

# Syntactic Identity in Sluicing: How Much and Why

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Research on sluicing has not yet reached consensus on whether the identity condition on this ellipsis construction is syntactic or semantic. Evidence from Chamorro and English is presented that over and above semantic identity, sluicing requires limited syntactic identity. The limited syntactic identity condition involves argument structure on the one hand and abstract Case on the other. This approach is shown to account for a range of novel and familiar sluicing patterns in the two languages. It also provides new evidence for the idea that the Chamorro antipassive is an implicit argument construction.

*Keywords:* sluicing, ellipsis, syntactic identity, Case, argument structure, antipassive, Chamorro

## 1 The Backdrop

Since Ross 1969, discussions of ellipsis in linguistic theory have been framed by two hard questions. First, how much linguistic structure, if any, is there in the ellipsis site? Second, what identity conditions determine how that structure is related to other linguistic material in the discourse?

My aim here is to explore the second of these questions with respect to the ellipsis construction known as sluicing. The hallmark of sluicing is that it has the meaning of a constituent question but the surface form of an interrogative phrase; the rest of the question is “missing.” Consider the English examples in (1), in which the sluice is bracketed and the ellipsis site is underlined. (Throughout, the term *sluice* refers to the CP dominating the stranded interrogative phrase and the ellipsis site.)

- (1) a. Joe says he is investigating someone, but he won't tell me [who \_\_\_\_ ].  
b. She's complaining, but we don't know [about what \_\_\_\_ ].  
c. My library card has just been canceled; it's unclear [why \_\_\_\_ ].

The sluices in (1) have the same interpretations as the corresponding complete constituent questions bracketed in (2).

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- (2) a. Joe says he is investigating someone, but he won't tell me [who he is investigating].  
 b. She's complaining, but we don't know [about what she's complaining].  
 c. My library card has just been canceled; it's unclear [why it's just been canceled].

Virtually all investigations of sluicing have accounted for its interpretation by assuming that the ellipsis must be identical, in some sense, to linguistic material elsewhere in the discourse. But exactly what sorts of identity are involved?

Early accounts of sluicing and other types of ellipsis appealed to syntactic identity. Ross (1969) originally proposed that sluicing was derived from a complete constituent question by a deletion transformation. The transformation could apply only when the material to be deleted was syntactically identical to other material in the linguistic context. Similarly, Ross posited a VP-Deletion transformation that could turn a complete verb phrase into an elided VP when it was syntactically identical to another VP in the discourse. In the 1990s, syntactic identity was reconfigured as identity in Logical Form (LF). Rooth (1992) and Fiengo and May (1994) developed theories of VP-ellipsis in which the elided VP must be LF-identical, or LF-equivalent, to some other VP in the discourse. (Romero (1997, 1998) formulates a version of Rooth's theory that she extends to sluicing.) These theories assume that the elided VP has internal syntactic structure in LF, while remaining neutral about how that structure arises. Chung, Ladusaw, and McCloskey (CLM) (1995, 2011) take a different approach to sluicing. In their system, sluicing consists of a CP whose TP complement is empty in the syntax but given content in LF. The LF operation that supplies the content does so by copying a fully fleshed-out TP from elsewhere in the discourse. On all of these accounts, the meaning of the ellipsis follows from the syntactic structure occupying the ellipsis site at the point when semantic interpretation occurs.

At roughly the same time as these LF approaches to ellipsis, a second wave of accounts began to explore a direct appeal to semantic identity. Dalrymple, Shieber, and Pereira (1991) and Hardt (1993) proposed purely semantic accounts of identity in VP-ellipsis—accounts in which the elided VP has no internal syntactic structure at any stage of derivation. On the sluicing side, Merchant (2001) developed a theory in which the ellipsis in sluicing has a full-blown syntactic structure that is deleted in Phonetic Form (PF). In his system, which has been widely adopted, the only identity condition on this PF deletion is semantic: the focus-closures of the material to be deleted and its antecedent must entail each other. In much the same vein, AnderBois (2011b) has proposed that the relation between the sluice and the antecedent clause involves mutual entailment over truth conditions and issues.

For sluicing in particular, there are good empirical reasons for sidestepping the syntax and going straight to a semantic identity condition. Ross (1969), CLM (1995), and others have pointed out many difficulties for approaches that would enforce syntactic identity between the ellipsis and its antecedent in the syntax proper. And Merchant (2001, 2005) has noted problems with syntactic identity that generalize to approaches that would impose this identity in LF. For instance, in sluicing mismatches like (3) (from Merchant 2005), the material that one would want to see in the ellipsis site is not syntactically identical to the antecedent clause. (This material is represented in italics and surrounded by angled brackets in the examples below.)

- (3) a. Decorating for the holidays is easy if you know how *<to decorate for the holidays>*.  
 b. I remember meeting him, but I don't remember when *<I met him>*.

As Merchant observes, assuming that sluicing requires full syntactic identity would lead to structure in the ellipsis site that is independently known to be ill-formed.

- (4) a. \*Decorating for the holidays is easy if you know how decorating for the holidays.  
 b. \*I remember meeting him, but I don't remember when meeting him.

A further empirical challenge to syntactic identity comes from Potsdam's (2007) investigation of sluicing in Malagasy, an Austronesian language of Madagascar. Malagasy is a *wh*-in-situ language that also has a sluicing construction. Potsdam shows that the interrogative phrase of sluicing is always the predicate of a pseudocleft, whereas the antecedent clause need not contain a pseudocleft structure. This, he maintains, is evidence that the identity condition on sluicing must be semantic rather than syntactic.

Nonetheless, contemporaneous with this second wave, evidence has been accumulating that sluicing really is constrained by *some* syntactic identity. As observed in Merchant 2001, 2013 and Chung 2006, sluicing does not tolerate active-passive mismatches: a passive clause cannot antecede an active clause in the ellipsis site (5a), and vice versa (5b).

- (5) a. \*Kelly was murdered, but we don't know who *<murdered Kelly>*.  
 b. \*Someone murdered Kelly, but we don't know by who *<Kelly was murdered>*.

In addition, as noticed by Levin (1982), CLM (1995, 2011), and Merchant (2013), sluicing does not tolerate argument structure mismatches involving ditransitive verbs.

- (6) a. \*It's known that they sent a silly message, but it's unclear who *<they sent a silly message>*.  
 b. \*It's known that they sent someone a silly message, but it's unclear to who *<they sent a silly message>*.

These facts follow from CLM's (1995, 2011) approach to sluicing, assuming that the LF operations that integrate the interrogative phrase into the copied TP—sprouting and merger—observe the constraints imposed by argument structure. For Merchant (2013), the facts argue for a unified theory of ellipsis that covers VP-ellipsis, sluicing, and other clausal ellipses. In his new theory, over and above any semantic identity condition on ellipsis, the heads in the verbal spine of the elided constituent must be syntactically identical to the corresponding heads in the antecedent.

Here I take this general line of inquiry a step further. I present evidence from two languages—Chamorro and English—for syntactic identity in sluicing. I also deconstruct the relevant notion of identity, showing that it involves argument structure on the one hand and Case on the other. The argument structure effects are familiar: a predicate in the ellipsis site must have an argument structure identical to the argument structure of the corresponding predicate in the antecedent clause. The Case effects are new (but prefigured in Chung 2006): if the interrogative phrase of the sluice is a DP, it must be Case-licensed by a head in the ellipsis site identical to a corresponding head in the antecedent clause. Obviously, these effects would follow if sluicing

were to require full-blown syntactic identity between the ellipsis and its antecedent, either in overt syntax or in LF. But we already know that such a requirement is too strong (see (3)–(4)). Thus, the discussion strengthens the evidence for an approach to sluicing that invokes both semantic and (limited) syntactic identity (see Chung 2006, AnderBois 2011a, Merchant 2013). The approach adopted here takes the semantic identity condition on sluicing to require focus-assisted mutual entailment (Merchant 2001). In addition, syntactic identity is imposed on just enough of the syntactic structure in the ellipsis site to enable the interrogative phrase to be syntactically licensed and integrated into an argument structure. The rest of the syntax in the ellipsis need not be identical to the corresponding portions of the syntax of the antecedent clause.

Although the evidence to be presented comes from two languages, most of the discussion concentrates on Chamorro. Section 2 introduces the Chamorro language and its sluicing construction. Section 3 demonstrates that sluicing in Chamorro exhibits argument structure effects. Building on facts first reported in Chung 2006, section 4 shows that sluicing also exhibits Case effects: if the interrogative phrase of the sluice is a DP, it must be Case-licensed by a head in the ellipsis site identical to a corresponding head in the antecedent clause. Section 5 shows that sluicing in English is similar: it exhibits Case effects as well as argument structure effects. Section 6 develops an approach to sluicing that appeals both to semantic identity and to limited syntactic identity. Finally, section 7 extends the analysis to instances of Chamorro sluicing in which the antecedent is an antipassive clause.

## 2 Some Basics

### 2.1 *An Introduction to Chamorro*

Chamorro is an Austronesian language of Western Micronesia, spoken by some 45,000 people in the US Commonwealth of the Northern Mariana Islands (CNMI) and the unincorporated US territory of Guam, and by numerous Chamorros on the US mainland. Like Palauan, it is an isolate within the Malayo-Polynesian subfamily of Austronesian, with a morphosyntax significantly different from that of the better-studied Malayo-Polynesian languages (such as Malagasy, Tagalog, and Indonesian). Only the briefest of introductions to Chamorro clause structure can be provided here. For more discussion, see Chung 1998 and the references cited there.

*2.1.1 Word Order, Case Marking, and Prepositions* Chamorro is a head-initial language that allows predicates of any major category type and a range of null arguments. The word order of clauses is predicate-first. When the predicate is a verb or an adjective, the order of arguments and adjuncts following it is flexible, but the most neutral order is *Predicate Subject Object Other*.<sup>1</sup>

<sup>1</sup> The Chamorro examples in the text are presented in the new standard orthography developed in the CNMI in 2009 and approved by the Chamorro/Carolinian Language Policy Commission in 2010. This orthography differs slightly from the surface phonemic representations found in earlier works of mine (e.g., Chung 1998) and more substantially from the older standard orthography used in, for example, Topping, Ogo, and Dungca 1975.

The following abbreviations are used in the morpheme-by-morpheme glosses: AGR = agreement, AP = antipassive, COMP = complementizer, EMP = emphatic, FUT = future, L = linker, LOC = local case, OBJ = objective, OBL = oblique case, PASS = passive, PL = plural, PROG = progressive, Q = question, SBJ = nominative, SG = singular, UNM = unmarked case, WH = *wh*-agreement. The following abbreviations are used for sources: EM = Borja, Borja, and Chung 2006; CD = Chamorro Dictionary database.

- (7) a. Ha bokbuk si Ton i umuk gi me'na-n gima'.  
 AGR pull.out UNM Ton the plant.sp LOC front-L house  
 'Ton pulled out the *digitaria* in front of the house.'  
 (CD, entry for *umuk*)
- b. In na'i si Dolores nu atyu siha na floris.  
 AGR give UNM Dolores OBL this PL L flowers  
 'We gave Dolores those flowers.'
- c. Ti ma'â'ñao yu' as nanâ-mu.  
 not AGR.afraid I OBL mother-AGR  
 'I'm not afraid of your mother.'  
 (EM 77)

Strong DP arguments are inflected for morphological case; weak DP arguments are not overtly inflected for case.<sup>2</sup> The language has three morphological cases: unmarked (glossed UNM when it is realized overtly), oblique (glossed OBL), and local (glossed LOC). These cases are realized via proclitic case markers whose shape depends on whether the DP is a common noun, name, or pronoun. The oblique case, for instance, is realized as *nu* or *ni* before common nouns, (*gi*)*as* before names, and *nu* before pronouns.<sup>3</sup> The case markers typically fuse with a definite article to their immediate right (e.g., *nu i palão'an* > *ni palão'an* 'the woman (OBL)').

The unmarked case is used for subjects, direct objects, possessors, topics, and DPs that have undergone *wh*-movement. The local case is used for arguments and adjuncts that denote location in time or space. The oblique case is used for other arguments and adjuncts, including agents of passive, objects of transfer, and instruments.

In addition to case markers, Chamorro has a small number of prepositions (including *para* 'to, for', *ginin* 'from', *put* 'because of, about', and *sa* 'because (of)'). Prepositions differ from case markers in that (a) their shape is not sensitive to the lexical properties of DP and (b) their DP complement can be strong or weak. Most prepositions take their DP complement in the unmarked case, but there are prepositions that allow or require their DP to surface in some other case.

As will be seen shortly, certain intransitive verbs and adjectives in Chamorro have a complement that surfaces as a DP in the oblique or local case (see (7c)). Precisely because Chamorro

<sup>2</sup> The strong DPs include pronouns, names, and DPs headed by the definite article *i*, a demonstrative, *todu* 'all', or *kada* 'each'. The weak DPs include DPs headed by the null indefinite article, a negative determiner, *bula* 'much, many', or *meggai* 'many'. DPs headed by the indefinite article *un* can be weak or strong. See Chung 2008:196. Note that weak DPs genuinely are DPs and not merely NPs. All weak DPs can, for instance, include a possessor—a constituent that surfaces in the specifier of D.

<sup>3</sup> The realizations of the case markers exhibit some dialectal and individual variation that has been preserved in the examples.

distinguishes between morphological case and prepositions, the case marker of this DP cannot be analyzed as a preposition. Nonetheless, the morphosyntax indicates that the relevant verbs and adjectives are intransitive, so this DP must be Case-licensed by some other head. Following a long tradition (see, e.g., Kuroda 1965, Emonds 1985, Landau 2010), I assume that these DPs—and, in fact, all Chamorro DPs in the oblique or local case—are the objects of null prepositions that serve as their Case licensors and dictate their morphological case. See Chung 1998 for discussion.

*2.1.2 Voice and Agreement* Chamorro has a voice system that distinguishes among active, passive, and antipassive verbs. Active verbs, whether transitive or intransitive, are not overtly inflected for voice. Passive verbs are inflected with the infix *-in-* or the prefix *ma-*; antipassive verbs are inflected with the prefix *man-* (realized as *fan-* in the irrealis mood). The following examples illustrate active transitive (8a), passive (8b), and antipassive (8c) clauses formed from the verb *bisita* ‘visit’:

- (8) a. Ha bisita si Dolores si Antonio.  
 AGR visit UNM Dolores UNM Antonio  
 ‘Dolores visited Antonio.’ [active transitive]
- b. *Binisita* si Antonio (gi)as Dolores.  
 AGR.PASS.visit UNM Antonio OBL Dolores  
 ‘Antonio was visited by Dolores.’ [passive]
- c. Man-bisita si Dolores as Antonio.  
 AGR.AP-visit UNM Dolores OBL Antonio  
 ‘Dolores visited Antonio.’ [antipassive]

Importantly, Chamorro does *not* have a Philippine-type voice system (Chung 1998:39–43). The broad design of its voice system is quite different from that of the voice system in, say, Tagalog. In Chamorro, the properties associated crosslinguistically with subjects are localized to just one DP of the clause. In active transitive and antipassive clauses, this DP is the external argument; in passive clauses, it is the internal argument. Further, Chamorro morphosyntax reveals that passive and antipassive clauses are subtypes of intransitive clauses. Subject-verb agreement can be used to illustrate this last point.

In Chamorro, predicates that are verbs or adjectives agree with their subjects in person and/or number. The realizations of this agreement are sensitive to mood and transitivity. For instance, consider how agreement works in the realis mood. Active transitive verbs agree with their subjects in person and number; this agreement is realized via proclitics that are written as separate words in the orthography (e.g., *ha* in (8a) and (9a)). Intransitive verbs and adjectives agree with their subjects in number only; this agreement is realized by the prefix *man-* in the plural and, depending on the predicate, either unrealized or realized by the infix *-um-* in the singular or dual (see (9b–c)). The features registered by agreement are glossed explicitly in (9)–(11).

- (9) a. Ha taitai i patgun i lepblu.  
 AGR[3SG] read the child the book  
 ‘The child read the book.’

- b. Matá'chung i patgun.  
 AGR[SG].sit the child  
 'The child sat.'
- c. Man-matá'chung i famagu'un.  
 AGR[PL]-sit the children  
 'The children sat.'

In passive clauses, the verb agrees with the subject (= the internal argument) in number only. It exhibits the agreement appropriate for intransitive verbs and adjectives, in other words. See (8b) and (10).

- (10) Man-*binisita* i famagu'un (gi)as Dolores.  
 AGR[PL]-PASS.visit the children OBL Dolores  
 'The children were visited by Dolores.'

In antipassive clauses, the verb agrees with the subject (= the external argument) in number only. It too exhibits the agreement appropriate for intransitive verbs and adjectives. See (8c) and (11).

- (11) Man-man-*bisita* i famagu'un as Antonio.  
 AGR[PL]-AP-visit the children OBL Antonio  
 'The children visited Antonio.'

The agreement in (8b) and (10) points to the standard analysis of passive clauses: the verb does not Case-license its internal argument, so that DP must raise to the specifier of T to be Case-licensed. The analysis of antipassive clauses is taken up in section 7.

*2.1.3 Wh-Movement and Wh-Agreement* Chamorro has overt *wh*-movement and *wh*-agreement (see Chung 1994, 1998, and the references cited there). A wide range of constituents can undergo *wh*-movement, including subjects (12a), direct objects (12b), obliques, certain possessors, PPs headed by overt prepositions, and adjuncts (12c).

- (12) a. Hâyi *gumugu*'ut esti na pattida?  
 who? WH[SBJ].support.PROG this L party  
 'Who is supporting this party?'  
 (CD, entry for *gu'ut*)
- b. Kao siña un na'-fitmi [hâfa malago'-mu para un cho'gui]?  
 Q can AGR make-firm what? WH[OBL].want-AGR FUT WH[OBJ].AGR do  
 'Can you make certain of what you want to do?'  
 (CD, entry for *na'fitmi*)
- c. Mânu na *sumâsaga* si Maria?  
 where? COMP AGR.stay.PROG UNM Maria  
 'Where is Maria living?'

Importantly, DPs that have undergone *wh*-movement appear in the unmarked morphological case even when they would have been in the oblique or local case if they had surfaced to the right of

the predicate. This holds true even when the moved phrase is a strong DP that has been focused, such as *todu* ‘everything’ in (13b).

- (13) a. Håfa un                      nã'i si Dolores?  
           what? WH[OBJ].AGR give UNM Dolores  
           ‘What did you give Dolores?’  
       b. Todu            ha' ma'a'não-ña.  
           everything EMP WH[OBL].afraid-AGR  
           ‘It’s everything that she’s afraid of.’

In other words, *wh*-movement results in the suspension of the morphological case assigned by the null preposition that licenses this DP (see section 2.1.1). To describe this, I assume that this DP undergoes *wh*-movement directly, stranding the null preposition. On this analysis, Chamorro allows preposition stranding exactly when the stranded preposition is null. For supporting evidence from relative clauses, see Chung 1998:219–221, and for a precedent in the analysis of French, Emonds 1985:183–184.

Finally, arguments and certain adjuncts that have undergone *wh*-movement have their grammatical relation signaled on the predicate by a special morphological inflection known as *wh*-agreement. The form and distribution of *wh*-agreement are investigated in Chung 1998 and references cited there. For current purposes, it will suffice to note that *wh*-agreement is realized optionally when the moved *wh*-phrase is a direct object; it is realized obligatorily, by nominalization of the predicate, when the *wh*-phrase is the oblique complement of an intransitive predicate.

## 2.2 *Sluicing in Chamorro*

Chamorro has a sluicing construction—a construction with the surface form of an interrogative phrase but the meaning of a constituent question. Consider (14a–c).

- (14) a. Guaha mamomokkat                      gi kantu-n tâsi, lao ti in tingu'  
           AGR.EXIST WH[SBJ].AGR.WALK.PROG LOC edge-L ocean but not AGR know  
           [håyi \_\_\_\_ ].  
           who?  
           ‘There’s (someone) walking on the beach, but we don’t know who.’  
       b. Man-anaitai            gui', lao ti hu tungu' [håfa \_\_\_\_ ].  
           AGR.AP-read.PROG he but not AGR know what?  
           ‘He’s reading, but I don’t know what.’  
       c. Ma sangãni yu' na    i famagu'un man-e'egga'    mubi, lao ti ma  
           AGR say.to me COMP the children AGR-watch.PROG movie but not AGR  
           sangãni yu' [mãnu \_\_\_\_ ].  
           say.to me where?  
           ‘They told me that the children were watching a movie, but they didn’t tell me  
           where.’

The sluices bracketed in (14) have the same interpretation as the corresponding constituent questions bracketed in (15).

- (15) a. Kao un tungu' [hâyi mamomokkat gi kantu-n tâsi]?  
 Q AGR know who? WH[SBJ].AGR.walk.PROG LOC edge-L ocean  
 'Do you know who is walking on the beach?'  
 b. Man-anaitai gui', lao ti hu tungu' [hâfa ha tataitai].  
 AGR.AP-read.PROG he but not AGR know what? WH[OBJ].AGR read.PROG  
 'He's reading, but I don't know what he's reading.'  
 c. Tâya' fumaisin yu' [mânu i famagu'un ni man-e'egga' mubi].  
 AGR.not.exist WH[SBJ].ask me where? the children COMP AGR-watch.PROG movie  
 'No one asked me where the children were watching a movie.'

Some naturally occurring examples are cited in (16).

- (16) a. Guaha dângkulu-n pokpuk gi tatalo'-hu, lao ti ha tungu' i mediku  
 AGR.exist big-L boil LOC back-AGR but not AGR know the doctor  
 [hâfa na klâsi-n pokpuk \_\_\_\_ ].  
 what? L sort-L boil  
 'There is a boil on my back, but the doctor does not know what kind of boil.'  
 (CD, entry for *pokpuk*)  
 b. Ha sangângani si nanâ-hu na ha li'i' un pângun, ti ha tungu'  
 AGR say.to.PROG UNM mother-AGR COMP AGR see a child not AGR know  
 [hâyi \_\_\_\_ ].  
 who?  
 'He was telling my mother that he saw a child, he didn't know who.'  
 (Cooreman 1982:5)  
 c. Ha hunguk atyu na bois tâotao i um-a'apatti, ti ha tungu'  
 AGR hear that L voice.L person the WH[SBJ].AGR-divide.PROG not AGR know  
 [hâfa \_\_\_\_ ].  
 what?  
 'He heard these voices of people who were dividing (something) up, he didn't know what.'  
 (from an audiotaped narrative)  
 d. Mâs libiânu para u ekspresia-n maisa gui' gi tinigi' Chamorro. [Sa'  
 more AGR.easy FUT AGR express-L self him LOC writing.L Chamorro because  
 hâfa \_\_\_\_ ]? Sa' ...  
 what? because  
 '[With this new orthography] it's easier for [whoever writes in the Chamorro language] to express himself in Chamorro writing. Why? Because ...'  
 (from a transcript of a speech at a conference)

An initial look at the Chamorro version of sluicing reveals the outlines of the syntactic profile associated with sluicing crosslinguistically. The interrogative phrase of the sluice sometimes corresponds to a syntactically realized phrase in the antecedent clause (as in (16a–b)); other times it does not (as in (14b–c) or (16c)). The corresponding phrase in the antecedent clause is typically indefinite, but not always.

- (17) Ha risibi i kâtta ginin guâhu, lao ti hu tungu' [ginin hâyi siha ottru  
 AGR receive the letter from me but not AGR know from who? PL other  
 lorkkui' na tâotao \_\_\_\_ ].  
 also L person  
 'He received a letter from me, but I don't know from which other people.'

Finally, the interrogative phrase is linked to the interior of the ellipsis by a dependency that can hold across an apparent distance and can also cross island boundaries (as in (16c)). All this suggests that the construction is indeed a form of the ellipsis construction known as sluicing.

However, Chamorro is also a null argument language that allows the predicate to be of any major category type. So we must pause to consider more carefully whether the construction just identified as sluicing genuinely involves ellipsis. Could the sluices in (14) and (16)–(17) instead be analyzed as minimal clauses in which the predicate is an interrogative phrase and the subject is a null pronoun? In other words, could the sluice in (14a) have the same structure as the minimal clause in (18)?

- (18) Hâyi (gui')?  
 who? she/he  
 'Who is she/he?'

To address this question in depth would require a full investigation of how null pronouns in Chamorro find their antecedents in discourse—something I cannot supply at this point. However, the following can be observed. Null pronouns that serve as animate subjects of nominal predicates are in competition with overt pronouns—specifically, weak pronouns (e.g., *gui'* in (18)). In this context, null pronouns appear to have a more tightly restricted distribution than the corresponding weak pronouns.<sup>4</sup> Thus, speakers readily produce sentences like (19a–c), in which the predicate of the bracketed clause is *hâyi* 'who?' and its subject is a weak pronoun.

- (19) a. Ha li'i' si Maria si Juan, lao ti ha tungu' [hâyi gui'].  
 AGR see UNM Maria UNM Juan but not AGR know who? he  
 'Maria saw Juan, but she didn't know who he was.'  
 b. Man-mam-âhan kareta, lao ti hu tungu' [hâyi siha].  
 AGR-AP-buy car but not AGR know who? they  
 'They bought a car, but I don't know who they are.'  
 c. Ha faisin si Alu [hâyi gui'].  
 AGR ask UNM Alu who? he  
 'She asked Alu who he was.'  
 (Cooreman 1982:32)

<sup>4</sup> In other contexts, overt pronouns have a more tightly restricted distribution than the corresponding null pronouns. For instance, overt pronouns cannot be used to realize DPs that trigger morphological agreement in person: namely, subjects of transitive verbs, subjects of verbs or adjectives in the irrealis mood, and possessors. Null pronouns must be used instead (see Chung 1998:29–31).

- d. Man-ma-abribiet todu i na'an, ya mapput hu tungu' [hâyi siha].  
 AGR-PASS-abbreviate all the name and AGR.hard AGR know who? they  
 'All the names are abbreviated, and it is hard for me to know who they are.'  
 (CD, entry for *abribiét*)

But they react more variably when the subject of *hâyi* is a null pronoun. Sentences like (20a–b) are sometimes judged well-formed; other times they are evaluated as ungrammatical, questionable, or incomplete but possibly acceptable given enough further context.

- (20) a. √/??/\*Ha li'i' si Maria si Juan, lao ti ha tungu' [hâyi].  
 AGR see UNM Maria UNM Juan but not AGR know who?  
 'Maria saw Juan, but she didn't know who he was.'  
 b. √/??/\*Man-mam-âhan kareta, lao ti hu tungu' [hâyi].  
 AGR-AP-buy car but not AGR know who?  
 'They bought a car, but I don't know who they are.'

These reactions differ sharply from speakers' reactions to sluicing constructions like (14a–c), which are readily produced and are judged to be well-formed, complete, and not requiring further context. The difference suggests that it cannot be taken for granted that a licit analysis involving a minimal clause with a null subject is available for every sluice.

And indeed, there are sluicing patterns that an alternative analysis involving null subjects would find it quite difficult to account for. Consider (21a–b), in which the verb in the leftmost clause has an internal argument that is implicit.

- (21) a. Mang-guaiya si Dolores, lao ti hu tungu' [hâyi ha guaiya].  
 AGR.AP-love UNM Dolores but not AGR know who? WH[OBJ].AGR love  
 'Dolores is in love (with someone), but I don't know who she loves.'  
 b. Um-a'andi' si Juan, lao ti hu tungu' [hâyi ha andidi'i].  
 AGR-flirt.PROG UNM Juan but not AGR know who? WH[OBJ].AGR flirt.with.PROG  
 'Juan is flirting (with someone), but I don't know who is he is flirting with.'

Importantly, (21a) has a well-formed sluicing counterpart, but (21b) does not.

- (22) a. Mang-guaiya si Dolores, lao ti hu tungu' [hâyi \_\_\_\_].  
 AGR.AP-love UNM Dolores but not AGR know who?  
 'Dolores is in love (with someone), but I don't know who.'  
 b. ?\*Um-a'andi' si Juan, lao ti hu tungu' [hâyi \_\_\_\_].  
 AGR-flirt.PROG UNM Juan but not AGR know who?  
 ('Juan is flirting (with someone), but I don't know who.')

In an approach that would analyze every sluice as a minimal clause with a null subject, both (22a) and (22b) would contain such a clause, meaning 'who she/he is'. The problem is that the supposed null pronoun is licit in one of these examples but not the other—a puzzling contrast. The contrast is not likely to follow in any principled way from anaphora resolution, given that in each example the most plausible antecedent for the pronoun is the implicit internal argument

in the leftmost clause. (Consistent with this, an attempt to replace the ellipsis with an overt third singular pronoun leads to ungrammaticality in both (22a) and (22b).)

Below I give an ellipsis-based account of the contrast in (22) that generalizes to numerous other contrasts. In anticipation of this, and in view of the problems with the null subject alternative, I now reassert that the Chamorro version of sluicing indeed involves ellipsis.<sup>5</sup>

Observe finally that sluicing in Chamorro is consistent with Merchant's (2001) P-stranding generalization. Chamorro is a language in which overt prepositions cannot be stranded by *wh*-movement. Compare (23a), in which the preposition *ginin* 'from' has been pied-piped by the interrogative phrase, with the ungrammatical (23b), in which the preposition has been stranded.

- (23) a. *Ginin hâyi na un risibi ennao na kâtta?*  
 from who COMP AGR receive that L letter  
 'From whom did you receive that letter?'  
 b. \**Hâyi un risibi i kâtta ginin?*  
 who? you receive the letter from  
 ('Who did you receive the letter from?')

Consistent with Merchant's generalization, overt prepositions also cannot be stranded in the ellipsis of sluicing. Compare (17), in which the preposition *ginin* has been pied-piped by the interrogative phrase, with (24), in which it has been stranded in the ellipsis site.

- (24) \**Ha risibi i kâtta ginin guâhu, lao ti hu tungu' [hâyi siha ottru lökkui'*  
 AGR receive the letter from me but not AGR know who? PL other also  
*na tâotao — ]*.  
 L person  
 ('He received a letter from me, but I don't know which other people.')

If the Chamorro version of sluicing is an ellipsis construction, this is what we expect.

### 3 Argument Structure Effects in Chamorro Sluicing

Like sluicing in other languages (see Merchant 2013), sluicing in Chamorro exhibits argument structure effects: a predicate in the ellipsis must have the same argument structure as the corresponding predicate in the antecedent clause. Section 3.1 shows that sluicing does not tolerate active-passive mismatches. Section 3.2 gives a more detailed investigation of certain intransitive predicates and the derived transitive verbs that can be formed from them. The investigation reveals that sluicing also does not tolerate mismatches between intransitives and their derived transitive counterparts.

<sup>5</sup> Given that a null subject analysis is probably not available for every sluice, one might wonder which sluices, if any, are structurally ambiguous between ellipsis and a minimal clause of type (18). I am not prepared to address this question here.

### 3.1 No Active-Passive Mismatches

*Wh*-movement in Chamorro affects a wide range of arguments and adjuncts, including subjects of transitive clauses (25a) and agents of passive clauses in the irrealis mood (25b).

- (25) a. Håyi *bumisita* i palão'an?  
 who? WH[SBJ].visit the woman  
 'Who visited the woman?'  
 b. Håyi para un *binisita* agupa'?'  
 who? FUT AGR PASS.visit tomorrow  
 'Who are you going to be visited by tomorrow?'

But, somewhat surprisingly, *wh*-movement cannot affect agents of passive clauses in the *realis* mood. Compare (25a–b) with (26), which is robustly ungrammatical.

- (26) \*Håyi *binisita* i palão'an?  
 who? AGR.PASS.visit the woman  
 ('Who was the woman visited by?')

The contrast between (25a) and (26) provides a window into whether sluicing in this language can tolerate active-passive mismatches.<sup>6</sup>

Consider the sentences in (27), which contain a *realis* passive clause with an implicit agent, followed by an embedded question of the subject of the corresponding transitive clause (in brackets).

- (27) a. Esta mang-*ginacha*', lao ti in tingu' [håyi *gumacha*'].  
 already AGR-PASS.detect but not AGR know who? WH[SBJ].detect  
 'They were caught, but we don't know who caught them.'  
 b. Ilek-ña na man-ma-kumbida i famagu'on-ña para i giput, lao ti ha  
 say-AGR COMP AGR-PASS-invite the children-AGR to the party but not AGR  
 tungu' [håyi *kumumbida siha*].  
 know who? WH[SBJ].invite them  
 'She said that her children were invited to the party, but she didn't know who invited them.'

If the only identity conditions on sluicing were semantic, we would expect ellipsis to be possible here, because a transitive clause and the corresponding passive are truth-conditionally equivalent.

<sup>6</sup> Note that the contrast between (25b) and (26) is robust. While questions of type (26) are ill-formed, questions of type (25b) are quite frequent. In fact, for most speakers the default strategy for questioning the external argument of a transitive verb in the irrealis mood is to use the passive—that is, to use a question of type (25b).

The result would be versions of these sentences in which everything after *hâyi* ‘who?’ was missing. But in fact, the sluicing counterparts of (27a–b) are ungrammatical, as (28) shows.<sup>7</sup>

- (28) a. \*Esta mang-*ginacha*’, lao ti in tingu’ [hâyi \_\_\_\_ ].  
 already AGR-PASS.detect but not AGR know who?  
 (‘They were caught, but we don’t know who.’)
- b. \*Ilek-ña na man-ma-kumbida i famagu’on-ña para i giput, lao ti ha  
 say-AGR COMP AGR-PASS-invite the children-AGR to the party but not AGR  
 tungu’ [hâyi \_\_\_\_ ].  
 know who?  
 (‘She said that her children were invited to the party, but she didn’t know who.’)

We already know that the interrogative phrase of these sluices cannot be the agent of a passive clause in the realis mood, because *wh*-movement of such DPs is ungrammatical. What (28) shows is that ellipsis of the corresponding transitive clause is also illegal.

In Merchant’s (2001) theory of sluicing, a clause  $TP_E$  can be elided just in case it has a salient antecedent  $TP_A$ , and the following semantic identity condition holds, modulo existential type shifting:  $TP_A$  entails the focus-closure of  $TP_E$ , and  $TP_E$  entails the focus-closure of  $TP_A$  (see Merchant 2001:13–14, 31–32). (The focus-closure of a constituent *X* is the result of replacing focus-marked parts of *X* with existentially bound variables.) This condition is clearly met in (27). In (27a), for instance,  $TP_E$  is *gumacha* ‘*t* caught them’, and its salient antecedent,  $TP_A$ , is *manginacha*’ *siha* ‘they were caught’. Following Merchant, we can represent the meanings of  $TP_A$  and  $TP_E$ , and their focus-closures, as shown informally in (29).

- (29) a.  $TP_A' = \text{F-Clo}(TP_A) = \exists x.x \text{ caught them}$   
 b.  $TP_E' = \text{F-Clo}(TP_E) = \exists x.x \text{ caught them}$

Since these meanings are identical, the mutual entailment condition is satisfied. Nonetheless, ellipsis is prohibited. Evidently, transitive clauses and the corresponding passives do not satisfy the identity conditions on sluicing—presumably because they have different argument structures.<sup>8</sup>

### 3.2 No Mismatches between Intransitive and Derived Transitive Verb

Further evidence for argument structure effects in sluicing comes from a Chamorro-particular alternation between intransitive and derived transitive verbs.

Chamorro has a large number of intransitive verbs and adjectives that take an optional complement in the oblique or local case. Some examples are given in (30).

<sup>7</sup> Irrelevantly, (28a) is grammatical if the bracketed clause is interpreted as a minimal clause whose null subject refers to those who were caught—that is, if the meaning is ‘They were caught, but we don’t know who they (i.e., those who were caught) were’.

<sup>8</sup> With respect to English, Merchant (2001:35) suggests that ‘the active/passive difference in form [may correspond] to a difference in meaning, whether this be solely perspective-based . . . or actually found in lexical entailments.’ My own view is that any such meaning difference (a) is not truth-conditional and (b) flows from the difference between the argument structures of actives and the corresponding passives.

- (30) a. Mahâlang yu' nu hâgu, asaguâ-hu.  
 AGR.lonely I OBL you spouse-AGR  
 'I missed you, my love.'  
 (CD, entry for *mahâlang*)
- b. Mampus ekgu' si Viola nu as Juan.  
 extremely AGR.jealous UNM Viola OBL Juan  
 'Viola is so jealous of Juan.'  
 (CD, entry for *ekgu'*)
- c. Ti u maleffa si Jesus ni numiru-n tilifon, sa' ha dimimora.  
 not AGR forget UNM Jesus OBL number-L telephone because AGR memorize  
 'Jess will not forget the telephone number, because he memorized it.'  
 (CD, entry for *dimimora*)

Many of these verbs and adjectives—but not all—can combine with the suffix *-i* to form a derived transitive verb whose direct object corresponds to the oblique complement of the original verb or adjective. Compare the examples in (30) with the following:

- (31) a. Ti hu mahalângi i taotao ni un mahalângi.  
 not AGR lonely.for the person COMP WH[OBJ].AGR lonely.for  
 'I don't miss the people who you miss.'
- b. Ha ekgu'i yu' i asaguâ-hu.  
 AGR jealous.of me the spouse-AGR  
 'My husband is jealous of me.'  
 (CD, entry for *ekgu'i*)
- c. Hâfa un malifâgui?  
 what? WH[OBJ].AGR forget  
 'What did you forget?'

A small, nonrepresentative sample of these intransitive predicates and their derived transitive counterparts is given in (32), with my English translations. Consistent with the idea that *-i* verbs are lexically derived, speakers vary somewhat in which of these verbs they recognize as words of the language.

<i>(32) Intransitive verb / adjective</i>		<i>Derived transitive verb</i>	
andi'	'flirt, show off'	andi'i	'show off (to), flirt (with)'
ekgu'	'sexually jealous'	ekgu'i	'sexually jealous (of)'
ma'â'ñao	'afraid'	ma'a'ñâgui	'afraid (of)'
mahâlang	'lonely'	mahalângi	'lonely (for)'
maleffa	'forget'	malifâgui	'forget'
mamâhlao	'embarrassed, ashamed'	mamahlàgui	'ashamed (of), embarrassed (about)'
omlat	'fit (into)'	omlâti	'fit (into)'
pâyun	'accustomed'	payuni	'accustomed (to)'

Some of these pairs of intransitive and derived transitive predicates have a profile that will prove extremely useful.<sup>9</sup> First of all, clauses formed from one member of the pair are synonymous with clauses formed from the other. This can be shown using the standard test for synonymy: when a clause formed from one member of the pair is conjoined with the negation of a clause formed from the other, the result is a contradiction.

- (33) a. #Ekgu' yu' nu hâgu, lao ti hu ekgu'i hao.  
 AGR.jealous I OBL you but not AGR jealous.of you  
 ('I'm jealous of you, but I'm not jealous of you.')
- b. #Ha andidi'i si Juan si Maria, lao ti um-a'andi' si Juan  
 AGR flirt.with.PROG UNM Juan UNM Maria but not AGR-flirt.PROG UNM Juan  
 gias Maria.  
 LOC Maria  
 ('Juan is flirting with Maria, but Juan isn't flirting with Maria.')
- c. #Omlat gui' nu esti na chinina, lao ti ha omlâti.  
 AGR.fit he OBL this L shirt but not AGR fit.into  
 ('He fits this shirt, but he doesn't fit it.')

Second, when the intransitive member of the pair does not have an overtly realized complement, it has an implicit internal argument. The implicit argument's presence can be detected in a couple of ways. To begin with, when a clause containing the implicit argument is conjoined with a clause that explicitly denies its existence, the result is contradictory.<sup>10</sup>

- (34) a. #Ekgu' gui', lao tâya' ha ekgu'i.  
 AGR.jealous he but AGR.not.exist WH[OBJ].AGR jealous.of  
 ('He's jealous, but there's no one that he's jealous of.')
- b. #Um-a'andi' gui', lao tâya' ha andidi'i.  
 AGR-flirt.PROG he but AGR.not.exist WH[OBJ].AGR flirt.with.PROG  
 ('He's flirting, but there's no one that he's flirting with.')
- c. #Omlat gui', lao tâya' ha omlâti.  
 AGR.fit he but AGR.not.exist WH[OBJ].AGR fit.into  
 ('He fits (something), but there's nothing that he fits.')

Moreover, the implicit argument has a distinctive interpretation. It is not construed as an obligatorily narrow-scope indefinite; rather, it has an anaphoric, context-dependent interpretation more like a definite description than a pronoun (see Condoravdi and Gawron 1996). That is why mini-discourses like (35) are not anomalous (see Martí 2006).

<sup>9</sup> Note that *omlat* 'fit (into)' has a variant form *ulat*.

<sup>10</sup> One speaker I consulted evaluated (34a) as noncontradictory. For her, *ekgu'* can describe a disposition that does not require a particular target of jealousy. Both speakers I consulted about (34b–c) judged those sentences to be contradictory.

- (35) Kada um-andi' i asaguã-ña gi ottru táotao, ti um-e'ekgu' si  
 whenever AGR-flirt the spouse-AGR LOC other person not AGR-jealous.PROG UNM  
 Juan. Inlugát, si Juan um-e'ekgu' na u guaha háfa i ottru táotao  
 Juan instead UNM Juan AGR-jealous.PROG COMP AGR exist what? the other person  
 u susedi yan i nubiã-ña.  
 AGR experience with the girlfriend-AGR  
 '[Juan doesn't love his wife, but he loves his girlfriend.] Every time his wife flirts with  
 another man, Juan does not become jealous. Instead, Juan becomes jealous that there  
 might be something that might happen with his girlfriend and another man.'

These observations reveal that as far as these particular pairs of predicates are concerned, the intransitive predicate assigns the same semantic roles as its derived transitive counterpart. Where the two differ is in the syntactic realization of these semantic roles: specifically, in the realization of the internal argument. Intransitive predicates such as *ekgu'* 'sexually jealous', *andi'* 'flirt', and *omlat* 'fit' realize the internal argument as a PP complement headed by a null preposition (see section 2.1.1), whereas their transitive counterparts realize the internal argument as a direct object DP. Further, the intransitive predicate allows its internal argument to be implicit, but the corresponding transitive verb does not. This last point differentiates derived transitive verbs such as *ekgu'i* 'sexually jealous of', *andi'i* 'flirt with', and *omlati* 'fit into' from the vast majority of transitive verbs. As will be seen in section 7, virtually all transitive verbs in Chamorro allow an implicit internal argument in the antipassive construction. But, for whatever reason, the derived transitive verbs that we have been investigating cannot occur in the antipassive; see (36).<sup>11</sup>

- (36) a. \*Man-ekgu'i hao.  
 AGR.AP-jealous.of you  
 ('You're jealous.')
- b. \*Man-omlati.  
 AGR.AP-fit.into  
 ('He fits (into something).')

The overall message is that these intransitive and derived transitive predicates differ systematically in argument structure. I illustrate the differences in (37) for the intransitive verb *andi'* 'flirt' and its derived transitive counterpart *andi'i* 'flirt with'.

- (37) A representative pair of argument structures
- |        |         |           |        |         |           |
|--------|---------|-----------|--------|---------|-----------|
| andi': | flirter | ⟨flirtee⟩ | andi': | flirter | ⟨flirtee⟩ |
|        |         |           |        |         |           |
|        | (PP)    |           |        | DP      |           |

<sup>11</sup> In Chamorro, a transitive verb with an implicit internal argument *must* appear in the antipassive construction. Elsewhere in the language, direct objects that are phonetically unrealized are always construed as null pronouns with definite reference.

With this information in hand, we can now return to sluicing. Consider the sentences in (38). Each contains a clause formed from one of the intransitive predicates just discussed, followed by an embedded question of the direct object of the corresponding derived transitive verb.

- (38) a. *Ekgu'* si Joe, lao ti hu tungu' [hâyi ha ekgu'i].  
 AGR.jealous UNM Joe but not AGR know who? WH[OBJ].AGR jealous.of  
 'Joe is jealous, but I don't know who he is jealous of.'
- b. *Ilek-ña na um-a'andi' i asaguã-ña, lao ti ha tungu'*  
 say-AGR COMP AGR-flirt.PROG the spouse-AGR but not AGR know  
 [hâyi ha andidi'i].  
 who? WH[OBJ].AGR flirt.with.PROG  
 'She said that her husband was flirting, but she didn't know who he was flirting with.'
- c. *Omlat gui', lao ti hu tungu' [hâfa ha omlâti].*  
 AGR.fit she but not AGR know what? WH[OBJ].AGR fit.into  
 'She fits (something), but I don't know what she fits.'

Now, if the only identity conditions on sluicing were semantic, ellipsis should be possible in sentences of this type, given that the intransitive predicates of interest are synonymous with their derived transitive counterparts. But, as might be expected by this point, sluicing is ill-formed.

- (39) a. \**Ekgu'* si Joe, lao ti hu tungu' [hâyi \_\_\_\_].  
 AGR.jealous UNM Joe but not AGR know who?  
 ('Joe is jealous, but I don't know who.')
- b. ?\**Ilek-ña na um-a'andi' i asaguã-ña, lao ti ha tungu' [hâyi \_\_\_\_].*  
 say-AGR COMP AGR-flirt.PROG the spouse-AGR but not AGR know who?  
 ('She said that her husband was flirting, but she didn't know who.')
- c. \**Omlat gui', lao ti hu tungu' [hâfa \_\_\_\_].*  
 AGR.fit she but not AGR know what?  
 ('She fits (something), but I don't know what.')

Once again, it may help to work through the issue in Merchant's theory of sluicing. Take (38a). Suppose we continue to hold that the implicit internal argument of *ekgu'* 'jealous' is akin to a definite description, and assume, with Heim (1982), that definites—like indefinites—introduce a free variable. That free variable will be subject to existential type-shifting in the calculation of the mutual entailment condition. For (38a), the result will be the meanings of  $TP_A$  and  $TP_E$ , and their focus-closures, shown in (40).

- (40) a.  $TP_A' = F-Clo(TP_A) = \exists x.$ Joe is jealous of  $x$   
 b.  $TP_E' = F-Clo(TP_E) = \exists x.$ Joe is jealous of  $x$

Since these are identical, the mutual entailment condition is satisfied. But sluicing is blocked. Evidently, the problem lies not in the semantics of these predicates but in the mismatch in how their internal arguments are realized syntactically. The ungrammaticality of ellipsis here is further evidence that sluicing requires identity of argument structure.

#### 4 Case Effects in Chamorro Sluicing

The fact that sluicing exhibits argument structure effects in Chamorro adds to the crosslinguistic evidence that this ellipsis construction requires some sort of syntactic identity (e.g., Chung 2006, Merchant 2013). What has not been noticed before is that this syntactic identity extends to Case. Specifically, sluicing also exhibits Case effects: if the interrogative phrase of the sluice is a DP, it must be Case-licensed by a head in the ellipsis site identical to a corresponding head in the antecedent clause.

Case effects can be detected when the interrogative phrase of the sluice is a DP that does not correspond to any syntactically realized DP in the antecedent clause. For CLM (1995, 2011), such interrogative phrases are integrated into the syntactic structure in the ellipsis site by an LF operation called *sprouting*. Accordingly, I will refer to interrogative phrases that correspond to no syntactically realized phrase in the antecedent clause as *sprouted*.

This section offers evidence from Chamorro that sluicing exhibits Case effects. Section 4.1 discusses evidence from sprouted possessors, and section 4.2, evidence from sprouted oblique complements.

##### 4.1 No Sprouted Possessors

The Chamorro DP has a head-initial structure in which the determiner appears at the left, followed by the maximal projection of N. In a possessive DP, the possessor follows N, and N is morphologically marked to signal its presence. The morphological marking relevant here is agreement: N agrees with the possessor in person and number.<sup>12</sup> Some representative examples of possessive DPs are given in (41), with the possessor enclosed in brackets. Note that the determiner in (41b) is the null indefinite article; the possessor in (41d) is a null pronoun.

- (41) a. i che'chu'-ñiha [i Españaot]  
           the work-AGR       the Spanish  
           'the work of the Spaniards'  
           (EM 113)
- b. kulot-ña [esti na kãtni]  
           color-AGR this L meat  
           'color of this meat'  
           (CD, entry for *boksiun*)

<sup>12</sup> The other morphological marking on N that can be used to signal the presence of the possessor is the inflection known as the linker. (This characteristically Austronesian inflection is used more generally to signal various types of modifier-head relations; see Chung 1998:44–45.) When N has a possessor, the linker is realized as the suffix *-n* on nouns that are vowel-final, and unrealized otherwise. Inflection via the linker has prosodic consequences: a noun inflected with the linker forms a prosodic word with the leftmost prosodic word contained in the possessor (see Chung 2003). Crucially for our purposes, inflection via the linker cannot be used when the possessor has undergone *wh*-movement or is a null pronoun. Instead, N must agree with the possessor in person and number. That is why only the agreement option is described in the text.

- c. kada chininã-ña [si Juan]  
 each shirt-AGR UNM Juan  
 ‘each shirt of Juan’s’
- d. un kannai-ña [ ]  
 a arm-AGR  
 ‘an arm of his’  
 (CD, entry for *mãngku*)

I assume that the possessor is assigned abstract Case by a feature on D that is also responsible for the morphological marking on N (e.g., possessor-noun agreement). This feature must be checked, so it cannot occur on Ds that have no possessor. This unexceptional view of Case licensing will be crucial below.

Possessors in Chamorro can undergo *wh*-movement under certain circumstances: namely, when the possessive DP is a direct object or (nonagentive) intransitive subject and its head D is the null indefinite article. The possessor has undergone *wh*-movement in the constituent questions in (42).

- (42) a. Hãyi malingu paineñ-ña?  
 who? AGR.disappear comb-AGR  
 ‘Whose comb disappeared (lit., Who did a comb of disappear)?’
- b. Hãyi un fãhan karetã-ña?  
 who? AGR buy car-AGR  
 ‘Whose car did you buy (lit., Who did you buy a car of)?’

The fact that possessors are accessible to *wh*-movement raises a question: can a possessor also serve as the interrogative phrase of a sluice?

We can begin to answer this question by considering the complex sentences in (43), which could in principle be the nonellipsis counterparts of sluicing constructions. Each contains a sentence with an (italicized) indefinite DP, followed by a complete constituent question formed on a sprouted possessor of that DP (enclosed in brackets).<sup>13</sup> The sentence containing the indefinite DP is well-placed to serve as the antecedent of ellipsis of the clause within the constituent question: the two stand in a relation of focus-assisted mutual entailment, and their respective verbs have the same argument structures. All this suggests that the sentences in (43) should have legal sluicing counterparts.

<sup>13</sup> The indefinite DPs in (43a) and (43c) serve as pivots of the existential verb *guaha* ‘exist’. Existential verbs in Chamorro do not take a small clause complement; rather, they take a DP complement that can be internally complex. That is the case here: the indefinite DP contains a relative clause modifier whose predicate is *mãtai* ‘died’ in (43a) and *mayamak* ‘was destroyed’ in (43c). It is an open question whether the sluicing constructions in (44) correspond to the constructions in (43) or to a more elaborate structure in which the constituent question also contains an existential verb. Similar issues arise with respect to English examples such as *He told me that there was a graduate student who was offered a job yesterday, but he didn’t reveal which graduate student.*

- (43) a. *Ilek-ña si Joe na guaha pátgun mâtai, lao ti ha sangâni yu'*  
 say-AGR UNM Joe COMP AGR.exist child WH[SBJ].AGR.die but not AGR say.to me  
 [hâyi mâtai patgon-ña].  
 who? AGR.die child-AGR  
 'Joe said that there was a child who died, but he didn't tell me whose child died.'
- b. *Malingu ga'lâgu, lao ti hu tungu' [hâyi malingu ga'-ña ga'lâgu].*  
 AGR.disappear dog but not AGR know who? AGR.disappear pet-AGR dog  
 'A dog disappeared, but I don't know whose dog disappeared.'
- c. *Ilek-ña na guaha ma-yamak kareta, lao ti hu tungu'*  
 say-AGR COMP AGR.exist WH[SBJ].AGR.PASS-destroy car but not AGR know  
 [hâyi ma-yamak karetâ-ña].  
 who? AGR.PASS-destroy car-AGR  
 'He said that a car was smashed, but he didn't tell me whose car was smashed.'

However, sluicing is ungrammatical. It is impossible for the interrogative phrase of the sluice to be a sprouted possessor, as (44a–c) show.

- (44) a. \**Ilek-ña si Joe na guaha pátgun mâtai, lao ti ha sangâni*  
 say-AGR UNM Joe COMP AGR.exist child WH[SBJ].AGR.die but not AGR say.to  
 yu' [hâyi \_\_\_\_ ].  
 me who?  
 ('Joe said that there was a child who died, but he didn't tell me whose.')
- b. \**Malingu ga'lâgu, lao ti hu tungu' [hâyi \_\_\_\_ ].*  
 AGR.disappear dog but not AGR know who?  
 ('A dog disappeared, but I don't know whose.')
- c. \**Ilek-ña na guaha ma-yamak kareta, lao ti hu tungu'*  
 say-AGR COMP AGR.exist WH[SBJ].AGR.PASS-destroy car but not AGR know  
 [hâyi \_\_\_\_ ].  
 who?  
 ('He said that a car was smashed, but he didn't tell me whose.')

Speakers' reactions reveal that when sluicing is legal at all in sentences of this type, the interrogative phrase is interpreted as ranging over the set of alternatives denoted by the indefinite DP, not over the set of alternatives denoted by a possessor of that DP. Thus, (44a) is well-formed if *hâyi* 'who?' refers to the child, not to the parent—that is, if the intended interpretation is 'Joe told me that there was a child who died, but he didn't tell me who (died)'. Similarly, speakers observe that *hâyi* in (44b) appears to refer to the dog, but because *hâyi* is sortally restricted to humans, the result is anomalous. Examples like (44c), in which the indefinite DP is inanimate, are simply rejected as ungrammatical.

Tellingly, the outcome is different when the interrogative phrase of the sluice corresponds to a syntactically realized possessor in the antecedent clause. The sluicing constructions in (45) differ from those in (44) in that the indefinite DP in the antecedent clause is possessive. That means

that the interrogative phrase of the sluice is not sprouted; rather, it has a possessor corresponding to it in the antecedent clause. Under these circumstances, sluicing is grammatical.

- (45) a. Ilek-ña si Joe na guaha *pâtgun tâotao* mâtai, lao ti ha  
 say-AGR UNM Joe COMP AGR.exist child.L person WH[SBJ].AGR.die but not AGR  
 sangâni yu' [hâyi \_\_\_\_ ].  
 say.to me who?  
 'Joe said that there was a person's child who died, but he didn't tell me whose.'
- b. Ilek-ña na un pâtgung malingu *ga'-ña* [ ] *ga'lâgu*, lao ti ha  
 say-AGR COMP a child AGR.disappear pet-AGR dog but not AGR  
 sangâni yu' [hâyi na pâtgung lâhi \_\_\_\_ ].  
 say.to me who? L child.L male  
 'He told me that a child's dog disappeared, but he didn't tell me which child (lit.,  
 He told me that a certain child's dog disappeared, but he didn't tell me which male  
 child).'
- c. Ilek-ña na guaha *kareta-n tâotao* ma-yamak, lao ti ha  
 say-AGR COMP AGR.exist car-L person WH[SBJ].AGR.PASS-destroy but not AGR  
 sangâni yu' [hâyi \_\_\_\_ ].  
 say.to me who?  
 'He told me that someone's car was smashed, but he didn't tell me whose.'

The contrast between (44) and (45) shows that a possessor *can* be the interrogative phrase of a sluice, but only if it corresponds to syntactic material in the antecedent clause. What is responsible for this?

One might be tempted to take the ungrammaticality of (44a–c) as further evidence that sluicing exhibits argument structure effects. But argument structure mismatch is unlikely to be the culprit, given that sprouted possessors are prohibited no matter what the argument structure is of the possessed noun in the ellipsis site. The possessed noun in (44a) and (45a) is *pâtgun* 'child', a relational noun whose argument structure includes the possessor. The possessed noun in (44c) and (45c) is *kareta* 'car', a noun whose argument structure plausibly excludes the possessor. In both cases, what matters is that the interrogative phrase of the sluice must correspond to a syntactically realized possessor in the antecedent clause. When this correspondence does not hold, sluicing fails.

A more promising culprit is abstract Case. The interrogative phrase of the sluices in (44) and (45) is a DP, so it must be Case-licensed, presumably by a feature on the D that heads the possessive DP in the ellipsis. In (45), the corresponding DP in the antecedent clause is also possessive, so its (null) D has the same feature: that is how its possessor comes to be Case-licensed. But in (44), the corresponding D in the antecedent clause has no Case-assigning feature—and cannot, because it has no possessor.

I claim that the absence of an identical Case-assigning D in the *antecedent clause* makes sluicing in (44) ill-formed. In other words, sluicing exhibits Case effects: when the interrogative phrase of the sluice is a DP, it must be Case-licensed by a head in the ellipsis site identical to a

corresponding head in the antecedent clause. Importantly, the relevant notion is abstract Case, not morphological case (see Rothstein 1992, Legate 2008), so the identity involved is clearly syntactic identity.

#### 4.2 No Sprouted Oblique Complements

This facet of syntactic identity provides the solution to a mystery concerning some ungrammatical sluices that were discussed in section 3.2. There, I showed that Chamorro has intransitive predicates, such as *ma'â'ñao* 'afraid', *maleffa* 'forget', and *omlat* 'fit (into)', which optionally realize their internal argument as a PP headed by a null preposition. Many of these verbs and adjectives can combine with *-i* to form a synonymous derived transitive verb. But a clause containing such an intransitive predicate cannot antecede sluicing of a clause containing the corresponding derived transitive verb. See (46a–c), in which the material putatively in the ellipsis site is italicized and surrounded by angled brackets.

- (46) a. \*Maleffa si Dolores, lao ti hu tungu' [hâfa <ha malifâgui>].  
 AGR.forget UNM Dolores but not AGR know what? WH[OBJ].AGR forget  
 ('Dolores forgot (something), but I don't know what (she forgot).')
- b. \*Ilek-ña na omlat gui', lao ti ha tungu' [hâfa <ha omlâti>].  
 say-AGR COMP AGR.fit she but not AGR know what? WH[OBJ].AGR fit.into  
 ('She thought that she fit (something), but she didn't know what (she fit).')
- c. \*Ilek-ñiha na man-ma'â'ñao, lao ti ma sângan [hâyi <ma ma'a'ñâgui>].  
 say-AGR COMP AGR.afraid but not AGR say who? WH[OBJ].AGR  
 afraid.of  
 ('They said that they were afraid (of someone), but they didn't say who (they were afraid of).')

The ungrammaticality of sentences like (46a–c) under this analysis argues that sluicing exhibits argument structure effects. The mystery—not revealed until now—is that there is another conceivable analysis of the ellipsis that would not involve argument structure mismatch.

To see the alternative analysis, notice that the internal argument of an intransitive predicate, including predicates like *ma'â'ñao*, *maleffa*, and *omlat*, can undergo *wh*-movement. This is illustrated in the constituent questions in (47).

- (47) a. Hâfa maleffâm-mu?  
 what? WH[OBL].forget-AGR  
 'What did you forget?'
- b. Hâfa na chinina esta ti omlât-ña?  
 what? L shirt already not WH[OBL].fit-AGR  
 'Which clothes doesn't he fit anymore?'
- c. Hâyi ma'a'ñao-ñiha i istudiânti?  
 who? WH[OBL].afraid-AGR the student  
 'Who are the students afraid of?'

The morphosyntax of these questions reveals that what has undergone *wh*-movement here is a DP rather than a PP. When a DP argument in Chamorro undergoes *wh*-movement, it surfaces in the unmarked case, no overt complementizer immediately follows, and the predicate associated with the DP argument is inflected for *wh*-agreement. (In (47), *wh*-agreement is realized as nominalization of the predicate; see section 2.1.3.) But when a PP argument undergoes *wh*-movement, an overt complementizer immediately follows, and the predicate associated with the PP argument is not inflected for *wh*-agreement; see (12c) and (23a). The patterning of the questions in (47) argues that they instantiate the first of these options. In other words, *wh*-movement has affected the DP complement of the null P, leaving the null P stranded (see section 2.1.3).<sup>14</sup>

This suggests that it should be possible to analyze (ungrammatical) sluicing constructions like those in (39) and (46) as having an *intransitive* predicate in the ellipsis: the same intransitive predicate as the one that appears in the antecedent clause (see Chung 2006). In such an analysis, the predicate of the antecedent clause would have an implicit internal argument. But the interrogative phrase of the sluice would be the DP complement of a null P that was stranded in the ellipsis site. See (48) (with the null P represented as [<sub>P</sub> ]).

- (48) a. \*Maleffa si Dolores, lao ti hu tungu' [hâfa <maleffâñ-ña [<sub>P</sub> ]>].  
 AGR.forget UNM Dolores but not AGR know what? WH[OBL].forget-AGR  
 ('Dolores forgot (something), but I don't know what.')
- b. \*Ilek-ña na omlat gui', lao ti ha tungu' [hâfa <omlât-ña [<sub>P</sub> ]>].  
 say-AGR COMP AGR.fit she but not AGR know what? WH[OBL].fit-AGR  
 ('She thought that she fit (something), but she didn't know what.')
- c. \*Ilek-ñiha na man-ma'â'ñao, lao ti ma sângan [hâyi  
 say-AGR COMP AGR-afraid but not AGR say who?  
 <ma'a'ñao-ñiha [<sub>P</sub> ]>].  
 WH[OBL].afraid-AGR  
 ('They said that they were afraid (of someone), but they didn't say who.')

Crucially, the predicate in the ellipsis would have the same argument structure as the predicate in the antecedent clause, so there would be no argument structure mismatch. (The argument structures would have the same general form as that shown for *andi* 'flirt' in (37).) The mystery is that even under this analysis, sluicing fails.

Why should ellipsis be ruled out? Case mismatch provides an answer. The interrogative phrases of the sluices in (48) are DPs and must therefore be Case-licensed. Under standard assumptions, they would be assigned Case by a feature on the null P in the ellipsis site. But there is no head in the antecedent clause that corresponds to this P, because the internal argument that corresponds to the interrogative phrase of the sluice is an implicit argument.

<sup>14</sup> Recall that null prepositions can be stranded in Chamorro, but overt prepositions cannot. This might make it attractive to recast the null P in the text as K(ase) or some other functional head that would serve exclusively to assign inherent Case to oblique arguments. If that is done, *wh*-movement in (47) must strand K; see section 2.1.3.

Of course, if Case mismatch lies behind the ungrammaticality of (48a–c), ellipsis should succeed in comparable sentences in which the internal argument in the antecedent clause is syntactically realized. This prediction is correct. Consider (49a–c).

- (49) a. Ilek-ña si Dolores na maleffa gui' [<sub>P</sub>] lepblu, lao ti ha sangãni yu'  
 say-AGR UNM Dolores COMP AGR.forget she book but not AGR say.to me  
 [hãfa na lepblu <maleffãñ-ña [<sub>P</sub> >]].  
 what? L book WH[OBL].forget-AGR  
 'Dolores said that she forgot a book, but she didn't tell me what book.'
- b. Ilek-ña na ulat gui' [<sub>P</sub>] gi chinina, lao ti ha tungu' [amãnu  
 say-AGR COMP AGR.fit she LOC dress but not AGR know what?  
 <ulãt-ña [<sub>P</sub> >]].  
 WH[OBL].fit-AGR  
 'She thought that she fit a dress, but she didn't know which.'
- c. Ilek-ñiha na man-ma'ã'ñao siha [<sub>P</sub>] ni un tãotao, lao ti ma sãngan  
 say-AGR COMP AGR-afraid they OBL a person but not AGR say  
 [hãyi <ma'a'ñao-ñiha [<sub>P</sub> >]].  
 who? WH[OBL].afraid-AGR  
 'They said that they were afraid of a certain person, but they didn't say who.'

The grammaticality of sluicing in sentences of this type shows that the oblique complement of an intransitive predicate can be the interrogative phrase of a sluice. What is banned is oblique complements that are sprouted.

In short, the ungrammaticality of (48a–c) under an *intransitive* analysis of the ellipsis is further evidence that sluicing exhibits Case effects.

## 5 Case Effects in English Sluicing

A natural question to raise at this point is whether Case effects are peculiar to Chamorro, or whether they figure in the syntactic identity that constrains sluicing crosslinguistically. To begin to address this question, I now turn to English. The following sections discuss three types of English evidence for Case effects in sluicing. When this evidence is combined with the evidence for argument structure effects presented by Merchant (2013) and others, what emerges is that sluicing is constrained by the same limited syntactic identity in English as in Chamorro.

Section 5.1 offers evidence from sprouted possessors for Case effects in sluicing; section 5.2, evidence from morphological mismatches; and section 5.3, evidence from sprouted objects of prepositions.

### 5.1 No Sprouted Possessors

One might think initially that English differs from Chamorro in allowing possessors to be sprouted in sluicing. In sentences like (50a–b), the interrogative phrase of the sluice appears to be a possessor that does not correspond to any syntactically realized material in the antecedent clause.

- (50) a. They impounded a car, but they wouldn't say whose / which diplomat's.  
 b. She thinks that you were criticizing some parents, but she doesn't know whose / which children's.

However, the presence of the possessive 's supplies a clue that the interrogative phrase of the sluice contains more than just a possessor. And indeed, Ross (1969:284n21) observed that it is possible for the interrogative phrase to consist of a full-fledged possessive DP—a DP that (in more current terms) includes both the possessor and the D that Case-licenses it.<sup>15</sup>

- (51) a. They impounded a car, but they wouldn't say whose car / which diplomat's car.  
 b. She thinks that you were criticizing some parents, but she doesn't know whose parents / which children's parents.

Examples like these led Merchant (2001:134, 165) to suggest that the interrogative phrase of the sluice in examples like (50a–b) is a possessive DP whose NP complement has undergone NP-ellipsis. See (52a–b), where the putatively elided NP is italicized and enclosed in angled brackets.

- (52) a. They impounded a car, but they wouldn't say [whose D <car>].  
 b. She thinks you were criticizing some parents, but she doesn't know [which children's D <parents>].

Under this reanalysis of (50a–b), there is no Case mismatch, and therefore no reason to expect sluicing to be ungrammatical. The possessor is Case-licensed by a feature on D within the possessive DP that forms the interrogative phrase of the sluice. As for the possessive DP itself, it is Case-licensed within the ellipsis site by transitive small *v*, which is identical to the corresponding transitive small *v* in the antecedent clause.

We can go further. Consider sluicing constructions that differ from (52a–b) in that the possessor genuinely is sprouted. In such constructions, the interrogative phrase of the sluice is not a truncated possessive DP, but merely the possessor, and—significantly—ellipsis is ungrammatical.

- (53) a. \*They impounded a car, but they wouldn't say (exactly) who.  
 b. \*She thinks you were criticizing some parents, but she doesn't know which children.

Sentences like (53a–b) should be compared with constructions in which the antecedent clause contains a syntactically realized possessor corresponding to the interrogative possessor of the sluice. Then sluicing succeeds, as (54a–b) show.

- (54) a. They impounded somebody or other's car, but they wouldn't say exactly who.  
 b. She thinks that you were criticizing some children's parents, but she doesn't know which children.

<sup>15</sup> Thanks to a reviewer for pointing me to Ross's original observation and Merchant's suggested analysis.

The contrast between (53) and (54) reveals that sluicing exhibits Case effects. As we saw earlier for Chamorro, the interrogative phrase of the sluice must be Case-licensed by a feature on D in the ellipsis site. But in (53), the corresponding D in the antecedent clause lacks that feature. The problem is resolved in (54): the corresponding D in the antecedent clause has the Case-assigning feature, since it has a possessor, so this aspect of syntactic identity is complied with.

### 5.2 Morphological Mismatches and Subjects of Finite Clauses

More evidence that sluicing in English exhibits Case effects comes from “morphological mismatches” in which the interrogative phrase of the sluice is the subject of a finite clause.<sup>16</sup>

As shown by Merchant (2001, 2005), sluicing in English allows an infinitive or tensed clause in the ellipsis site to correspond to a gerund in the antecedent clause. Two of Merchant’s so-called morphological mismatches, cited in (3), are repeated here.

- (55) a. Decorating for the holidays is easy if you know how *<to decorate for the holidays>*.  
 b. I remember meeting him, but I don’t remember when *<I met him>*.

Morphological mismatches of this sort led Merchant (2001) to claim that there is no syntactic identity condition on sluicing. But it is possible to find highly similar mismatches in which sluicing is ill-formed. Consider (56a–d).

- (56) a. \*Having to compromise is inevitable, but they have no idea who *<has to compromise>*.  
 b. \*Although it’s possible in principle to lose gracefully, it’s completely unclear what sort of person *<loses gracefully>*.  
 c. \*The message said to show up in the square at midnight, but it didn’t say who *<should show up in the square at midnight>*.  
 d. \*In this monastery, it’s possible in principle to sing after midnight, but the abbot has to specify which monks *<can sing>*.

What goes wrong in (56)? The obvious answer is Case. The interrogative phrase of the sluices in (56) is the subject of a finite clause and should therefore be assigned Case by a feature on finite T in the ellipsis site. But the corresponding T in the antecedent clause is not finite—that, of course, is the source of the morphological mismatch. The failure of this particular aspect of syntactic identity is what lies behind the ungrammaticality of ellipsis.

If this is so, there should be cases of morphological mismatch in which sluicing can elide a finite clause, because Case mismatch is not an issue. The example in (57), due to Pranav Anand, provides a minimal contrast with (56d). Here the interrogative phrase of the sluice is Case-licensed

<sup>16</sup> Given the requirement that all clauses have syntactically realized subjects (Chomsky 1982), the cases discussed in this section do not involve sprouting. Nonetheless, they are intuitively parallel to the cases of sprouted possessors discussed earlier in the text.

in the ellipsis site by small *v*—a head identical to the small *v* in the antecedent clause (see section 7 for discussion). And, as might be expected, sluicing is grammatical.

- (57) In this monastery, it's possible in principle to sing after midnight, but you have to know what songs *<you can sing>*.

For parallel examples in which Case mismatch is not an issue, see Merchant 2001:22, (32c,f).

In summary, the interaction of morphological mismatches with ellipsis is further evidence for Case effects in sluicing.

### 5.3 No Sprouted Objects of Prepositions

The last piece of evidence to be discussed here for Case effects in sluicing involves sprouted objects of prepositions.

In English, Danish, and Norwegian—three languages that allow *wh*-movement to strand prepositions—the ability of sluicing to strand a preposition is curiously restricted (see Chung 2006). A preposition can be stranded in the ellipsis by the interrogative phrase of the sluice only when the interrogative phrase corresponds to syntactic material in the antecedent clause. Objects of prepositions cannot be sprouted, in other words. Some ill-formed English sluices that illustrate this point are given in (58).

- (58) a. \*They're jealous, but it's unclear who *<they're jealous of>*.  
 b. \*He said last night that he was very afraid, but he couldn't tell us what *<he was very afraid of>*.  
 c. \*They knew that Mary was flirting, but they weren't sure who *<Mary was flirting with>*.  
 d. \*UN is transforming itself, but what *<it is transforming itself into>* is unclear.

Compare the sluicing constructions in (59), in which an entire PP has been sprouted, and ellipsis is grammatical.

- (59) a. They're jealous, but it's unclear of who *<they're jealous>*.  
 b. He said last night that he was very afraid, but he couldn't tell us of what *<he was very afraid>*.  
 c. They knew that Mary was flirting, but they weren't sure with who *<Mary was flirting>*.  
 d. UN is transforming itself, but into what *<it is transforming itself>* is unclear.  
*(New York Times headline, 2/28/05)*

It should now be clear that this curious restriction flows directly from the two facets of syntactic identity argued for here. In order to avoid an argument structure mismatch, the predicate in the ellipsis must realize its internal argument as a PP—and not, say, a DP. But then the result will be a Case mismatch: the interrogative phrase of the sluice will be Case-licensed by a feature on P, a head that corresponds to no head in the antecedent clause. The dilemma is resolved when the interrogative phrase corresponds to a syntactically realized DP in the antecedent clause. Then

the corresponding DP in the antecedent clause is Case-licensed by a feature on P, and there is no Case mismatch.

- (60) a. They're jealous of someone, but it's unclear who *<they're jealous of>*.  
 b. He said last night that he was very afraid of something, but he couldn't tell us what *<he was very afraid of>*.  
 c. They knew that Mary was flirting with someone, but they weren't sure who *<Mary was flirting with>*.  
 d. UN is transforming itself into something, but what *<it is transforming itself into>* is unclear.

## 6 Sluicing and Syntactic Identity

I hope to have shown by this point that sluicing is constrained by syntactic identity and that this identity extends to Case as well as argument structure. Let us now consider some of the broader consequences of this result.

Very interestingly, the evidence just presented is consistent with Merchant's (2001) arguments that sluicing does not involve full-blown syntactic identity. One of Merchant's arguments involves morphological mismatches that occur relatively high in the functional layer of the clause (see sections 1 and 5.2); another, discussed below, involves Principle C effects. When this evidence is folded together with the evidence just discussed from Case effects and argument structure effects, a coherent picture emerges of the syntactic identity relevant for sluicing. That identity is not total; rather, it is limited to a substructure of the syntax in the ellipsis.

Why should this be? Further scrutiny of Case effects and argument structure effects points to an answer. Each of these facets of syntactic identity serves to constrain the syntactic relation of the interrogative phrase to the structure in the ellipsis. Case effects regulate how an interrogative DP is syntactically licensed within the structure in the ellipsis. Argument structure effects regulate the semantic-syntactic contribution that an interrogative phrase argument can make to the relevant predicate in the ellipsis. These observations suggest that the function of syntactic identity in sluicing is not, as the early accounts assumed, to ensure that the sluice has the meaning of a constituent question. Rather, it is to ensure that the interrogative phrase is syntactically (and semantically) integrated into the ellipsis and that this integration is recoverable.

This conception of the syntactic identity condition opens the door to a world in which sluicing is constrained by semantic identity as well as limited syntactic identity. (For earlier forays into this world, see Merchant 2005, Chung 2006, and AnderBois 2011a.) The semantic identity condition can be assumed to be some version of focus-assisted, or issue-assisted, mutual entailment (Merchant 2001, 2005, AnderBois 2011a). The broad outlines of the syntactic identity condition can be stated as follows:

- (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.

(61) paves the way for a more precise characterization of what I have been calling argument structure effects. I said in section 1 that a predicate in the ellipsis of sluicing must have an argument structure identical to the argument structure of the corresponding predicate in the antecedent clause. But in fact, when the ellipsis contains a complex syntactic structure with multiple predicates, it is not obvious that *every* predicate is so constrained. Argument structure mismatches can be detected only for predicates that take the interrogative phrase of the sluice as an argument. The point comes through clearly in examples of sluicing like (62).

- (62) He said that he was annoyed by the fact that she was dating someone, but he refused to reveal who.

The interrogative phrase of the sluice in (62) is an internal argument of the embedded verb *date*. Therefore, *date* must have the same argument structure as the corresponding verb *date* in the antecedent clause; specifically, it must be active as opposed to passive. But there is no way to determine the voice of the higher verb in the ellipsis, *annoy*, despite the fact that the corresponding verb *annoy* in the antecedent clause is passive. The two alternatives are represented inside the angled brackets in (63).

- (63) a. He said that he was annoyed by the fact that she was dating someone, but he refused to reveal who *<the fact that she was dating \_\_\_\_ annoyed him>*.  
 b. He said that he was annoyed by the fact that she was dating someone, but he refused to reveal who *<he was annoyed by the fact that she was dating \_\_\_\_ >*.

(It has been known since Ross 1969 that island violations can be amnestied by sluicing; see also CLM 1995. This means that it is irrelevant for current purposes that both (63a) and (63b) involve complex NP island violations, and (63a) also involves a subject island violation.)

These observations raise the possibility that the only predicates in the ellipsis whose argument structures are constrained by syntactic identity are predicates that take the interrogative phrase as their argument. I therefore flesh out the details of limited syntactic identity as follows:

- (64) *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.

How, exactly, is this identity condition implemented? The answer depends on one's overall approach to the ellipsis in sluicing.

Suppose we follow Merchant (2001) in maintaining that the ellipsis in sluicing results from deletion of a fully fleshed-out syntactic structure. Then the deletion is constrained by focus-assisted mutual entailment as well as syntactic identity condition (64). In the English examples in (65), the potential candidates for deletion conform to focus-assisted mutual entailment. But they violate some clause of the syntactic identity condition, which we can assume is imposed in overt syntax. The result is that the material in angled brackets cannot be deleted.

- (65) a. \*The vase was stolen, but we don't know who *<stole the vase>*.  
 b. \*They knew that Mary was flirting, but they weren't sure who *<Mary was flirting with>*.  
 c. \*The message said to show up in the square at midnight, but it didn't say who *<should show up in the square at midnight>*.

In (65a), the argument structure condition (64a) is violated by the predicate in the ellipsis that takes *who* as its argument. (Depending on one's assumptions, that predicate is either *steal* or transitive small *v.*) In (65b), the Case condition (64b) is violated by the P *with*, which assigns Case to *who* but is not identical to any corresponding P in the antecedent clause. In (65c), the Case condition is violated by finite T, the Case licenser of *who*, which is mismatched with nonfinite T in the antecedent clause.

In contrast, the potential candidates for deletion in (66) conform to both the semantic and the syntactic identity conditions, and ellipsis is legal.<sup>17</sup>

- (66) a. They impounded somebody or other's car, but they wouldn't say exactly who *<they impounded 's car>*.  
 b. They knew that Mary was flirting, but they weren't sure with who *<Mary was flirting>*.  
 c. I remember meeting him, but I don't remember when *<I met him>*.  
 d. He finished the project, but we don't know with whose help *<he finished it>*.

In (66a–c), focus-assisted mutual entailment holds straightforwardly between the antecedent clause and the material to be deleted. Mutual entailment also holds in (66d), once accommodation is invoked to supply an implicit comitative in the antecedent clause (see Chung 2006). As far as syntactic identity goes, only the interrogative PP in (66b) is an argument, so only its predicate, *flirt*, must have an argument structure identical to that of the corresponding predicate in the antecedent clause. Only the interrogative phrase in (66a) is a DP, so only it must be Case-licensed by a head identical to the corresponding head in the antecedent clause (namely, the possessive D).

Overall, these are exactly the outcomes that one would hope for.

Suppose, on the other hand, we follow CLM (1995, 2011) in maintaining that the ellipsis of sluicing is an empty TP in overt syntax. Then the content that is supplied for this empty TP by structure-building operations in LF is constrained by focus-assisted mutual entailment and the syntactic identity condition. Focus-assisted mutual entailment extends to temporal and modal relations (tense/mod), so the outcome of structure building must be a TP. However, the syntactic identity imposed by (64) falls short of complete syntactic identity. This means that, contra CLM (1995, 2011), it will not do to simply copy the TP of the antecedent clause into the empty TP of the ellipsis. Instead, we must take a different, more constructivist tack.

So let us suppose that in LF, CLM's (1995, 2011) operations of sprouting and merger combine with standard Minimalist operations to build internal structure in the empty TP of the sluice.

<sup>17</sup> An example of the type illustrated in (66a) is judged ungrammatical by Merchant (2001:133).

CLM (2011:35) recast sprouting as an operation that adds a new immediate dominance relation to the interrogative phrase of the sluice. As they observe, this reconceptualization reveals sprouting to be essentially the inverse of Move, and “‘has a particularly natural home’” in the left-to-right, top-down structure building of Phillips (2003). In fact, the only coherent way to build syntactic structure incrementally inside the empty TP is to assume that all the operations—sprouting, merger, Merge, Move, and Agree—apply from the top down. If we are willing to take this tack, then the syntax inside the ellipsis of (66a) will be constructed as follows. First, (the inverse of) Merge will cause the empty TP to immediately dominate the DP *they* and T’.

(67) [<sub>CP</sub> who C [<sub>TP</sub> they T’]]

Then, another application of (the inverse of) Merge will cause T’ to immediately dominate T and transitive small vP.

(68) [<sub>CP</sub> who C [<sub>TP</sub> they [<sub>T’</sub> T vP]]]

Next, (the inverse of) Move will cause small vP to immediately dominate v’ and the same *they* that is already immediately dominated by TP.

(69) [<sub>CP</sub> who C [<sub>TP</sub> they [<sub>T’</sub> T [<sub>vP</sub> they v’]]]]

This structure building will continue, stepwise, until the point when the direct object DP is to be expanded. At that point, sprouting—which, recall, is just the inverse of Move—will lead to (70), in which *who* is immediately dominated by DP as well as CP.

(70) [<sub>CP</sub> who C [<sub>TP</sub> they [<sub>T’</sub> T [<sub>vP</sub> they impound [<sub>DP</sub> who D’]]]]]

That structure, in turn, will be expanded to (71).

(71) [<sub>CP</sub> who C [<sub>TP</sub> they [<sub>T’</sub> T [<sub>vP</sub> they impound [<sub>DP</sub> who D car]]]]]

At this point, LF restoration of the empty TP is complete, and it can be determined whether the sluice satisfies focus-assisted mutual entailment and the syntactic identity condition. In this particular example, both conditions are satisfied, assuming that the D head of the direct object DP has the Case-assigning feature. More generally, once top-down structure building is assumed, an LF approach to sluicing leads to essentially the same outcomes as a deletion approach. This, too, is what one might hope for.<sup>18</sup>

<sup>18</sup> This version of CLM’s LF approach to sluicing has an unfortunate consequence: it no longer accounts for CLM’s (1995) generalization that island effects are amnestied in sluicing under merger but not sprouting. Here is why. If merger is allowed in this revised LF approach, it becomes impossible to predict that island effects persist under sprouting (e.g., \**Bob found someone to fix the sink, but it’s not clear with what*). One can always construct a syntax in the ellipsis in which some syntactically realized but semantically insignificant constituent corresponds to the interrogative phrase of the sluice (e.g., *Bob found someone to fix the sink, but it’s not clear with what* ⟨*Bob found someone to fix the sink with something*⟩). That would lead to merger, and to the prediction that island effects should be amnestied, contrary to fact. On the other hand, if merger is disallowed, then the system predicts that island effects should never be amnestied, because (the inverse of) *wh*-movement within the ellipsis should always be constrained by locality. In short, the revised LF approach, like the deletion approach, offers no syntactic explanation for the fact that islands are amnestied under some circumstances but not others.

In short, the syntactic identity condition that I have just advanced can be implemented whether the ellipsis in sluicing is assumed to involve deletion or LF restoration. Moreover, the broader conception of identity that incorporates this condition succeeds in accounting for all the empirical patterns seen so far. These patterns include Merchant's morphological mismatches (e.g., (66c)), the English evidence for argument structure effects uncovered by Merchant and others (see section 1), the Chamorro evidence for argument structure effects (see section 3), the Chamorro evidence for Case effects (see section 4), and the English evidence for Case effects (see section 5). I take this to be a significant achievement.<sup>19</sup>

Nonetheless, at the theoretical level, one might wonder whether an approach that appeals to semantic identity as well as limited syntactic identity is parsimonious enough. Could one achieve the same results by eliminating focus-assisted mutual entailment and expanding the syntactic identity condition so that it stops short of full-blown identity, but still manages to derive the interpretation of the sluice?

I strongly suspect that the answer is no. An expanded syntactic identity condition would have to negotiate the difference between well-formed morphological mismatches, such as (55a–b), and illicit mismatches, such as (56a–d), in which the mismatched T is the Case licenser of the interrogative phrase. Moreover, Merchant (2001) has shown that such a condition would have to allow pronouns to be treated as identical to the corresponding nonpronouns. This is to prevent Principle C of the binding theory from wrongly ruling out sentences like (72) because of the presence of a bound name within the ellipsis.

- (72) They arrested Alex<sub>i</sub>, although he<sub>i</sub> didn't know why *<they arrested Alex<sub>i</sub>>*.  
(Merchant 2005:14)

We can take Merchant's argument a little further. In (73), the most natural reading of B's response is that it is almost never the case that a high school senior *x* knows why *x* wants to go to college. In order to derive that reading, an expanded syntactic identity condition would have to allow bound pronouns to be treated as identical to (the restriction of) the corresponding quantificational DPs.

- (73) A: Every high school senior wants to go to college.  
B: Yes, but they almost never know why *<every high school senior wants to go to college>*.

At this point, two things become clear. First, it might not be possible to formulate a working version of an expanded syntactic identity condition. Second, even if a working condition could

<sup>19</sup> One might wonder if this condition can handle Potsdam's (2007) evidence from Malagasy against syntactic identity in sluicing. I believe it can. In Potsdam's analysis, the interrogative phrases in Malagasy sluicing are higher nominal *predicates*. As such, they do not need to be integrated into the argument structure of some (other) predicate or Case-licensed. So the mismatch between the ellipsis and the antecedent clause that Potsdam documents will be allowed by condition (64).

be formulated, it would be doing both substantially less and substantially more than one would expect of an identity condition that was purely syntactic.

In contrast, the approach I have just proposed draws a clear line between those aspects of identity that are grounded in the syntax and those that are grounded in the semantics. Intuitively, the dual conception of identity that emerges is entirely reasonable. It is also empirically successful. And it manages to make sense of what, from a more monolithic perspective, might seem like evidence for a hodgepodge of apparently conflicting identity requirements.

That said, let me now turn to one last empirical challenge for this conception of identity in sluicing.

## 7 Sluicing and the Syntax of Antipassive

The challenge comes from antipassive clauses in Chamorro and their patterning in sluicing. Section 7.1 lays out the problem; section 7.2 advances a solution; and section 7.3 shows that the solution has independent support.

### 7.1 *The Problem with Antipassive*

Antipassive verbs in Chamorro are productively formed from transitive verbs by attachment of the prefix *man-* (realized as *fan-* in the irrealis mood). (A limited number of verbs have more specialized antipassive forms.) The result is a derived intransitive verb that takes an optional “complement” in the oblique case, corresponding to the internal argument of the original transitive verb. This oblique complement is typically indefinite, but it can also be definite, quantified, a name, or a pronoun. The antipassive clauses in (74) illustrate some of the possibilities. In (74a–b), the oblique is a bare indefinite; in (74c), a definite; in (74d), a name; and in (74e), an implicit argument. (Like other weak DP arguments, bare indefinites are not overtly inflected for case; see section 2.1.1.)

- (74) a. Kao mam-omoksai si Juan mǎnnuk pat ngǎnga’?  
 Q AGR.AP-raise.PROG UNM Juan chicken or duck  
 ‘Is Juan raising chickens or ducks?’
- b. Kumu gof mang-guaiya i taotao palǎo’an, ha gof sienti na puti  
 if very AGR.AP-love the person woman AGR very feel COMP AGR.hurt  
 ma-poktu.  
 AGR.PASS-jilt  
 ‘If a guy really loves a woman, he really feels the pain if he gets jilted.’  
 (CD, entry for *poktu*)
- c. Mungnga mam-atcha ni iyu-n ottru tǎotao.  
 don’t AGR.AP-touch OBL possession-L other person  
 ‘Don’t touch other people’s things.’
- d. Mang-guaiya hao as Pedro.  
 AGR.AP-love you OBL Pedro  
 ‘You love Pedro.’

- e. Yanggin ma-bendas hao, ti siña hao man-li'i'.  
 if AGR.PASS-blindfold you not can you AGR.AP-see  
 'If you are blindfolded, you cannot see.'  
 (CD, entry for *bendas*)

Significantly, the oblique associated with an antipassive verb cannot undergo *wh*-movement. The constituent questions in (75) are robustly ungrammatical.

- (75) a. \*Hâfa na klâsi-n mǎnnuk mam-omoksai gui'?  
 what? L sort-L chicken AGR.AP-raise.PROG he  
 ('What sort of chickens is he raising?')  
 b. \*Hâyi mang-guaiya hao?  
 who? AGR.AP-love you  
 ('Who do you love?')  
 c. \*Hâfa man-li'i' si Juan?  
 what? AGR.AP-see UNM Juan  
 ('What did Juan see?')

Nonetheless, an antipassive clause can serve as the antecedent for sluicing, and it can do so even when the interrogative phrase of the sluice is a DP that corresponds to the internal argument of the verb. (See AnderBois 2008 for discussion of a similar pattern in Yukatek Maya.) In the sluices in (76), the interrogative DP corresponds to the oblique associated with the antipassive verb in the antecedent clause.

- (76) a. Mam-omoksai mǎnnuk, lao ti ta tungu' [hâfa na klâsi \_\_\_\_ ].  
 AGR.AP-raise.PROG chicken but not AGR know what? L sort  
 'He is raising chickens, but we don't know what kind.'  
 b. Man-preprensa si Dolores chinina-n lâhi, lao ti in tungu'  
 AGR.AP-iron.PROG UNM Dolores shirt-L man but not AGR know  
 [hâfa mǎs \_\_\_\_ ].  
 what? more  
 'Dolores is ironing a man's shirt, but we don't know what else.'

The sluices in (77) are similar, but the interrogative DP has been sprouted.<sup>20</sup> (Contrary to Chung 2006, sluicing is grammatical in constructions of this type.)

- (77) a. Mang-guaiya si Julia, lao ti hu tungu' [hâyi \_\_\_\_ ].  
 AGR.AP-love UNM Julia but not AGR know who?  
 'Julia loves (someone), but I don't know who.'

<sup>20</sup> *Chotchu* in (77c) is the antipassive form of the transitive verb *kǎnnu* 'eat'.

- b. Man-anaitai gui', lao ti hu tungu' [hâfa \_\_\_\_ ].  
 AGR.AP-read.PROG he but not AGR know what?  
 'He's reading, but I don't know what.'
- c. Chumochotchu gui', lao ti hu tungu' [hâfa \_\_\_\_ ].  
 AGR.AP.eat.PROG he but not AGR know what?  
 'He's eating, but I don't know what.'

How should sluicing be analyzed here? Two initial possibilities suggest themselves. We could take the sluices in (76) and (77) to involve ellipsis of an antipassive clause, despite the fact that obliques associated with antipassive verbs are inaccessible to *wh*-movement. Such a possibility would, in effect, claim that these constructions are yet another case of an island violation amnestied by sluicing. Alternatively, we could take these sluices to involve ellipsis of the corresponding transitive clause. Then they would correspond to complete constituent questions of the direct object, which are well-formed. See (78).

- (78) a. Man-preprensa si Dolores chinina-n lâhi, lao ti in tungu' [hâfa mâs  
 AGR.AP-iron.PROG UNM Dolores shirt-L man but not AGR know what? more  
 ha preprensa].  
 WH[OBJ].AGR iron.PROG  
 'Dolores is ironing a man's shirt, but we don't know what else she is ironing.'
- b. Mang-guaiya si Julia, lao ti hu tungu' [hâyi ha guaiya].  
 AGR.AP-love UNM Julia but not AGR know who? WH[OBJ].AGR love  
 'Julia loves (someone), but I don't know who she loves.'

The challenge is that both of these alternatives appear to violate syntactic identity condition (64). Both alternatives would seem to lead to a Case mismatch in (77), since whatever head assigns Case to the sprouted interrogative DP of the sluice evidently corresponds to no head in the antecedent clause. In addition, the alternative that takes sluicing in (76) and (77) to involve ellipsis of a transitive clause could well lead to an argument structure mismatch, given that the antecedent clause is antipassive.

## 7.2 Antipassive and Implicit Arguments

Let me begin to address this challenge by probing more deeply into the syntax of antipassive clauses.

The antipassive construction is an option for virtually all transitive verbs in Chamorro that are morphologically noncomplex.<sup>21</sup> This is perhaps unsurprising, given that for many speakers,

<sup>21</sup> The only exception known to me is *nisisita* 'need', which apparently has no antipassive form. The generalization in the text is limited to morphologically noncomplex verbs because complex verbs formed with *-i* do not have antipassive forms; see section 3.2.

the antipassive is preferred or required when the internal argument of the verb is nonspecific (see Chung 1998:387). Consider the naturally occurring examples in (79).

- (79) a. Mañ-odda' balutan.  
 AGR.AP-find package  
 '[The two] found a package.'  
 (Cooreman 1983:108)
- b. Apenas man-li'i' tãotao.  
 rarely AGR.AP-see person  
 'Rarely does he see people.'  
 (CD, entry for *apenas*)
- c. Ariesgão yu' kumu mang-gogo'ti yu' às.  
 AGR.daring I if AGR.AP-hold.PROG I ace  
 'I take risks when I am holding an ace.'  
 (CD, entry for *às*)

Further, the internal argument of an antipassive verb need not be syntactically realized; it can be implicit. This holds true for a wide range of verb meanings, as the examples in (80) are intended to suggest.

- (80) a. Ti man-man-âmpi.  
 not AGR-AP-cover  
 'They didn't cover (anything). / They didn't do the covering.'
- b. Humãnao para u fañ-âkki guini gi un lanchu-n tãotao.  
 AGR.go FUT AGR AP-steal here LOC a farm-L person  
 '[The two] went to steal here at someone's farm.'  
 (from an audiotaped narrative)
- c. Mam-unu' si Juan.  
 AGR.AP-kill UNM Juan  
 'Juan killed (something).'
- d. Kosa ki todú u fan-mañ-agi.  
 so.that all AGR AGR-AP-try  
 'So that everyone will get a try.'  
 (CD, entry for *dibibiyun*)

Antipassive verbs with implicit internal arguments are apparently quite frequent in discourse. Cooreman (1987:72) reports that the majority (61.4%) of antipassive verbs in the Chamorro narratives she collected have an implicit argument. Finally, this implicit internal argument has an existential interpretation. Consistent with this, it must have narrowest scope (see Condoravdi and Gawron 1996). In (81), from the Chamorro Dictionary database, the English translation supplied by the contributor makes it clear that the implicit argument has narrow scope with respect to negation.

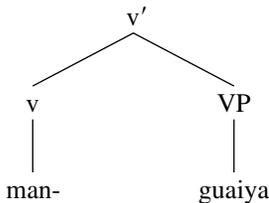
- (81) Pumeska si Ramon gi paingi lao ti mang-onni', sa' gâtdun  
 AGR.fish UNM Ramon LOC last.night but not AGR.AP-catch because AGR.entangled  
 i kutdet-ña.  
 the fishing.line-AGR  
 'Ramon went fishing last night, but he didn't catch any because his line entangled.'  
 (CD, entry for *gâtdun*)

These observations converge to provide support for an insight originally due to Baker (1988): namely, that the Chamorro antipassive is fundamentally an implicit argument construction, similar to the implicit object construction found with English verbs such as *eat*, *read*, and *sing*. Baker's actual proposal is that the Chamorro antipassive prefix *man-* is an N that receives a semantic role and undergoes head movement to V. My proposal is different. I claim that noncomplex transitive verbs in Chamorro permit their internal argument to be implicit. In other words, every such transitive verb has an argument structure like that shown for *guaiya* 'love' in (82).

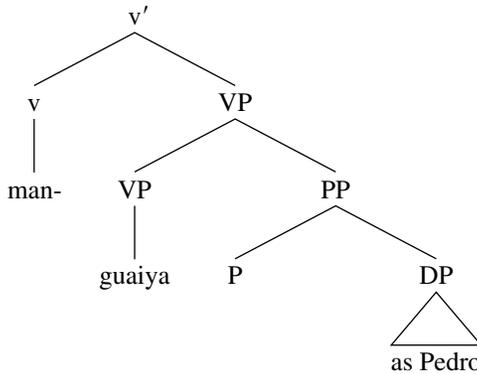
- (82) *The argument structure of a noncomplex transitive verb*  
 guaiya: lover ⟨lovee⟩  
 |  
 (DP)

Further, when a transitive verb has an implicit argument, its small *v*—the head that selects the external argument—is realized as the antipassive prefix *man-*. This means that the first layer of the extended projection of an antipassive verb will look like (83).

- (83) *The v' of an antipassive verb*



Third and finally, in the spirit of Baker 1988:132, I propose that the optional oblique “complement” of the antipassive verb is actually an adjunct that serves as a modifier of the implicit argument. Recall that this constituent is realized as a DP in the oblique case. In section 2.1.1, I analyzed such DPs as PPs headed by a null preposition (see also section 3.2), and there is no particular reason to do otherwise here. The upshot is that the *v'* of the antipassive clause in (74c) will have the structure sketched in (84).

(84) *The v' of an antipassive verb with an oblique adjunct*

With this understanding of antipassive in place, we can return to the challenge that sluicing poses for syntactic identity when the antecedent clause is antipassive. It is immediately clear that if our aim is to defuse this challenge, one of the alternatives entertained in section 7.1 is more promising than the other. We now know that if sluicing in (76) and (77) involves ellipsis of a transitive clause, it will not lead to an argument structure mismatch after all. That is because every transitive verb and its antipassive form have the same argument structure: the argument structure illustrated in (82). In other words, sluicing of this type turns out to be the Chamorro counterpart of English sluicing when a direct object has been sprouted. Compare (77a–c) with the English (85).

(85) She's reading, but we can't figure out what *<she's reading>*.

On the other hand, we also know that if sluicing in (76) and (77) involves ellipsis of an antipassive clause, it will lead to a Case mismatch in (76)—fundamentally the same mismatch as the one discussed in section 4.2 for sprouted oblique complements. The reason is that the interrogative DP of the sluice is Case-licensed by the null preposition in the ellipsis site, but there is no corresponding preposition in the antecedent clause.

It thus appears that the only way that sluicing in (76) and (77) can conform to the syntactic identity condition is to involve ellipsis of a transitive clause, as sketched in (86).

- (86) a. Man-preprensa si Dolores chinina-n lâhi, lao ti in tingu' [hâfa mâs  
 AGR.AP-IRON.PROG UNM Dolores shirt-L man but not AGR know what? more  
*<ha preprensa>*].  
 WH[OBJ].AGR IRON.PROG  
 'Dolores is ironing a man's shirt, but we don't know what else.'
- b. Mang-guaiya si Julia, lao ti hu tungu' [hâyi *<ha guaiya>*].  
 AGR.AP-love UNM Julia but not AGR know who? WH[OBJ].AGR love  
 'Julia loves (someone), but I don't know who.'

But we are not quite done. In order to avoid a Case mismatch in (76) and (77), the small *v* that assigns Case to the sprouted direct object of the sluice must be identical to the corresponding

small *v* of the antecedent clause. Further, this identity must extend to the Case-assigning feature. Is there a reason to believe that the small *v* of the antipassive clause has this feature, despite the fact that the verb's internal argument is implicit and so there is no syntactically realized DP to assign Case to?

Research by Rothstein (1992) supplies an answer to this question. In a very careful study, Rothstein develops a view of abstract Case and DP-licensing in which a verb that selects an external argument (in more current terms, the small *v* that selects an external argument) always ‘‘has the potential to assign Case,’’ although that ‘‘does not mean that in every structure [a DP] must occur to bear that Case’’ (Rothstein 1992:137). Rothstein's evidence is drawn from resultatives and other constructions, not from sluicing, but her conclusion about the Case-assigning potential of the small *v* that selects an external argument is clearly relevant here. I claim that this Case-assigning potential is exploited in sluicing. In Chamorro sluicing constructions like those in (76) and (77), the small *v* of the antipassive clause selects an external argument and therefore has the Case-assigning feature, despite the fact that the verb's internal argument is implicit. The syntactic identity condition is therefore satisfied; there is no Case mismatch. The same potential is exploited in English sluicing when the direct object is sprouted, with a similar outcome: sluicing is well-formed (see (57) and (85)).<sup>22</sup> (See Aldridge 2008, 2012 for an earlier proposal that in some Austronesian languages, the small *v* of antipassive clauses assigns Case.)

I conclude that once Chamorro antipassive is recognized to be an implicit argument construction, an analysis can be given of the interaction of sluicing and antipassive that is compatible with the conception of syntactic identity developed in section 6. Observe, finally, that we now have in hand the ellipsis-based explanation for the contrast between (22a) and (22b) that was promised in section 2.2. The grammatical (22a) is a sluicing construction of type (77): it involves a sprouted direct object when the antecedent clause is antipassive, and satisfies the syntactic identity condition. In contrast, the ungrammatical (22b) is a sluicing construction of type (39) or (48). Either it involves the sprouted direct object of a derived transitive verb and leads to an argument structure mismatch (see section 3.2), or else it involves the sprouted oblique complement of an intransitive predicate and leads to a Case mismatch (see section 4.2).

### 7.3 Supporting Evidence

Crucial to the analysis just presented is the claim that in Chamorro, the internal argument of antipassive is always an implicit argument. This is what enables sluicing in (76) and (77) to satisfy both halves of the syntactic identity condition, namely, the argument structure condition

<sup>22</sup> A reviewer claims that if the small *v* that selects an external argument can always assign Case, the ungrammatical sluices discussed in section 3.2 should have a well-formed derivation with an intransitive predicate in the ellipsis site; in such a derivation, small *v* would directly Case-license the interrogative DP, which would correspond to the internal argument. I disagree. The interrogative DP of the sluice must satisfy *both* the Case condition (64b) *and* the argument structure condition (64a). In the derivation suggested, this DP will violate the argument structure condition, because the intransitive predicate requires its internal argument to be linked to PP, not DP. See (37).

and—once Rothstein’s view of Case licensing is accepted—the Case condition. Of course, if the internal argument is always implicit, then the associated oblique cannot be a complement, but must instead be an adjunct. Significantly, there is independent support for this key piece of the picture.<sup>23</sup>

The oblique associated with the antipassive verb can be a CP instead of a DP. This CP is enclosed in brackets in the examples in (87).

- (87) a. Mañ-angâni si Juan [na mâtai si Jose].  
 AGR.AP-say.to UNM Juan COMP AGR.die UNM Jose  
 ‘Juan told (people) that Jose died.’
- b. Man-mañ-agi [para uma taitai i lepblu siha].  
 AGR-AP-try FUT AGR read the book PL  
 ‘They tried to read (lit., that they should read) the books.’
- c. Si Joaquin man-ikspepekta nu hami todus ni [para bai in lalâtdi si  
 UNM Joaquin AGR.AP-expect.PROG OBL US all COMP FUT AGR scold UNM  
 Dolores].  
 Dolores  
 ‘Joaquin expects of us all that we will scold Dolores.’

The point of interest is that this CP is an island: nothing can be extracted from it by *wh*-movement. Consider (88a–c).

- (88) a. \*Kuântu na tâotao man-mañ-ângan [para uma kumbida]?  
 how.many? L person AGR-AP-say FUT WH[OBJ].AGR invite  
 (‘How many people did they say they were going to invite?’)
- b. \*Hâfa na lepblu siha man-mañ-agi [para uma taitai]?  
 what? L book PL AGR-AP-try FUT WH[OBJ].AGR read  
 (‘What books did they try to read?’)
- c. \*Hâyi man-ikspepekta si Joaquin nu hami todû [para bai in  
 who? AGR.AP-expect.PROG UNM Joaquin OBL US all FUT WH[OBJ].AGR  
 lalâtdi]?  
 scold  
 (‘Who does Joaquin expect of us all that we will scold?’)

Given that adjuncts are (strong) islands in Chamorro (Chung 1998:351–356), the impossibility of *wh*-movement in (88) is what we expect if the embedded CP is not a complement of the antipassive verb, but instead adjoined to the antipassive VP.

<sup>23</sup> Drawing on Aldridge 2008, 2012, a reviewer wonders whether the oblique associated with the Chamorro antipassive could be analyzed as a DP Case-licensed by small *v*. In my opinion, the answer is no. Such an alternative would have to stipulate that unlike other DP complements of verbs, this DP (a) appears in the oblique morphological case and (b) is completely inaccessible to *wh*-movement. These properties follow from the analysis in the text, according to which the oblique is not a DP Case-licensed by small *v*, but the complement of an adjunct P.

Generally speaking, *wh*-agreement in Chamorro tracks the locality of *wh*-movement, so one might be tempted to attribute the ungrammaticality of (88a–c) instead to the fact that *wh*-agreement is not manifested on every predicate on the path of the moved *wh*-phrase. But in fact, *wh*-phrases with descriptive content, such as *kuântu na tâotao* ‘how many people?’ and *hâfa na lepblu siha* ‘what books?’, can undergo long *wh*-movement out of complement clauses in Chamorro (see Chung 1994, 1998:245–250), so the absence of *wh*-agreement on the higher predicate cannot be responsible for the ill-formedness of (88a–b).

This line of thought makes a further prediction. When the matrix verb in (88) is transitive as opposed to antipassive, the embedded CP should be a complement rather than an adjunct, and *wh*-movement out of it should be licit. This prediction is borne out.

- (89) a. *Kuântu na tâotao ma sângan [para uma kumbida]?*  
 how.many? L person AGR say FUT WH[OBJ].AGR invite  
 ‘How many people did they say they were going to invite?’  
 b. *Hâyi ha ikspepekta si Joaquin nu hami todus [para bai in  
 who? WH[OBJ].AGR expect.PROG UNM Joaquin OBL US all FUT WH[OBJ].AGR  
 lalâtdi?  
 scold  
 ‘Who does Joaquin expect of us all that we will scold?’*

In the end, then, the patterning of antipassive clauses falls under syntactic identity condition (64). It should be noted that sluicing of the type seen in (77) is problematic for other recent attempts to impose a syntactic identity condition on sluicing (e.g., Chung 2006, Merchant 2013).<sup>24</sup> The fact that this pattern can be handled by condition (64) strongly supports the conception of syntactic identity that has been developed here.

## 8 Conclusion

Most theories of ellipsis take a monolithic approach to identity, holding that the identity conditions are either exclusively syntactic or else exclusively semantic-pragmatic. Merchant (2001, 2005) has demonstrated that a purely syntactic approach to identity in sluicing is too strong: it would rule out various types of sluices that are well-formed. Here I have fleshed out some ways in which a purely semantic-pragmatic approach to identity is too weak: it cannot explain why sluicing is systematically unable to tolerate argument structure mismatches or Case mismatches. In the conception of identity in sluicing that I have argued for, both semantic identity and limited syntactic identity contribute to the well-formedness of ellipsis. The semantic identity condition on sluicing is fundamental and cannot be reduced to syntax, even the syntax of LF (see AnderBois 2011b). The syntactic identity condition, though just as crucial, is limited to ensuring that the interrogative phrase is syntactically integrated into the structure in the ellipsis. The result is that

<sup>24</sup> Thanks to a reviewer for pointing this out.

the integration of the interrogative phrase is constrained more “tightly” than other aspects of the ellipsis, because the notion of identity that comes into play is syntactic as opposed to semantic. The fact that this dual conception of identity is supported by evidence from sluicing in two quite different languages, Chamorro and English, is a point in its favor. How well it will hold up under further scrutiny remains to be determined.

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