in that these may very well have antecedents, but are still un-sluiceable, as we saw in the discussion of how QuD-based approaches capture Barker's Answer Ban. Here, we see a difference between sluicing and de-accenting once again, so that it is only with anaphoric questions that the Sluice Condition constrains both deaccenting and ellipsis. That the antecedents in (6.28a) and (6.28b) are indeed answers to the sluiced questions can be confirmed by checking the infelicity of asking the sluices as direct questions in response to the antecedent (see Barros 2013 for more answerhood diagnostics):

(6.28) a. * Chris knows that Jack left, but Sally doesn't know who (left).
A: Jack left
B: #Who left?

b. * Jack knows that Sally ate a donut, but Bill doesn't know what (she ate).
A: Sally ate a donut.
B: #What did she eat?

QuDs are open questions in a given discourse, which simply means they have not been addressed. As mentioned above, for any antecedent that addresses some question, that question cannot be a QuD in subsequent discourse. It follows that any antecedent that addresses the sluiced question will prevent there from being a suitable QuD to which the sluice may be anaphoric in satisfaction of the Sluice Condition. In other words, an antecedent like that in (6.28a) does not render salient a QuD paraphraseable as *who left?*, nor does the antecedent in (6.28b) raise an issue paraphraseable as *what did Sally eat?*

While sluicing in (6.28) is impossible, the pre-sluices are perfectly OK, provided they are not deaccented as indicated in (6.28). That is, if the pre-sluices in (6.28) are read with focus on the Wh-phrase and the rest of the string deaccented, the result is just as unacceptable as the sluice.[7] This is precisely the same prosodic contour that is a pre-requisite for

[7]On the other hand, if we deaccent the Wh-phrase along with the rest of the pre-sluice, the example becomes fine.

(i) Chris knows that Jack left, but Sally doesn't know (who left).

sluicing of course, which leaves a Wh-phrase overt. As we've seen, Schwarzschildian GIVENness is insufficient to capture the pattern, as it predicts deaccenting should go through in such cases. Of course Merchant-style e-GIVENness works, but we have independent reasons to abandon it in favor of a QuD based approach.

Taking stock, the above observations give us the following generalizations:

(6.29) a. The Sluice Condition is actually a condition on prosodic reduction (including both ellipsis and deaccenting) in "anaphoric questions" which are questions that are anaphoric to a salient QuD in the discourse.

b. Sluices are obligatorily anaphoric questions.

The generalization in (6.29a) is novel, and is straightforwardly implementable in any QuD-based approach. The generalization in (6.29b) is essentially a restatement of the Sluice Condition.

We are left with the question of why it is that the Sluice Condition (or similar QuD-based conditions) should also be relevant for deaccenting in presluices. The hope would be that the gap in empirical coverage between the Sluice Condition, as it pertains to presluices, and Schwarzschildian GIVENness, as it pertains to VPs, could be bridged in a unified theory that derives both patterns, a project I leave aside here for future work.

These observations also touch on an important related issue, namely, the need for a unified theory of ellipsis identity, one that applies to Sluicing alongside VPE and NPE. Explicit in AnderBois 2010 et seq., is the claim that inquisitive mutual entailment is a requirement only for sluicing, and not VP ellipsis, a claim supported by the observation that, while sluicing out of appositives is generally degraded, no such effect exists for VP ellipsis:

(6.30) Mary, who doesn't help her sister, told jane to ~~help her sister~~ instead.
From AnderBois 2010, example (34)

One thoeretical consequence is that we have to live with distinct semantic identity conditions: one for Sluicing and one for VP ellipsis (and presumably also NPE). The same results obtain for any QuD-based approach to sluices, such as the Sluice Condition proposed here.

I conclude this chapter on a hopeful note; the fact that both deaccenting and deletion are subject to different conditions in presluices than in VP ellipsis is rather tantalizing, and suggests, perhaps, that a unified solution to the deaccenting puzzle may also shed light on a unified theory of ellipsis identity. The hope is that reference to the QuD in sluicing, but not in VPE or NPE, can be derived independently from a more general identity condition.[8] To summarize, the conditions on deaccenting in pre-sluices appear to be the same as the conditions on deletion. This is different from VP ellipsis, for instance, where it is well known that deaccenting may obtain when ellipsis may not. GIVENness is insufficient to capture the pattern as it predicts deaccenting to be possible in presluices when sluicing is impossible.

[8]Though see Elliott et al. 2014 for the relevance of the QuD for the identity condition on VP ellipsis as well.

Chapter 7

Contrast Sluicing and Split Identity: A Challenge and Some Solutions

In this chapter, I focus on some challenges posed for Split Identity by contrast sluices, sluices where the remnant and correlate are contrastively focussed, such as those in (7.1) (contrastive focus indicated with italics and a subscript [F] feature):

(7.1) a. *Jack*$_{[F]}$ left, but I don't know who *else*$_{[F]}$.

b. She has three *cats*$_{[F]}$, but I don't know how many *dogs*$_{[F]}$.
(From Merchant 2001)

c. She speaks *Russian*$_{[F]}$, but I don't know which *other*$_{[F]}$ languages.

Contrast sluices challenge the Remnant Condition as it stands, since it is not clear how to achieve semantic equivalence between, e.g., the correlate *Jack*, in (7.1a), and the remnant, *who else*. Intuitively, the sluice in (7.1a), by virtue of the contribution of *else*, is a question about non-Jack individuals that left.[1] This is a general problem for contrast sluices, since contrastive remnant/correlate pairs must differ in semantic content in order for F-marking to be licit.

Contrast sluices also raise the question of how it is that the Sluice Condition may be met. Thus far, we have been heuristically deriving the QuD that the antecedent makes salient by treating the correlate as a Wh-phrase in a Wh-question version of the antecedent. We might try the same thing in (7.1a), for instance, so that the QuD that the antecedent *Jack$_{[F]}$ left* makes salient is *Who left?* It should be clear, however, that this QuD is distinct

[1]Following von Fintel 1994, Culicover and Jackendoff 1995, *else* is an *anaphoric exceptive* modifier, which anaphorically picks up *Jack* in (7.1a) as its antecedent and has the effect of removing *Jack* from the domain of quantification for the existentially quantified Wh-phrase.

from the sluiced question *who else$_{[F]}$ left?*, which intuitively asks about non-Jack individuals, an interpretation missing from the derived QuD. The sluiced question and the QuD, then, are distinct questions, and any answerhood operators applied to either question meaning will yield distinct answers, in violation of the Sluice Condition. Ans-D$_{\text{wk}}$ applied to *Who left?* in a model where, say, Jack and Sally left would yield the proposition *that Jack and Sally left* as an answer. In the same model, however, Ans-D$_{\text{wk}}$ applied to the sluice, *who else left*, should return only the proposition *that Sally left*, since Sally is the only non-Jack individual that also left. Since the answers are non-identical, the Sluice Condition is violated.

The solution to these puzzles I propose rests, in part, on an extension of the Remnant Condition so that it may access "focus-semantic values" of XPs (in the sense of Rooth 1992b). I show below that the focus semantic values of F-marked remnants and correlates may be semantically equivalent when we need them to be, so that the Remnant Condition is met in contrast sluices. As for the challenge to the Sluice Condition, a more nuanced understanding of the flow of information in discourses, and how antecedent assertions render QuDs salient, will give us a straightforward answer that preserves the Sluice Condition as it stands. In short, we will see that antecedents with F-marked correlates introduce QuDs that are semantically equivalent to contrast sluices.

7.1 Contrast sluices and the Remnant Condition

Here, I illustrate how an extension of the Remnant Condition, so that it may make reference either to regular semantic values (as we have been assuming thus far) as well as focus semantic values (in the sense of Rooth 1992b), allows contrast sluicing to satisfy the Remnant Condition. I adopt the analysis of focus in Rooth 1992b, where $[\![\text{XP}]\!]^{\text{f}}$ is a 'focus value' for XP, in the way it is usually understood. The focus-semantic value of an F-marked syntactic object, X, is a set of alternative meanings for X of the same semantic type as X. A focus-semantic value for an XP containing F-marked X is derived via Hamblin pointwise composition. For example, $[\![\textit{Jack}_{[\text{F}]}]\!]^{\text{f}}$ is a set of alternative individuals (e.g. { Jack, Bill,

. . . }); the focus semantic value of a VP containing *Jack*$_{[F]}$, such as "saw *Jack*$_{[F]}$" is the result of composing V^0 with each element in $[\![\textit{Jack}_{[F]}]\!]^f$, a set of VP meanings like { λx[x saw$_w$ Jack], λx[x saw$_w$ Bill], . . . }, and so on for each individual in the domain. $[\![XP]\!]^o$ stands for the 'regular semantic value' of XP.

The relevant focus-sensitive extension of the Remnant Condition is given below:

(7.2) Split Identity

a. The Remnant Condition

The remnant must have a syntactic correlate, which is an XP in the antecedent. The regular or focus semantic values of the remnant and its correlate must be identical.

b. The Sluice Condition:

The sluiced question and the QuD made salient by the antecedent must have the same answer at any world of evaluation.

The goal is to achieve semantic equivalence between the focus semantic values of *who else* and *Jack*, in examples like (7.1a). I follow von Fintel 1994, Culicover and Jackendoff 1995, in assuming *else* is an anaphoric exceptive modifier; exceptive modifiers in DPs have the effect of removing elements from the domain of quantification of the DP they modify. For instance, in (7.3), the exceptive *but* phrase removes *Jack* from the domain of quantification of *every*, so that the assertion is only about non-Jack individuals:

(7.3) Everyone but Jack left.

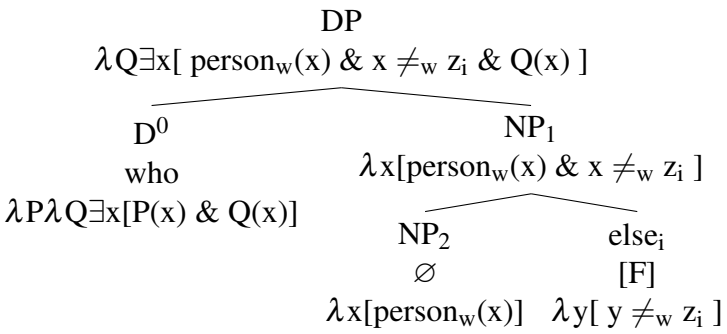
else, being an anaphoric exceptive modifier, picks up the value it excludes from the domain of quantification anaphorically; in sluices like that in (7.1a), *Jack*$_{[F]}$ is *else*'s antecedent, so that *Jack* is excluded from the domain of quantification of the Wh-phrase remnant.

I assume here that *else* achieves exception as an NP modifier. I take simplex Wh-phrases like *who* to contain a silent NP that contributes the restriction to animate/human entities.[2] *else* adjoins to the silent NP, and contributes an exception clause. To capture

[2]This is not crucial, one might take *who* itself to be an N^0, which perhaps undergoes head movement into

else's anaphoric character, I assume it contributes a free variable that receives its value anaphorically. In (7.1a), the antecedent/value for *else* is *Jack* (the numerical indices on NP are simply for ease of reference to distinct levels in the derivation in what follows).[3]

(7.4)



The focus semantic value for NP_1 in (7.4) is a set of properties of the form $\lambda x[person_w(x) \& P_{\langle e,t\rangle}(x)]$, with $P_{\langle e,t\rangle}$ a variable over alternatives to *else*. When NP_1 composes with *who*, we end up with a set of alternative generalized quantifier meanings (a set of alternative sets of properties). Let us play with a toy model to see what such a set of alternative sets of properties might look like. We can then compare such a meaning, which is the focus semantic value of the remnant in examples like (7.1a), to the focus semantic value of the correlate $Jack_{[F]}$.

Consider a model with three individuals in the domain of individuals, as usual, Jack, Bill, and Sally. Ignoring sum individuals, I assume the domain of properties is the powerset of the domain of individuals, so that such a model will have 8 properties (each property is numbered below for ease of reference).[4]

(7.5) $D_{\langle e\rangle}$: { j, b, s }

D^0 in Wh-DPs.

[3]Culicover and Jackendoff 1995 note that *other* is much like *else*, so that the same analysis should extend straightforwardly to sluices with *other* remnants, such as (i):

(i) Jack speaks $Greek_{[F]}$, but I don't know which $other_{[F]}$ languages ~~he speaks~~.

Unlike *else*, *other* heads an exceptive phrase, though like *else*, *other* also seems to be anaphoric. In (i), *other languages* means *other than Greek*, so that *other*, like *else*, anaphorically picks up *Greek* and excepts it from the domain of quantification for *which*.

[4]More on this assumption below.

$D_{\langle e,t\rangle}$:

1. { ∅,
2. { j },
3. { b },
4. { s },
5. { j, b }
6. { j, s }
7. { s, b }
8. { j, s, b } }

The alternatives for *else* in *who else* in a sluice like that in (7.1a) would be the domain $D_{\langle e,t\rangle}$. I assume we may exclude ∅ by appealing to the existential presupposition associated with Wh-questions, so that the set of alternatives for *else* has a cardinality of seven. The focus-semantic value of *who else* is given below. Each element in $[\![\text{who } else_{[F]}]\!]^f$ corresponds to a different value for $else_{[F]}$ in $[\![else_{[F]}]\!]^f$.

(7.6) $[\![\text{who } else_{[F]}]\!]^f$:

$\{ j \} \in [\![else_{[F]}]\!]^f$: { { 2, 5, 6, 8 }

$\{ b \} \in [\![else_{[F]}]\!]^f$: { 3, 5, 7, 8 }

$\{ s \} \in [\![else_{[F]}]\!]^f$: { 4, 6, 7, 8 }

$\{ j, b \} \in [\![else_{[F]}]\!]^f$: { 2, 3, 5, 6, 7, 8 }

$\{ j, s \} \in [\![else_{[F]}]\!]^f$: { 2, 4, 5, 6, 7, 8 }

$\{ s, b \} \in [\![else_{[F]}]\!]^f$: { 3, 4, 5, 6, 7, 8 }

$\{ j, s, b \} \in [\![else_{[F]}]\!]^f$: { 2, 3, 4, 5, 6, 7, 8 } }

This is the focus semantic value of $who\ else_{[F]}$; a set of sets of properties. Each alternative value for $else_{[F]}$ yields a different set indicated above. It should be obvious, however, that such a focus semantic value would inevitably be distinct from the focus semantic value of a proper name like $Jack_{[F]}$, which is type $\langle e\rangle$, and whose alternatives, therefore, are alternative individuals, not alternative sets of properties. There is a simple fix for this, however. We may type-lift $[\![\text{Jack}_{[F]}]\!]^f$ (Partee 1987), so that we end up with a set of alternative sets of

properties of individuals. LIFT(Jack), for instance, gives us λP[P(Jack)] (the set of properties of Jack). Lifting the f-semantic value of *Jack*$_{[F]}$, however, gives us a set of sets of properties of individuals. In the same model, type-lifting $[\![\textit{Jack}_{[F]}]\!]^f$ gets us the following set of sets of properties:

(7.7) $[\![\textit{Jack}_{[F]}]\!]^f$: { j, s, b }
LIFT($[\![\textit{Jack}_{[F]}]\!]^f$): { λP[P(j)], λP[P(s)], λP[P(b)] }
or, equivalently
{ {$_{LIFT(j)}$ 2, 5, 6, 8 }, {$_{LIFT(s)}$ 4, 6, 7, 8 }, {$_{LIFT(b)}$ 3, 5, 7, 8 } }

Type-lifting the f-semantic value of *Jack*$_{[F]}$ gets us one step closer to semantic equivalence with the f-semantic value of *who else$_{[F]}$*, simply because now the focus semantic values are sets of the same types of objects: sets of properties. As we see, however, LIFT($[\![\textit{Jack}_{[F]}]\!]^f$) is only a (proper in this case) subset of the focus semantic value of *who else$_{[F]}$*.

Here, I appeal to contextual domain restriction of the focus semantic value of *who else*, so that it only contains alternative sets of properties of individuals in the domain. If this is the correct move, we achieve focus-semantic equivalence between the remnant and the correlate. In (7.6), we see that each set of properties in (7.7) is present. That is, LIFT($[\![\textit{Jack}_{[F]}]\!]^f$) ⊆ $[\![\text{who } \textit{else}_{[F]}]\!]^f$. It is uncontroversial to assume that focus alternatives are contextually restricted to just the relevant alternatives in a given discourse; it is intuitively individual alternatives that are relevant for any *who* question, including *who else* questions like the sluice in (7.1a). On the other hand, sets of properties not corresponding to elements in LIFT($[\![\textit{Jack}_{[F]}]\!]^f$) fail to uniquely identify any individuals in the domain, so that they are arguably irrelevant in such a discourse, and should not be considered relevant alternatives in $[\![\text{who } \textit{else}_{[F]}]\!]^f$.

With contextual domain restriction of focus alternatives for *who else*, then, we achieve focus-semantic equivalence between the remnant and correlate, as required by the Remnant Condition. In summary, an appeal to focus semantic values of remnants and correlates, along with domain restriction, grants Split Identity additional empirical coverage in accounting for contrast sluices. The trick here, is that the appeal focus-semantic values

manages to "erase" the distinction in regular semantic values between remnants and correlates in checking the Remnant Condition. Instead, sets of alternative focus meanings are referenced, which, on independent and standard assumptions about how focus alternatives are contextually restricted, grants us semantic equivalence.

7.2 Contrast sluices and the Sluice Condition

Contrast sluices raise questions about how the Sluice Condition may be met. Our usual heuristic for deriving QuD meanings from antecedents doesn't seem to extend straightforwardly to contrast sluices. Let us review the heuristic in some detail to see more clearly what the problem is.

Thus far, we have derived the QuD that the antecedent makes salient by heuristically deriving a Wh-question version of the antecedent, much in the style of transformational grammar. Specifically, the correlate is treated as a left-dislocated Wh-phrase, C^0 is replaced with an interrogative counterpart, and the QuD's meaning is computed in the usual way from the resulting syntactic object.

(7.8) (Antecedent) Jack saw someone ⇒ (QuD) Who did Jack see?

This method is useful, first, because it yields an adequate paraphrase of the QuD that the antecedent intuitively makes salient, and second, because it gives us a deterministic way to derive a QuD meaning. Having a deterministic method is useful because it commits us to a hypothesis about the relationship between the explicit syntactic antecedent and the meaning of the QuD that it makes salient. If this method is flawed, the hope is that this will become clear in the examination of specific cases. Thus far, it has served us well.

It should be borne in mind, however, that this method is truly intended as a heuristic; it is not intended that the syntactic Wh-question derived from the antecedent be *identified* with the QuD, rather, this syntactic object is a useful way of determining the meaning of the QuD. Implicit QuDs are not standardly assumed to be syntactic objects, rather, they are salient meanings (a set of alternative propositions compatible with the common ground of

the discourse) with interrogative force.

Unfortunately, our method does not extend straightforwardly to contrast sluices. Replacing the contrastively focused correlate with a Wh-phrase leads to two problems. The first problem is empirical; the heuristic yields intuitively incorrect results. Recall (7.1a), repeated below; the QuD we would derive with our heuristic from the antecedent in (7.1a) is given below:

(7.9) *Jack*$_{[F]}$ left, but I don't know who *else*$_{[F]}$ (left).
(Antecedent) *Jack*$_{[F]}$ left $\Rightarrow$ (QuD) *Who left?*

Intuitively, it is not the case that the antecedent "*Jack*$_{[F]}$ left" renders the QuD *who left?* salient. Once such an antecedent is asserted, and its truth accepted, there can be no QuD paraphraseable as *who left?* in the discourse, simply because this question has been answered by the antecedent (even if only partially so). To illustrate that this is the case, consider the discourse in (7.10), where it is understood that more than one individual left, and B's response is understood to partially address the explicit QuD *who left?*:

(7.10) A: Who left?
B: (well) *Jack*$_{[F]}$ left.
A: Who *(*else*$_{[F]}$) left?

Here, we see that A's follow-up question to B's utterance is infelicitous without exceptive modification. Why should this be the case? This is simply because without excluding *Jack* from the domain of quantification of *who*, the resulting question meaning is identical to A's initial (explicit) QuD. Once a question is addressed (even partially), it appears to be the case that it may no longer be an active QuD in the discourse (it may no longer be asked, nor may one assert that they do not stand in the *know* relation to that question).[5] Else-modification of the Wh-phrase, on the other hand, by excluding *Jack* from the domain of quantification for *who*, removes B's answer from the question meaning, and renders A's follow-up question a sub-question of A's initial question. In short, without *else*-modification, A's follow-up

[5]See Romero 1998 for discussion of this point.

question in (7.10) counts as a "re-asking" of an already-addressed question, in violation of felicity conditions on asking.

The second problem our heuristic poses is theoretical. The heuristic generates a *who* question version of the antecedent in (7.9). It should be clear that *who left?* and the contrast sluice, *who else left?* will have distinct answers at any world of evaluation, due to the contribution of *else*. The Sluice Condition, as it stands, erroneously predicts that contrast sluices like (7.9) should be ungrammatical.

The discourse in (7.10) points us to a solution to the puzzle. We observe that, while B's partial answer does not render the QuD *who left?* salient (rather, it instead seems to banish this QuD from the discourse, rendering it un-askable or "un-not-knowable"), it can be seen as rendering a sub-question of *who left?* salient, one that is identifiable with the "unanswered subset" of the original QuD; this is, of course, the same question meaning as A's *else*-modified follow-up question. In (7.11), I give the relevant question meanings in a model with three individuals: Jack, Bill, and Sally.

(7.11) A: Who left?
Q meaning:
{ that Jack left, that Sally left, that Bill left,
that Jack+Sally left, that Jack+Bill left, that Sally+Bill left,
that Jack+Sally+Bill left }
B: Well, $Jack_{[F]}$ left. (partial answer)
Resulting QuD:
{ that Sally left, that Bill left, that Sally+Bill left }

In short, after B asserts that Jack left, it is no longer relevant to determine whether Jack left; the resulting QuD is a question about non-Jack individuals, comprising that subset of propositions in A's initial question that make no mention of Jack.[6] The follow-up question,

[6]This is consistent with the view of QuDs outlined in Roberts 1996, where the claim is that each proposition in the QuD is presupposed to be "asked" in the discourse. It follows from the felicity conditions on asking that the truth or falsity of any proposition in the QuD meaning cannot already have been established at the time of asking.

who else (left)?, where *else* takes Jack as its antecedent, has the same meaning as this QuD. This predicts, of course, that A's *else*-modified follow-up question in (7.10) can be sluiced, since any Ans-operator applied to two identical Q meanings yield the same answer, satisfying the Sluice Condition. As the reader may check, this is indeed the case.

Importantly, there is good reason to assume that the mini-discourse in (7.10) is representative of the state of affairs in contrast sluices more generally. In (7.10), we have the sequence of "discourse moves" (to adopt Roberts's 1996 terminology) given in (7.12a). For the sluice in (7.1a), on the other hand, we get the sequence in (7.12b):

(7.12) a. *question* < *partial answer* < *follow-up question* (for (7.10))
A: who left? < B: *Bill*$_{[F]}$ left < A: who *else*$_{[F]}$ (left)?

b. *assertion* < *question* (for (7.1a))
Jack$_{[F]}$ left < (but I don't know) who *else*$_{[F]}$ ~~left~~

We've seen that in (7.10), the second question may be sluiced, and of course the question in (7.1a) may also be. What I'd like to suggest is that the sequence in (7.12b) for (7.1a) is more accurately seen as identical to a subpart of the sequence in (7.12a); the only difference being in whether the initial question is explicit or implicit. In short, the antecedent assertion in (7.1a), and in contrast sluices more generally, is an answer to an implicit initial QuD, and the sluiced question is a follow-up question.

(7.13) a. *question* (explicit) < *partial answer* < *follow-up question* (for (7.10))
A: who left? < B: *Bill*$_{[F]}$ left < A: who *else*$_{[F]}$ (left)?

b. *question* (implicit) < *partial answer* < *follow-up question* (for (7.1a))
(who left?) < *Jack*$_{[F]}$ left < (but I don't know) who *else*$_{[F]}$ ~~left~~

B's response in (7.10) is what counts as the antecedent for A's follow-up question (which can also be sluiced), and is precisely analogous to the antecedent in a typical contrast sluice example, such as that in (7.1a). The difference between the two discourses is that in (7.10), there is an explicit QuD (A's initial question) that B's response partially addresses, whereas in (7.1a), there is an *implicit* QuD that the antecedent partially addresses.

In the theory of information structure in Roberts 1996, assertions are answers to implicit or explicit QuDs, and prosodic focus in an assertion presupposes that the utterance is a congruent answer to the prevailing QuD at the time of that utterance (Roberts's "presupposition of prosodic focus"). In Roberts's 1996 theory, congruence between an assertion and the prevailing QuD is equivalence between the question meaning for the QuD and the focus-semantic value of the utterance itself. Since congruence is equivalence, we can determine the meaning of the QuD that the antecedent in (7.1a) (repeated below) is congruent with by calculating the antecedent's focus-semantic value. Sticking to a model with just three individuals (Jack, Bill, and Sally), we end up with the set of propositions below:

(7.14) *Jack*$_{[F]}$ left, but I don't know who *else*$_{[F]}$ left.

$[\![$*Jack*$_{[F]}$ left$]\!]^{f}$ = a set of propositions of the form *that x left*, x $\in$ D_e:

{ that Jack left, that Bill left, that Sally left,

that Jack+Bill left, that Jack+Sally left, that Sally+Bill left

that Jack+Bill+Sally left }

= the QuD that "*Jack*$_{[F]}$ left" is a congruent answer to.

Of course, this is precisely the meaning of A's initial explicit question in (7.10), given in (7.11). In short, prosodic focus on a correlate presupposes that the antecedent is a congruent answer to some prevailing QuD; in (7.1a), this must be an implicit QuD, and it is precisely the same as the explicit QuD in (7.10). This state of affairs is expected to obtain in all contrast sluices, since all contrast sluicing antecedents have narrow focus on the correlate.

Now, in partially addressing the QuD it is congruent with, the antecedent (a partial answer to that QuD) renders a sub-Question of that QuD salient. This is a sub-question of the initial QuD, a question that seeks the "rest" of the information sought by the initial QuD that the antecedent did not address (since it is a partial answer). As we saw in (7.11), this is the same as the meaning of an *else* question which excepts the meaning of the correlate from the domain of quantification of the Wh-phrase. We can then complete the picture in (7.13) as follows, by including the QuD that the antecedent makes salient as an additional (implicit) discourse move:

(7.15) a. *initial Q* (explicit) < *partial answer* < *sub-Q* (implicit) < *follow-up Q* (for (7.10))

b. *initial Q* (implicit) < *partial answer* < *sub-Q* (implicit) < *follow-up Q* (for (7.1a))

(7.16) a. For (7.10):

Initial Q (explicit) = Who left?

Partial answer = *Bill*$_{[F]}$ left.

Sub-Q (implicit) = Who (aside from Bill/in addition to Bill) left?

Follow-up Q (explicit) = Who *else*$_{[F]}$ left?

b. For (7.1a):

Initial Q (implicit) = Who left?

Partial answer = *Jack*$_{[F]}$ left.

Sub-Q (implicit) = Who (aside from Jack/in addition to Jack) left?

Follow-up Q (explicit - sluiced) = (but I don't know) Who *else*$_{[F]}$ ~~left~~.

In each case, the antecedent is the partial answer to the initial QuD, and the QuD that the antecedent makes salient (which is the QuD that the Sluice Condition makes reference to) is the implicit remaining sub-QuD of the initial QuD, which has the same semantics as the sluiced question (or the unsluiced anaphoric question), guaranteeing that the Sluice Condition will be met.[7]

To summarize, with a more nuanced understanding of how it is that QuDs may be rendered salient, contrast sluices do not pose a challenge to the Sluice Condition. It is useful to compare the above results for contrast sluices with our assumptions about non-contrast

[7]We might consider amending our transformational heuristic by suggesting that the Wh-phrase that replaces the correlate in contrastive sluicing, in the determination of the QuD that the antecedent makes salient, is, itself, exceptively modified, removing the regular semantic value of the correlate from the domain of quantification of the Wh-phrase.

(i) (Antecedent) *Jack*$_{[F]}$ left ⇒ (QuD) [Who (minus Jack)] left?
(where "Who (minus Jack)" = *who else* with *Jack* as *else*'s antecedent)

sluices. With contrast sluices, we saw that there was a four-way relationship between an initial QuD, the antecedent (as a response to this initial QuD), a Sub-QuD (that the antecedent makes salient in partially addressing the initial QuD), and the sluice itself (echoing the Sub-QuD the antecedent makes salient). The Sluice Condition makes reference to "the QuD the antecedent makes salient," which, in contrast cases, refers to the Sub-QuD.

A similar state of affairs can be said to obtain for non-contrast sluices, though there is an intuitive difference that is difficult to pin down. In Roberts's 1996 theory of information structure, all assertions are subject to the presupposition of prosodic focus, so that the antecedent in a non-contrastive sluice like that in (7.17) must also be understood as an answer to some initial QuD (implicit in this case):

(7.17) Sally is dating someone, but I don't know who.

Such an antecedent may be a felicitous answer to implicit or explicit initial QuDs like *what's new?*, or *what's Sally doing these days?*, among other imaginable alternatives. Formally, one difference between such antecedents and those in contrastive sluices seems to lie in the size of the the constituent that contributes new information/answers the implicit QuD. For *what's new?*, it would seem the entire antecedent bears broad focus, so that its focus semantic value is a set of alternative propositions. The antecedent is contrasted with alternative potential answers to *what's new?*, answers which may be true or false. Indeed, many things may be "new," and the speaker's choice to mention *Sally is dating someone*, in particular, intuitively seems to count as a partial answer to *what's new?*, given the simple observation that many other things may be new (e.g., "that you just asked me this question" also counts as a "new thing" that is an alternative, true, answer to *what's new?*, although an admittedly uninteresting one). What seems to be happening in such cases is that there is an implicit restriction in *what's new?*, restricting the set of alternatives in the Q meaning to just those things that are noteworthy, or worth talking about. It is as if the speaker is asking the addressee to set the topic of conversation in subsequent discourse.

The resulting QuD that the antecedent *Sally is dating someone* makes salient, namely, *who is she dating?*, is a sub-question of *what's new?*, of course, since a complete answer

to *what's new?* would entail a complete answer to *who is she dating?* This is similar to the state of affairs with contrast sluicing, since the antecedent in contrast sluices also renders a sub-QuD of the initial QuD salient. Despite this point in common with non-contrast sluicing, the relationship between the initial QuD and the antecedent in contrast sluicing is, intuitively, much more specific and direct. That is, narrow focus on the correlate in contrast sluicing presupposes a very specific initial QuD, under Roberts's 1996 assumptions, whereas broad focus on the entire antecedent, as in non-contrast sluicing, presupposes a much more general initial question like *what's up?*

Another difference is in the nature of the Sub-QuD the antecedent makes salient in each type of sluice. In non-contrast sluicing, the Sub-QuD the antecedent makes salient seeks to further specify the antecedent. For instance, *someone left*, renders *who left?* salient. This Sub-QuD's answers are stronger assertions than the antecedent (since each p $\in$ *who left?* $\models$ *that someone left*). In this sense, non-contrast sluices ask for more information *about* the antecedent. In contrast sluices, however, the Sub-QuD the antecedent makes salient, in explicitly excluding the antecedent proposition from its content, does not seek more information about the antecedent. Despite these differences, in both contrast and non-contrast sluices, it is the QuD that the antecedent makes salient (the Sub-QuD of the initial QuD) that the Sluice Condition compares to the sluice's meaning.

7.3 On the prospect of a more syntacticized Remnant Condition

In this section, I highlight some conceptual pitfalls for the Remnant Condition as currently stated, and discuss how a more syntacticized (perhaps purely syntacticized) implementation addresses these issues. At the same time, the empirical coverage of the Remnant Condition suffers under such purely syntactic characterizations of it, though I sketch some ways around this problem.

The Remnant Condition as currently stated is very semantic, though it is, strictly speaking, a hybrid condition, insofar as it makes reference to the need for a syntactic correlate XP in the antecedent. There, the syntax ends, and the "meat" of the Remnant Condition

is in the requirement that the correlate XP and the remnant XP be semantically identical. There have been previous instantiations of Remnant Conditions in the literature. Chung's 2013 proposal, for instance, makes explicit reference to identity requirements on properties of the remnant and its correlate, but ties those properties to content in the E-site. As we've seen, Split Identity makes no reference to the content of the E-site, a move which is motivated by independent empirical evidence from case-matching (and Case mis-matching), and is, furthermore, consistent with the unconstrained pseudosluicing hypothesis.

There have been proposals in the literature, however, that propose Remnant Conditions much like the one defended here, in that they make no reference to the content of the E-site, and additionally do not reference any semantic relation between the remnant and correlate, instead relying on morpho-syntactic properties of the remnant and correlate alone (category and case features) (e.g., Ginzburg and Sag 2000, van Craenenbroeck 2008, Barros 2009, Sag and Nykiel 2011).[8] One of the main issues I highlight with such approaches concerns the inevitably interpretive nature of the remnant/correlate relation in sluicing. Pure reference to morphosyntax will not achieve the right empirical results alone.

In the end, I adhere to the semanticized Remnant Condition as extended above in this thesis (i.e., extended so that it references focus semantic values alongside regular semantic values), with the aim of maintaining its empirical coverage. That said, one should bear in mind that if a purely syntactic Remnant Condition can be extended/modified so that the empirical coverage is the same as the semanticized version here defended, the advantages of such an approach should favor that implementation.

7.3.1 Some important challenges for the Remnant Condition

One of the empirical advantages of the semanticized Remnant Condition here defended, is that, under the assumption that PPs and DPs are semantically distinct, much of the data motivating Chung's Generalization and the ban on diathesis alternations in sluicing is derived.

[8] van Craenenbroeck 2008 is the earliest of van Craenenbroeck's work I am aware of proposing such a condition. Some others: van Craenenbroeck 2009b, van Craenenbroeck 2009a, van Craenenbroeck 2013.

However, it is standardly assumed that many prepositions are pleonastic, and syntactically serve only a Case assigning function. A plausible semantics for such a syntactic object is that of an identity function on its complement.

The preposition *of*, in particular, is often thought to be pleonastic in this sense. Consider the verb *jealous*, which optionally takes an *of*-PP introducing an internal argument:

(7.18) Jack is jealous (of Bill).

We might assign *of* a semantics like λx[x], so that the meaning of the PP *of Bill* in (7.18) is the same as the meaning of its complement: ⟦Bill⟧.

Verbs such as *jealous* are important for Chung's Generalization. The empirical fact that supports Chung's 2006 non-semantic, morpho-syntactic "no new words" approach to the ban on P-stranding in sprouting is bolstered by the observation that even such pleonastic prepositions cannot be stranded in sprouting:

(7.19) * Jack is jealous, but I don't know who.

Under our approach to sprouting, there is an implicit (minimal) syntactic XP in the antecedent which is the complement of *jealous*, and is paraphraseable as *of someone*. Of course, *of someone* receives the same semantics as *someone* under the view where pleonastic prepositions simply "pass up" the meaning of their complements to their maximal projection. If this is true, then the implicit PP complement of *jealous* in (7.19) receives the same semantics as *who* (since ⟦who⟧ = ⟦someone⟧). Under fairly standard assumptions about the semantic contribution of pleonastic prepositions, then, the semanticized Remnant Condition here defended makes the wrong prediction, namely, that sluicing should go through in (7.19), and loses some of its empirical coverage in comparison to Chung's Generalization.[9]

[9]Though it is worth noting that the Remnant Condition can still claim to derive remnant/correlate mismatches with non-pleonastic prepositions such as *onto*, as in, e.g., (i):

(i) * She loaded something with hay, but I don't know what onto.

I assume, however, that we are not forced to adopt such a view of pleonastic prepositions. Their intuitive semantic vacuity is still compatible with a view where they are not simply identity functions, transporting the meanings of their complements up to the maximal projection they head. One could, for instance, assume that *of*, heading the complement of *jealous*, serves a semantic "argument introducing" role, perhaps in a Davidsonian event semantics. The semantic function of the *of*-PP complement of *jealous* in (7.19), then, may be that of an event-modifier (e.g. $\lambda x \lambda e[$ Theme(e,x)]). It is easy to see that such a meaning would be distinct from that of a bare DP remnant like *who*; being an argument, *who* does not serve an argument-introducing function on its own.

Another challenge for the Remnant Condition, mentioned in Chapter 6, is that it introduces some redundancy into the theory with respect to the Answer Ban, and Inheritance of Content effects. As Barros 2013 shows, a QuD-based semantic condition between the antecedent's QuD and sluice is sufficient to derive both the Answer Ban and Inheritance of Content effects. Under the approach defended here, however, the Remnant Condition, in requiring semantic identity between the Remnant and Correlate, forces inheritance of content independently from the Sluice Condition, or comparable QuD-based equivalence condition. This is suspicious from a conceptual standpoint, though not necessarily an empirical argument *against* the semanticized Remnant Condition.

As we saw in Chapter 6, it is possible to tease apart the effect of the Remnant Condition from the requirements of the Sluice Condition. A crucial example in achieving this involved antecedents with "basic level" correlates, like *donut*, and sluices with *what* as a remnant. In such cases, nothing prevents *what* from inheriting the restriction of the correlate, so that the Remnant Condition would be met, though sluicing is still out:

(7.20) * Sally ate a donut, but I don't know what.

The explanation for this in Barros 2013 is that the antecedent counts as an answer to the sluiced question (even under inheritance of content) whenever the correlate is headed by a basic level noun. Since the antecedent addresses the sluiced question, it cannot be the case that the antecedent renders salient a QuD equivalent with the sluice, or one that seeks the

same answer as the sluiced question. As such, the Sluice Condition cannot be met in such cases.

While the above reasoning manages to tease apart the effects of the Remnant Condition and the Sluice Condition as they pertain to Inheritance of Content effects and the Answer Ban, it does not do away with the overlap between the two conditions, which raises the question of whether such overlap can or should be done away with.

A final challenge to the semanticized Remnant Condition comes from contrast sluices, though we have seen how such a challenge may be met. Specifically, if we ammend the Remnant Condition so that it may reference focus-semantic values for correlates and remnants, in tandem with domain restriction of the focus alternatives for the remnant, then contrast sluices can be seen as satisfying the Remnant Condition. Nonetheless, this move requires an extension of the Remnant Condition so that it may reference focus semantic values alongside regular semantic values.

7.3.2 Syntax to the rescue?

A purely syntactic approach promises to address these issues, though it comes with its own pitfalls. First, let us start with the advantages of a syntactic approach. As previously mentioned, syntacticized Remnant Conditions have been proposed that maintain one of the advantages of our own Remnant Condition, namely, lack of any reference to the content or structure of the E-site. The thrust of such approaches is that the remnant and correlate must match in syntactic category. C/case is also factored into some of these approaches (e.g., Ginzburg and Sag 2000, Barker 2013, van Craenenbroeck 2008 et seq.), where C/case constitutes part of the definition of category for purposes of matching. We have seen that abstract Case mismatches are available between remnants and correlates, but not morphological case mismatches, by Stubborn case Matching. We have also seen that case matching should be kept distinct from the identity conditions, as an independent constraint which is only active when the correlate is a case-bearing category. A viable syntactic restatement of the Remnant Condition could be a version of "Generalization 5," mentioned in Chapter 5,

where the remnant and correlate must match in syntactic category.

Of course, as mentioned in Chapter 5, p-or-q sluices directly challenge Generalization 5, since disjunctions of VPs, APs, PPs, and TPs (and, presumably, any phrasal category) may serve as correlates for *which* remnants (DPs). Let us put p-or-q sluices aside for the moment, however, and re-examine the advantages of Generalization 5.

With respect to the challenge posed by pleonastic prepositions for the semanticized Remnant Condition, Generalization 5 gives us a way of understanding how sprouting sluices such as that in (7.19) (repeated below) are ruled out. Under the assumption that the correlate in (7.19) is an implicit minimal PP, the sprout is ruled out on the grounds that the remnant, a DP, does not match in syntactic category with its correlate:

(7.21) * Jack is jealous (pro_{PP}), but I don't know who.

The semantic contribution of the correlate doesn't factor at all into the Remnant Condition as Generalization 5, so that pleonastic prepositions pose no challenge.

The redundancy introduced by the semanticized Remnant Condition is also automatically removed by Generalization 5. Such a syntacticized Remnant Condition has nothing to say about the semantic content of the remnant and its correlate, so long as the categories of the remnant and correlate match. The Answer Ban and Inheritance of Content are then derived only by the Sluice Condition, making for a leaner, stronger theory.

Additionally, contrast sluices pose no challenges whatsoever for a syntacticized Remnant Condition. As example (7.22b) shows, just like non-contrast sluices, contrast sluices are subject to category matching as well. The remnant in (7.22b) cannot be a PP simply because its correlate, *Sally*$_{[F]}$ is a DP.

(7.22) a. Someone was making out with Jack, but I don't know (*with) who.

b. *Sally*$_{[F]}$ was making out with Jack, but I don't know (*with) who *else*$_{[F]}$.

We have seen that a more nuanced view of the information structural effects of antecedents in contrastive sluices automatically gives us an understanding of how the Sluice Condition works in such cases; a purely syntactic Remnant Condition renders contrast sluices even

less of an issue for the Split Identity hypothesis.

Despite these advantages, a purely syntactic Remnant Condition runs into trouble. First, it is obvious that such a condition does not allow for p-or-q sluices whenever the disjunction correlate is a disjunction of non-DPs. We might put p-or-q sluices aside as a special case, but this gives the semanticized Remnant Condition defended here an advantage over its syntacticized version in empirical coverage, in that the semanticized version straightforwardly covers p-or-q sluices, as illustrated in Chapter 3.

A more important empirical and conceptual challenge to a purely syntactic Remnant Condition comes from how it is that a given remnant/correlate relation is established to begin with. It is simply true, that without reference to semantics, any old XP in the antecedent runs the risk of counting as the remnant's correlate. This opens up the possibility that XPs which are intuitively non-correlates for the remnant may nonetheless come to count as such under a simple requirement of category matching. Consider a grammatical sluice, for instance, such as that in (7.23), where the intuitive correlate is the subject, though the purely syntacticized Remnant Condition is satisfied if the direct object of the verb is the chosen as the correlate (since the DO and the remnant are both DPs):

(7.23) Someone shot Jack, but I don't know who.

Of course, we have intuitions about what counts as the correlate in sluicing. In (7.23), it should be the indefinite subject, and not the direct object, that counts as the correlate. Nothing about a purely syntactic formulation of the Remnant Condition captures this intuition, however. This is not a desirable result. Note that C/case is irrelevant here, since neither *someone* nor *Jack* in English bear any explicit case morphology (we cannot appeal to Stubborn case Matching to rule such instances out).

The same issue diminishes the empirical coverage of the Remnant Condition as well. Consider switched argument sluices, for instance, such as that in (7.22a) with a pied piped remnant *with who(m)* (repeated below).

(7.22a) Someone was making out with Jack, but I don't know (*with) who ~~Jack was making out with~~.

In (7.22a), if the remnant is a PP, pure reference to syntactic category allows *with Jack* in the antecedent to count as the correlate. The Sluice Condition cannot rule such cases out: the QuD made salient by the antecedent is a set of propositions of the form *that x was making out with Jack*, whereas the sluice would be the question *with who(m) Jack was making out*, which is precisely the same set of propositions. Any answerhood operator applied to either question meaning would yield the same answer in a given model, in satisfaction of the Sluice Condition. The purely syntactic Remnant Condition, in failing to make reference to semantic content at all, fails to predict that a PP remnant is ungrammatical in such cases.

The semanticized Remnant Condition defended here, on the other hand, may appeal to a semantic difference between comitative PP correlates like *with jack* and DP remnants like *who* in ruling such cases out. Nonetheless, there are imaginable ways to address at least some of these challenges to a purely syntacticized Remnant Condition. I entertain a couple of possibilities below, and highlight their advantages and pitfalls.

7.3.3 Some syntactic extensions of the Remnant Condition

7.3.3.1 Category matching and F-marked correlates

As we've seen, category equivalence alone is insufficient. Something must be said to force the establishment of the *right* remnant/correlate relation, the one we have intuitions about in a given case of sluicing. The challenge for a purely syntactic approach to the Remnant Condition is in explaining why we have the intuition we do, e.g., in examples like (7.23), where it is the indefinite subject that counts as the correlate, and not some other XP.

One idea, proposed in Vicente 2012,[10] is to stipulate that the correlate must be an

[10] And independently suggested to me by Veneeta Dayal (p.c.).

F-marked XP. This would require treating indefinites as F-marked, a plausible move, considering that indefinites, Wh-phrases, and F-marked XPs are all alternative-evoking expressions.[11,12] In an example like (7.22a), if *someone* is F-marked, and the PP, *with Jack*, not, then we capture the intuition that it is *someone* that must count as the correlate, and not the PP. Since *someone* and *with who* mismatch in category, the syntacticized Remnant Condition is violated, correctly banning switched argument sluicing with a pied piped remnant in cases like (7.22a).

In support of this approach, note that F-marking of *Jack* in the antecedent in (7.22a) does, in fact, render it a grammatical correlate, allowing for a PP remnant, as expected, provided the sluiced Wh-phrase is exceptively modified:

(7.24) Someone is making out with $Jack_{[F]}$, but I don't know with whom *(else).

F-marking in the antecedent in (7.24) introduces the presupposition that it is a congruent response to a QuD paraphraseable as *with whom was someone making out?* The antecedent partially addresses this question, rendering salient a sub-question (namely *who else besides Jack was someone making out with?*), with which an else-modified sluice is semantically equivalent (also satisfying the Sluice Condition).[13]

In short, assuming that correlates must be F-marked fixes one of the problems outlined in the preceding discussion for a purely syntactic formulation of the Remnant Condition. Worth noting is that this added assumption can be seen as natural in a way, so that it is not

[11]In fact, many authors have proposed analyses where one or more such types of alternative evoking expressions are identical to another, with corresponding interpretive and morphological differences derivable via independent factors, such as illocutionary force (e.g., Reich 2002, Reich 2004, Beck 2006, Cable 2007, AnderBois 2011).

[12]Note, however, that this move raises questions for theories of information structure and F-marking like that in Roberts 1996. In Roberts's 1996 theory, assertions are answers to implicit or explicit QuDs. If we assume indefinites are F-marked, Roberts's presupposition of prosodic focus leads us to expect that a sentence like *someone left* may be a congruent response to the QuD *who left?* This is, of course, counter to our intuitions about what counts as a congruent answer.

[13]Note, however, that F-marking on *with Jack* requires this discourse, by Roberts's 1996 presupposition of prosodic focus. That is, the sluice in (7.24) cannot be interpreted as a question about whom Jack was making out with, as is the case in examples like (7.22a). This is simply because the antecedent with F-marking on *with Jack* does not render an appropriate QuD salient for such a sluice (the Sluice Condition is guaranteed to be violated).

just tacked on as an additional stipulation. What I have in mind is the observation that F-marked material is arguably more salient than other (possibly deaccented) material, which may aid in whatever mechanism establishes a remnant/correlate relation (perhaps in online parsing of sluice/antecedent pairs).

Unfortunately, it is still not clear how such a fix can extend to p-or-q sluices, which, even if we analyze them as involving F-marked disjunction correlates, still constitute category mismatches between the remnant and correlate. As mentioned previously, we could put p-or-q cases aside as special, but this would still count as one point in favor of the semanticized Remnant Condition here defended. There are additional issues with an appeal to F-marking in the determination of remnant/correlate relations. It is not clear, for instance, how we may construe implicit correlates as F-marked, since F-marking seems to require, almost by definition, phonetic exponence of the F-marked material. The correct generalization may instead be stated in terms of alternative-evokingness more generally. Indefinites are alternative evoking, and implicit correlates are typically indefinites.

7.3.3.2 "Phantom antecedents" to the rescue?

Category matching between the remnant and correlate, along with some reference to alternative evokingness or F-marking comes very close to succeeding as a purely syntactic implementation of the Remnant Condition. Its only major flaw seems to be an inability to account for p-or-q sluices. Ken Safir (p.c.) suggests an alternative that promises to bring p-or-q sluices into the purview of a syntactic Remnant Condition.

The basic idea is that the antecedent, in making a QuD salient, also renders salient an implicit set of intuitive paraphrases of the QuD. This set of paraphrases is a set of syntactic objects (perhaps LF representations). The Remnant Condition could then be stated in terms of a comparison of the syntactic form of the remnant and some Wh-phrase in one of these paraphrases. So long as the remnant is syntactically identical to the Wh-phrase in at least one of these syntactic paraphrases of the QuD, the Remnant Condition is met.

Consider a simple sluice like that in (7.25), for instance. Some plausible syntactic

paraphrases for the QuD that the antecedent in (7.25) renders salient are as given in the set in (7.25). For explicitness, let us refer to the QuD that a given antecedent makes salient as the output of the function QuD(ant) (a semantic object - a question meaning), and the set of syntactic paraphrases is returned by the function "SynPar" applied to QuD(ant). Furthermore, for concreteness, let us refer to this hypothesis as the "SynPar" hypothesis.

(7.25) Someone left, but I don't know who.

$$\text{SynPar(QuD(ant))} = \left\{ \begin{array}{l} [_{\text{CP}}\ \text{Who}_{\text{i}}\ [_{\text{TP}}\ t_{\text{i}}\ \text{left}\ ]\ ]? \\ [_{\text{CP}}\ \text{Who}_{\text{i}}\ \text{was}_{\text{j}}\ [_{\text{TP}}\ \text{it}\ t_{\text{j}}\ t_{\text{i}}\ ]\ ]? \\ [_{\text{CP}}\ \text{Who}_{\text{i}}\ \text{was}_{\text{j}}\ [_{\text{TP}}\ \text{it}\ t_{\text{j}}\ t_{\text{i}}\ \text{that left}\ ]\ ]? \\ \text{(other imaginable paraphrases)} \end{array} \right\}$$

In (7.25), the Remnant Condition is met, since there is a Wh-phrase in some paraphrase of the QuD in SynPar(QuD(ant)) with which the Remnant matches.

Disjunction correlates intuitively raise QuDs paraphraseable as "which-questions," so that a sluice with "which" as a remnant straightforwardly satisfies the Remnant Condition:

(7.26) Something's on fire, or Sally's baking again, but I don't know which.

$$\text{SynPar(QuD(ant))} =$$

$$\left\{ \begin{array}{l} [_{\text{CP}}\ \text{which}_{\text{i}}\ \text{is}_{\text{j}}\ [_{\text{TP}}\ \text{it}\ t_{\text{j}}\ t_{\text{i}}\ ]\ ] \\ [_{\text{CP}}\ \text{which}_{\text{i}}\ \text{is}_{\text{j}}\ [_{\text{TP}}\ t_{\text{i}}\ t_{\text{j}}\ \text{true}\ ]\ ] \\ \text{(other imaginable paraphrases)} \end{array} \right\}$$

In QuD-based approaches to sluicing identity, like our Sluice Condition, the sluiced question "echoes" the QuD rendered salient by the antecedent. That is, the pre-sluice is an "explicit asking" of the antecedent's QuD in a direct question sluice such as *A: someone left . . . B: who (left)?* This means that (pre-)sluices are, essentially, syntactic paraphrases of the QuD that the antecedent makes salient. Under the SynPar hypothesis, then, it would seem that, for any sluice, it must correspond to some element in SynPar(QuD(ant)). Interestingly, this result allows us to jettison the Remnant Condition altogether, instead relying on pure syntactic identity between the sluice and some element in SynPar(QuD(ant)). In (7.26), the pre-sluice for the the sluice, as argued in Chapter 2, is an it-cleft: *which it is*,

which is also an intuitive paraphrase of the QuD rendered salient by the antecedent (hence its membership in SynPar(QuD(ant))). Nothing stops us from comparing the syntax of the paraphrase in SynPar(QuD(ant)) and the sluice directly, so no reference to a Remnant Condition need be made.

Importantly, in order to capture inheritance of content effects and Barker's Answer Ban generalization, we must still appeal to a QuD-based semantic identity condition alongside such a syntactic identity condition. The Remnant Condition, then, is nothing more than a strict, Fiengo-and-May-style syntactic identity condition, pertaining to the entire sluice (not just the remnant) and some element in SynPar(QuD(ant)) (a syntactic Wh-question), which lives alongside a QuD-based semantic condition. Together, the two conditions constitute a hybrid identity condition, much in the spirit of that proposed in e.g., Chung 2006.

The crucial difference between proposals like that in Chung 2006 and the approach sketched above, of course, is the divorce between the syntactic structure of the antecedent itself, and the elements in SynPar, which, if we are to take the notion that these are intuitive paraphrases of the QuD, may vary structurally from the antecedent rather dramatically (see the elements in SynPar in (7.25)). The prediction, then, is that sluices may differ structurally from the explicit surface antecedent, ant, provided that there is an element in SynPar(QuD(ant)) with which the sluice is syntactically identical.

There are precedents to such a proposal in the literature. Johnson 2012b proposes a version of e-GIVENness (dubbed F-GIVENness) that references an alternative, accommodated, antecedent (called a "Phantom Antecedent") constructed from overt deaccented (i.e., non-F-marked) material in the discourse (building on ideas in Fox 1999). The need for Phantom Antecedents comes from whatever advantages may be gained by adhering to a strict syntactic isomorphism condition in the face of evidence for syntactic mismatches between the actual antecedent, and the sluice.

When the sluiced structure is not syntactically identical to the antecedent, a strict identity condition may, instead, refer to the relation between some Phantom Antecedent and the

sluice. Johnson 2012b does not assume such Phantom Antecedents are Wh-question paraphrases of the QuD, as in the SynPar hypothesis, though SynPar(QuD(ant)) can be seen as a set of Phantom Antecedents (Phantom antecedents that are Wh-question paraphrases of the QuD). In fact, one advantage of SynPar over the usual notion where antecedents to sluiced questions are declaratives, is that SynPar is a set of phantom Wh-question antecedents, so that strict syntactic isomorphism is more directly met (avoiding altogether issues of whether traces (intermediate or otherwise) and copies and Wh-morphology interrupt syntactic isomorphism).

van Craenenbroeck 2012 adopts Johnson's 2012b assumptions, along with strict isomorphism, with the added assumption that copular clauses may constitute Phantom Antecedents, even when the explicit antecedent itself is not a copular clause. van Craenenbroeck assumes, building on ideas in Merchant 2004, that Phantom Antecedents may be constructed, not only from overt material in the discourse (e.g., the lexical content of the antecedent and the remnant), but also from material that he argues is "freely available in any discourse," including, especially, copular verbs and pronouns (provided the referent of the pronoun is sufficiently salient). By assuming Phantom Antecedents may be copular clauses, van Craenenbroeck 2012 opens the door to pseudosluicing as a special case of syntactic isomorphism.[14]

van Craenenbroeck's assumptions, for instance, allow for a phantom antecedent like that in (7.27); if the identity condition compares Phantom Antecedents with sluices, the sluice in (7.27) can be seen as respecting strict syntactic isomorphism:

(7.27) A: Someone left, but I don't know who ~~it was that left~~.
(Phantom = It was someone that left)

[14]Though it should be borne in mind that, unlike the proposal defended here, this counts as a "constrained" theory of pseudosluicing, in that accommodation/construction of a phantom antecedent is appealed to. In contrast, Split Identity requires no phantoms.

Similarly *who was it that left?* is an intuitively synonymous paraphrase for the QuD rendered salient by the antecedent in (7.27), so that *who was it that left*? is a phantom Wh-question in SynPar(QuD(ant)). This comes even closer to achieving strict syntactic isomorphism between a Phantom Antecedent and the sluice than a comparison between the sluice and a declarative Phantom Antecedent.[15]

This hypothesis is very attractive; it solves the issue of the determination of the correlate, since there is no Remnant Condition to speak of - just a syntactic identity condition requiring syntactic isomorphism between the sluice and some element in SynPar. It allows for detectible mismatches between the overt surface antecedent, and the sluice, including pseudosluices, since the sluice is only expected to be syntactically isomorphic with *some* paraphrase of the QuD the explicit antecedent makes salient, and it also easily lets in p-or-q sluices as isomorphic sluices. In short, it immediately addresses the major issues plaguing a syntactic formulation of the Remnant Condition, by replacing the Remnant Condition with a, more nuanced, strict isomorphism condition.

However, a general concern for Phantom Antecedent approaches is how to constrain the relationship between the Phantom Antecedent and the explicit antecedent. Appealing to intuitions about paraphrases for the QuD that the explicit antecedent renders salient runs the risk of overgenerating without additional restrictions. Consider, for instance, switched argument sluices like that in (7.28), where a PP remnant is illicit:

(7.28) Someone was making out with Jack, but I don't know
{who/*with whom} ~~Jack was making out~~.

The QuD that the antecedent makes salient in (7.28) is a set of propositions varying with respect to individuals that Jack was making out with, or, synonymously, who were making out with Jack. An intuitive paraphrase of such a QuD, then, is *With whom was Jack making out?* If the notion of "intuitive paraphrase of the QuD," is all that is required for some syntactic Wh-question paraphrase of the QuD to make it into SynPar(QuD(ant)), we

[15]Ignoring, of course, Subj-Aux inversion in the phantom Wh-question, missing in the embedded sluice. This lack of complete isomorphism is not so worrisome; it is still a closer match than that between a phantom declarative antecedent and the sluice.

incorrectly predict (7.28) to go through with a PP remnant, since *with whom was Jack making out?* is in SynPar(QuD(ant)), and is syntactically identical to the sluice. Perhaps as a direct consequence of the syntactic identity condition behind this prediction, it is also the case that a syntacticized Remnant Condition would fail to rule a PP remnant out in (7.28); since *with whom* is a Wh-phrase in some syntactic paraphrase of the QuD, it is available as a correlate for the remnant *with whom*, which is, of course, syntactically isomorphic with that correlate.

The appeal to paraphrases of the antecedent's QuD raises similar questions about how to account for the data behind Chung's Generalization and the ban on diathesis alternations. Consider a sprout like that in (7.29), where the remnant must be an *of*-PP:

(7.29) Jack is jealous, but I don't know { of whom/*who(m) }.

QuD based approaches require that the antecedent render salient a QuD about the identity of the object of Jack's jealousy, insofar as the sluice with a pied piped remnant goes through under such approaches. That is, in order for an *of whom?* question to be sluiced, the sluice's antecedent must have rendered salient the same question as the sluice. Now, there are, at least, two ways in which to paraphrase the QuD rendered salient by the antecedent in (7.29):

(7.30) a. of whom is Jack jealous?

b. Who is Jack jealous of?

As is immediately evident, a sprout with P-stranding, of the form: *Who is Jack jealous of?* is syntactically isomorphic with some paraphrase of the QuD, in SynPar(QuD(ant)) (namely, that in (7.30b)). If all that is required by the syntactic identity condition is syntactic identity between some element in SynPar(QuD(ant)) and the sluice, itself, examples like (7.29), with just a DP remnant, are erroneously predicted to be grammatical.

The SynPar hypothesis, while letting in p-or-q sluices in a purely syntactic way, suffers from overgeneration in other areas. If it is to cover the same empirical ground as our semanticized Remnant Condition, or the syntacticized, focus-sensitive Remnant Condition discussed in the previous section, it must be further constrained. Extant Phantom Antecedent approaches, such as those in Johnson 2012b, van Craenenbroeck 2012, endeavor

to achieve a stronger theory by constraining the relationship between the explicit antecedent and which sorts of Phantom Antecedents may correspond to it (see, especially, the most recent Phantom Antecedent approach I am aware of, Thoms 2014). Johnson 2012b, for instance, requires that the syntactic material comprising Phantom Antecedents be available as overt morphemes in the discourse (e.g., the morpho-syntactic content of the explicit antecedent, or the remnant). An extension of this assumption to the SynPar hypothesis would capture the unavailability of (7.30b) as an element in SynPar(QuD(ant)). This is so since there is no overt P^0 in (7.29) with just the DP remnant *who(m)*. On the other hand, the remnant *of whom* provides such a P^0, which may participate in the construction of either (7.30a) or (7.30b) in SynPar. If we are to adhere to a strict syntactic identity relation between elements in SynPar and the sluice, it would have to be (7.30a) in SynPar that renders the sprout in (7.29) acceptable when the remnant is a PP.

Unfortunately, the assumptions in the preceding paragraph fail to derive the unnacceptability of examples like (7.28), since, in such cases, there is sufficient overt material to construct a Wh-question paraphrase of the QuD in SynPar. The antecedent *someone was making out with Jack* renders a QuD paraphrasable as *with whom was Jack making out?* or *Who was Jack making out with?* salient. In neither case does the paraphrase violate the constraint that only overt material participate in the construction of the Phantom Antecedent. As such, we incorrectly predict examples like (7.28) to go through, since *with whom was Jack making out?* in SynPar(QuD(ant)) is syntactically identical to the sluice *with whom* ~~*Jack was making out*~~ (once again, ignoring Subj-Aux inversion in the SynPar Phantom Antecedent).

At the same time, it is worth noting that the appeal to "intuitive paraphrases" of the QuD as in the SynPar hypothesis does automatically achieve some empirical coverage with respect to Merchant's Preposition Stranding Generalization (PSG). An intuitive paraphrase of a QuD is a syntactic object that is generable in the source language, since intuitions are constrained by linguistic competence, of course. Therefore, in a non-P-stranding language, an antecedent cannot correspond to a P-stranding structure in SynPar(QuD(ant)). That is,

the structures in SynPar(QuD(ant)) are expected to be grammatical/convergent structures in the source language. This much would automatically rule out P-stranding in structures in SynPar(QuD(ant)) in non-P-stranding languages.

Importantly, given the possibility of pseudosluices in, e.g., PSG-deviant languages, like Spanish and Brazilian Portuguese, we have to allow for copular clause and cleft questions to be in SynPar(QuD(ant)), given non-copular antecedents. That is, so long as a cleft or copular clause question is a viable paraphrase of the QuD made salient by a non-copular antecedent, P-stranding effects should be detectible in the language. This raises an important question for the SynPar hypothesis; how do we constrain the relationship between the syntactic objects in SynPar(QuD(ant)) and ant in a way that is sensitive to the crosslinguistic distinctions in the availability of P-stranding and pseudosluicing? That is, in German, a cleft question with nominative case on the Wh-phrase is surely a fine paraphrase of the intuitive QuD that a sentence like *Jack shot someone* makes salient (though, of course, this claim should be tested with native speakers of German, as this author is not). Nonetheless, a case mismatch between *someone* and *who* is banned in German, so that we must have some way of preventing the cleft paraphrase of the QuD from being in SynPar. Alternatively, we might appeal to Stubborn case Matching; suppose that such paraphrases are, in fact, allowed in SynPar, even in PSG-compliant languages, but Stubborn case Matching independently rules the sluice out. Perhaps that is all that is required to capture the cross-linguistic P-stranding patterns.

I conclude with the concession that a Phantom Antecedent-style analysis shows much promise. The discussion in this section is in very broad terms, with little in the way of a serious exploration of the consequences of any sorts of explicit assumptions any particular implementation commits us to. Nonetheless, the general questions the assumptions underlying Phantom Antecedence lead us to are clear. Each implementation of a Phantom Antecedent approach in the literature mentioned in the preceding discussion (Johnson 2012b, Thoms 2014, van Craenenbroeck 2012) implements constraints on Phantom Antecedents in different ways, and, undoubtedly, more careful work must be done to ascertain

the ultimate viability of such approaches.

We have also seen that the SynPar hypothesis, where Phantom Antecedents are implicit syntactic Wh-questions, adheres to the notion of strict syntactic isomorphism as outlined in Fiengo and May 1994 more directly than the abovementioned declarative Phantom Antecedent approaches. In common with the declarative approaches, however, we have seen that the SynPar hypothesis must also appeal to restrictions on the structure of a possible Phantom Antecedent given a particular explicit antecedent structure. In the above discussion, we have seen that such approaches also promise to address many issues plaguing a purely syntactic formulation of the Remnant Condition, and also let in p-or-q sluices as special cases of strict identity (literally by obviating the need for a Remnant Condition, which may be supplanted by a pure syntactic identity condition comparing the structures of the (possibly Phantom) antecedent and the sluice). Regardless of these advantages, it stands that the approach defended in this thesis manages to derive the same set of facts without any appeal to phantoms or constraints on antecedent/phantom relations, giving it an automatic conceptual advantage over Phantom Antecedent hypotheses (no additional machinery such as SynPar or F-GIVENness need be appealed to). Once again, Split Identity with a semanticized Remnant Condition ends up as a simpler way of accounting for the facts than the syntacticized alternatives, making for a conceptually leaner approach.

7.4 Conclusion

In this chapter, we examined some challenges to the Remnant Condition posed by contrast sluices, and extended the Remnant Condition so that it made reference, not only to regular semantic values of the remnant and correlate, but focus semantic values. This was shown to be sufficient, under standard assumptions about focus semantics, to address these challenges. Challenges to the Sluice Condition posed by contrast sluices were shown to be tractable with a more careful examination of the role of antecedents with narrowly focused correlates in discourses, and a more nuanced understanding of how it is that antecedents render QuDs salient, which QuDs are those referenced in the Sluice Condition.

We also addressed concerns surrounding the semanticized Remnant Condition proposed in this thesis by entertaining viable syntacticized alternatives. We noted that such alternatives come with their own problems, which the live semanticized formulation avoids. Such defenses of a syntacticized Remnant Condition show promise, and there are, no doubt, other imaginable implementations not explored here. Perhaps with a more careful investigation, a resulting syntactic formulation will, in fact, be more explanatory and parsimonious than the semanticized theory defended here. We saw that our semanticized Remnant Condition has three flaws: it requires an extension to focus semantic values of correlates and remnants in order to account for its satisfaction in contrast sluices, it requires an unconventional view of pleonastic prepositions, where they are not, despite intuitions, pleonastic, and it introduces some redundancy with respect to Inheritance of Content effects and Barker's 2013 "Answer Ban," generalization. At the same time, the semanticized version of the Remnant Condition defended here does better than the purely syntactic implementations discussed in straightforwardly accounting for p-or-q sluices, and does not require any additional assumptions or machinery to capture the intuitive remnant/correlate relation.

Chapter 8
Conclusion

An independently motivated identity condition was shown to be available that allows for pseudosluices and also captures the data motivating more strict syntactic identity proposals without any appeal to the content of the E-site (The Split Identity Condition). This is a desirable result, given the evidence in favor of the pseudosluicing hypothesis covered in Chapter 2. Formulating an identity condition on sluicing which lets in pseudosluicing is challenging for both semantic and syntactic reasons. Semantically, clefts differ from their non-cleft antecedents in contributing exhaustivity. Syntactically, the content of a copular clause is radically different from that of a non-cleft antecedent, including the head of the small clause core of the copular clause, and potentially also a relative clause in an equative cleft.

Stubborn case Matching, however, remains as an additional empirical generalization, only active whenever the correlate is a case-bearing category (i.e., DP). I have suggested that Stubborn case Matching might receive a processing based explanation, where case mismatch somehow interrupts whatever mechanism establishes the remnant/correlate relation online in processing, though it is mysterious why this should be the case only sometimes. One suggestion is that whatever this mechanism is, it makes use of whatever information is available on the remnant in order to anaphorically search for a matching correlate; the presence of case on the remnant then serves as an instruction to search for a matching instance of that case in the antecedent. If the correlate does not match in case (or is not a case-bearing category), it is as invisible to the search mechanism as is any other constituent in the sentence. Even if something like this could be demonstrated to be the case, it would remain mysterious why the case condition was only active when the correlate was a DP,

and the mechanism would have to be constrained so as not to apply whenever the correlate was not a DP (as in e.g., p-or-q sluices in remnant-case languages).

Split Identity does not make any reference to the syntactic content of the E-site. This is a particularly strong way of ensuring that pseudosluicing may go through as a regular case of sluicing, perfectly satisfying the identity conditions on sluicing just the same as non-pseudosluices (i.e., this is the unconstrained pseudosluicing hypothesis). As Jason Merchant (p.c.) rightly asks: in the face of such an assumption (and its empirical successes), how secure is the assumption that there is silent syntax in the E-site?

The answer, I contend, is that this assumption is quite secure. The very fact that the pseudosluicing hypothesis, or the unconstrained pseudosluicing hypothesis for that matter, can be defended as successfully as it has been in this thesis (in particular in Chapter 2) would be mysterious under the view that there is no silent structure in the syntax. The research question entertained in this thesis: *what is the silent structure like in sluicing?*, cannot be asked coherently under the assumption that there is no silent structure. The surprising results of the investigation are that the assumption of silent structure yields empirically consistent results at every turn. This is a mysterious state of affairs if there is no silent structure in sluicing. In contrast, it is entirely consistent with the large body of evidence in support of silent structure, as elucidated in Ross 1969, Merchant 2001 (e.g., case matching, P-stranding and form-identity effects more generally).

It is precisely the assumption that sometimes clefts and copular clauses underlie some sluices that allows us to understand the crosslinguistic P-stranding facts that van Craenenbroek 2008 et seq. points out. Furthermore, the crosslinguistic patterns surrounding adjectival sluices are robustly consistent with the assumption that such sluices are derived from underlying predicational copular clauses; there is no a priori expectation that adjectival remnants should pattern with predicative morphology under the view that there is no silent structure. P-or-q sluices, additionally, strongly support the pseudosluicing hypothesis, in that, in languages like Russian and Polish, where cleft continuations are out for clausal disjunction antecedents(/correlates), we (rightly) expect corresponding sluices to

be unavailable (in contrast to languages like German, English, etc., where both cleft continuations and sluices are available). In short, at every turn, the assumption that there is silent syntax, and that it has a specific character, makes the right predictions. It is difficult to see how a non-silent-structure approach may manage to capture these facts or successfully argue that the empirical and conceptual successes of the silent structure approach are accidental.

An important, related, point concerns the phenomenon of repair in sluicing. Proponents of "what you hear is what you get" (wyhiwyg for short) approaches (Ginzburg and Sag 2000, Culicover and Jackendoff 2005, Sag and Nykiel 2011, Barker 2013) have pointed out that the phenomenon of island repair is a "wild misprediction" of silent structure approaches such as those in Ross 1969, Merchant 2001. Proponents of silent structure contend that sluices are regular Wh-questions, with regular Wh-movement, the only difference from pre-sluices being that the majority of the structure is unpronounced. A straightforward prediction of this assumption is that regular Wh-movement under ellipsis should be subject to regular constraints on Wh-movement (namely, islands). Ross 1969 was the first to point out that this is not the case, at least according to certain assumptions about what the silent structure consists of, and concomittant grammaticality judgements for the relevant sluices. That is, if we assume that the sluice in (8.1) has the silent syntax indicated, we must conclude that sluicing "fixes" island violations:

(8.1) They hired someone who speaks a Balkan language, but I don't know which ~~they hired someone who speaks~~.

Here, it seems that, the Wh-phrase *which* crosses an island boundary in A′-moving to the left periphery, and that sluicing fixes this problem, since the sluice is perfectly acceptable. This is not what we would expect under the view that sluices involve regular Wh-movement of the remnant followed by PF-deletion of the TP contained in the sluiced interrogative.

Non-silent structure proponents take facts such as this as indicative that the silent structure approach is on the wrong track; the lack of island effects in sluicing, and the phenomenon of island repair, more generally, is seen as strong support for the lack of regular

A′-movement in sluicing. Instead, wyhiwyg-ists assume that the remnant is base-generated in its surface position, providing an easy explanation for the lack of island effects (if there is no movement, no island nodes are crossed).

However, in more recent literature, it is becoming more widely known that island effects are readily detectible in a (growing) subset of sluices. We have already seen, in Chapter 2, some evidence in support of this. While it is true that many silent structure proponents adopt the view that island effects are "repairable" by ellipsis, there is a vein of research in the silent structure tradition that argues against this, and takes island amelioration to be illusory. In short, island repair effects arise because of the presence of non-island containing E-sites. Independently motivated deviations from standard assumptions about silent structure (motivated by isomorphism assumptions) allow for E-sites where the Wh-remnant does not cross an island boundary on its way to the left periphery. The lack of island effects in many sluices then follows from the conclusion that there simply is no island violation to begin with. Under such a view, ellipsis cannot fix island violations.

Merchant's 2001 PSG (and its robustness in PSG-compliant languages) is surprising under the view that there is no regular Wh-movement in sluicing. Why is it that sluicing remnants in languages where P-stranding is impossible must be PPs? If sluicing remnants may be base-generated in surface position without movement, it is surprising that the predictions of the silent structure approach, which would hold that P-stranding should be out under sluicing just the same as in overt movement, should be so robustly attested. Granted, there are many counterexamples to the PSG in PSG-deviant languages. Silent structure proponents have proposed the pseudosluicing hypothesis as an explanation for these facts, as constrained by van Craenenbroeck's work on morphological case matching. What is especially interesting is that the predictions of the pseudosluicing hypothesis, as explored in great and convincing detail in Rodrigues et al. 2009, should be so robustly borne out in support. In short, the silent structure approach has a ready explanation for the facts discussed in Chapter 2, whereas the wyhiwyg-ists have a set of puzzles to solve.

The evidence in support of predicational pseudosluicing from adjectival sluices is of a

similar flavor. If left branch extractions are unavailable under sluicing just the same as they are unavailable under regular Wh-movement, we expect adjectival remnants in grammatical sluices not to pattern with attributive morpho-syntax, and, under the predicational pseudosluicing hypothesis, to pattern with predicative morpho-syntax instead. As discussed extensively in Chapter 2, this prediction is robustly borne out. The predicational pseudosluicing hypothesis provides an automatic explanation for these empirical facts. Now why should things be this way if there is no silent structure?

Additionally, it has been noted that contrast sluices and contrastive fragment answers, unlike non-contrast sluices/fragment answers with indefinite correlates, are island sensitive (Fukaya 2007, Merchant 2004, Merchant 2008, Griffiths and Lipták 2012, Barros 2012, Temmerman 2013 among others). As Fukaya 2007, Barros 2012 point out, this follows from standard assumptions about focus semantics and syntax, and question/answer congruence. As illustrated in Barros 2012, contrastive clausal ellipsis forces a syntactically isomorphic parse for the E-site, ensuring that any islands in the antecedent will be present in the E-site, in turn ensuring that the remnant has been extracted from an island. If we assume ellipsis cannot repair islands, we expect contrast sluices and contrastive fragments to be island sensitive.

To summarize, there is much evidence for silent structure. This was true even before proponents of silent structure began collecting evidence that island repair was illusory in ellipsis. Ross's seminal 1969 analysis of sluicing provided much evidence for silent structure; from agreement, case, and interpretation. Merchant 2001 took up the aegis of "silent structure defender," contributing a wealth of evidence of "form identity effects" bolstering many of Ross's 1969 original points, as well as introducing new evidence and argumentation in support of a PF-deletion approach to sluicing. The evidence against island repair under ellipsis collected by anti-repair, silent structure, proponents in the last 15 years serves, not only to obviate a complaint of wyhiwyg-ists levelled against the silent structure approach (i.e., that lack of island repair is direct evidence against silent structure), but to strongly support the silent structure approach. The results garnered by these investigations raise

non-trivial issues for the identity condition on ellipsis as well.

In summary, we began with the goal to provide a theory of ellipsis identity that captures extant empirical generalizations and is also consistent with the unconstrained pseudosluicing hypothesis. Such a defense faces at least two challenges; one semantic, and one syntactic in nature. The semantic issue arises from the observation that pseudosluiced clefts are semantically distinct from the antecedent, or even the QuD that the antecedent makes salient. This is so because clefts introduce exhaustivity and uniqueness; a property missing from the antecedent in a typical case of sluicing where the antecedent is not, itself, a cleft. The syntactic issue for the identity condition comes from the syntactic content of a cleft or copular clause as it may be compared to the syntactic content of a non-copular antecedent. How may an identity condition on ellipsis be stated that cares about syntactic identity, but not enough to rule out pseudosluicing?

The semantic issue was shown to be surmountable if sluicing is analyzed as anaphoric to a prevailing QuD, an idea that is becoming more standard, as in the recent treatment in AnderBois 2011. Thus, it is not the antecedent itself that must be identical with the sluice, rather, the meaning of the QuD that the antecedent renders salient must be identical with the meaning of the sluice. Reliance on QuD-anaphora allows access to strong exhaustivity associated with questions. The particular implementation we adopted here, namely, that in Dayal 1996, and forthcoming, derives exhaustivity in questioning via answerhood operators. Under the view where QuD's/direct questions seek strongly exhaustive answers, both regular sluices and pseudosluices are licensed under the Sluice Condition.

The syntactic issue was avoided by assuming that the part of the identity condition that referenced the content of the E-site, namely, the Sluice Condition, was blind to its syntax. Importantly, this was not a stipulation motivated by the need to license pseudosluicing, but a conclusion motivated by considerations of parsimony. The Remnant Condition, which makes no reference to the content of the E-site, was shown to capture the data that motivated Chung's Generalization and fixed diathesis effects; such data are often taken to indicate that identity in sluicing must include a fairly strict syntactic component. Not only

can the Remnant Condition replace these conditions, it also does better than those conditions in straightforwardly allowing for p-or-q sluices, and in accounting for the new data from discontinuous reciprocals. As a consequence, we no longer expect pseudosluices to interrupt identity by virtue of the content or structure of the E-site.

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