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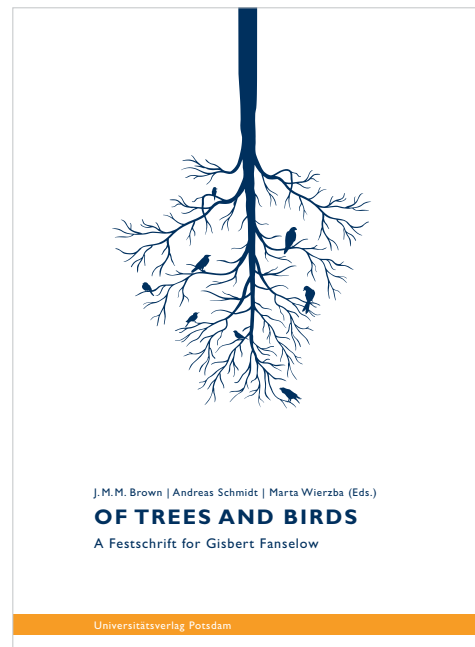
### **Of trees and birds**

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# A note on apparent sluicing in Malagasy

Craig Thiersch, Universität Potsdam

## 1 Introduction

Since the early days of generative grammar there has been a tension between two approaches as to how the missing material in elliptical structures is to be interpreted: At one extreme is the assumption that there is full syntactic structure which is not pronounced, but interpreted in LF. On the other extreme is the assumption that “empty” means empty and there is nothing at all there; the interpretation is done entirely by (discourse) semantics. In his influential (2001) book and subsequent work, Jason Merchant takes the position that there is abstract syntactic structure which accounts for various empirical observations—for example, that English VP ellipsis is insensitive to the active-passive distinction, whereas in sluicing<sup>1</sup> a mismatch produces ungrammaticality (see discussion below). Apparent mismatches are handled in various ways, as discussed in Merchant (2001) and subsequent work.<sup>2</sup> The ellipsis itself (deletion or non-pronouncing), however, is *licensed* by semantic equivalence.<sup>3</sup>

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1. *Sluicing*: elision of a clause, stranding a [+WH] element: “Gisbert saw something, but I don’t know what<sub>i</sub> < ~~Gisbert saw e<sub>i</sub>~~ >”. Hypothesized but unpronounced structure is indicated by angled brackets and strike-through. Gratuliere zum Geburtstag, Gisbert!

2. Cf. especially Merchant (2013), written in 2007 and published in 2013.

3. I.e., mutual entailment under  $\exists$ -type shifting closure. See Merchant (2001) for original definition; repeated in both Potsdam (2007) and Chung (2013), the articles discussed here.

In an important and somewhat startling article, Potsdam (2007) [henceforth: P] points out that in Malagasy sluices, the antecedent clause *must* be an indefinite-in-situ construction, whereas the WH-phrase and sluice *must* be a pseudo-cleft, hence there would seem to be no syntactic identity at all; only the semantic mutual entailment counts (as he demonstrates). This is rather surprising in light of the role the unpronounced syntactic structure seems to play in other languages, and one wonders if the Malagasy data can be reconciled with a Merchant-type approach. A similar analysis is presented in Paul & Potsdam (2012) [henceforth: P&P].

Chung (2013) [henceforth: Ch] has argued for a revision of Merchant's hypothesis on the basis of Chamorro data (among others) that would seem to allow the Malagasy mismatches, and in fact hints at this in her footnote 19. This short note is an attempt to flesh out her suggestion for Malagasy, and show how this might offer evidence about the much contested status of the mysterious clause-final constituent in Malagasy (variously referred to as the "trigger"/"pivot"/"topic"/"subject").

## 2 Structure of Malagasy

The basic clause structure of Malagasy is predicate initial (i.e., a tensed verb, predicate adjective, or predicate nominal) followed by series of arguments interspersed with PPs and adverbials, and ended by a "designated" DP, dependent on the voice of the verb. To avoid prolixity and prejudicing the analysis, I use the term *pivot* for the designated element, although this is far from standard. For example, Pearson (2005), Schachter (2015, for Tagalog) i.a. use "trigger"; Paul (2002), Keenen (2008), i.a. use "subject".<sup>4</sup> The following examples have the same basic meaning with different emphasis:

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4. Pearson (2001) originally used "pivot" (PivP) for a different projection; colleague Norbert Corver (p.c.) suggested "pivot", as "trigger" could be confusing for non-Austronesian linguists. The abbreviations AT, TT, CT for "Actor Topic Voice" etc. are adopted from Pearson's later papers. In the glosses I've placed them before the verb, following Pearson, but they can be prefixal, circum-verbal, suffixal or even suppletive; the voice affixes are preceded by tense, if it's non-null.

(1) a. *Actor pivot (AT)*

Mitazana iboria amin'ny masolavitra androany  
 AT.observe lark with.the telecope today

Rafansilao.

Mr.Fanselow

‘Mr. Fanselow is watching a lark today with a/the telescope.’<sup>5</sup>

b. *Theme pivot (TT)*<sup>6</sup>

Tazanin’- dRafansilao amin’ny masolavitra androany ny  
 TT.observe Mr.Fanselow with.the telecope today the

iboria.

lark

c. *Other (“Circumstantial”) pivot (CT)*

Itazanan’- dRafansilao (ny) iboria androany ny  
 CT.observe Mr.Fanselow (the) lark today the

masolavitra.

telecope

The final element, which can be followed by various “extraposed” adverbials and CPs, has been variously analysed as a subject (Guilfoyle et al. 1992 [henceforth: GHT], Paul 2000, i.a.), and as an A-bar position similar to the Vorfeld/Voorveld in German and Dutch (Pearson 2001, i.a.). A widely accepted “consensus” position for Malagasy and other similar Austronesian languages is that some verbal position is fronted, stranding the final XP (and the “extraposed” elements).<sup>7</sup> The resulting structure for (1b), for example, would be some variant of the following:

5. Many typical Malagasy names require an article of respect, sometimes written separately *i Ketaka*, sometimes together with the name *Raso*a = ra+Soa. “I Gisbert” would be more natural, but then one can’t see the interaction with the verb (consonant permutation) in passive and circumstantial voice.

6. Note that TT-voice, often referred to as “passive”, doesn’t behave like passive in European languages: the actor is still present, receiving genitive case.

7. For arguments supporting the predicate fronting analysis see Pearson (2001), P, i.a.; Sabel (2002) and GHT assumed a right-branching IP; but see Erlewine (2018) for Toba Batak for an alternative analysis.

- (2) [CP? [TP T<sup>0</sup> [<sub>vP</sub> V YP XP ZP ]]<sub>i</sub> [<sub>FP</sub> XP e<sub>i</sub> ]]

A typical structure, from P and, in various incarnations, common to many recent articles, fronts the pivot, and then fronts some verbal projection, here PredP<sup>8</sup>:

- (3) [<sub>FP</sub> [<sub>PredP</sub> ... e<sub>i</sub> ...]<sub>j</sub> [<sub>F'</sub> F [<sub>IP</sub> XP<sub>i</sub> [<sub>I'</sub> I e<sub>j</sub> ]]]] [after his (3) & (4)]

The discussion, however, about whether the pivot is in an A-bar position, as in (2) or an A position as in (3) continues. Empirically it would seem that the fronted predicate phrase has to include a T projection as in Pearson (2001), since morphological tense appears as a prefix on the left side of the fronted verb (see examples; but cf. P&P's comment in footnote 8).

Questions can either be WH-in-situ as in (4), or with the WH-constituent "fronted" in the *no*-construction<sup>9</sup>: with the exception of certain adverbials, the "fronted" WH-constituent must be what would have been the pivot in the clause following *no*:

- (4) *WH-in-situ*:

Namangy iza ny mpianatra?  
 PST.AT.visit whom the student  
 'Who did the student visit?'

8. NB: Potsdam (2006) still sticks to the right-branching GHT structure for the clause. But his sluicing paper of 2007 and new work with Edmiston, such as (EdmistonPotsdam2018), has Pearson-type fronting as in (3). Paul (2002) has no tree structure except one labeled bracketing, which doesn't match surface output. P&P have a fronting analysis near the end, so apparently Paul here accepts fronting, although the pivot is still in Spec,IP/TP. In a footnote, P&P note that they disagree as to the exact structure; the tense problem mentioned in this paragraph is solved by "lexicalist" morphology. In Edmiston & Potsdam (2018), i.a., the projection is simply referred to as YP rather than IP or TP, but the pivot is still referred to as SU[bject]. A full survey is of course beyond the scope of this paper.

9. There is considerable disagreement as to what *no*, pronounced [nu], actually is.

(5) *No*-cleft questions:

a. *Actor pivot (AT)*

Iza no mitazana iboria amin'ny masolavitra androany?  
 who NU AT.observe lark with.the telecope today  
 'Who is watching the lark today with a/the telescope?'

b. *Theme pivot (TT)*

Inona no tazanin'- dRafansilao amin'ny masolavitra  
 what NU TT.observe Mr.Fanselow with.the telecope  
 androany?  
 today  
 'What is Mr. Fanselow looking at with the telescope today?'

c. *Other ("Circumstantial") pivot (CT)*

Taiza no nitazanan'- dRafansilao (ny) iboria omaly?  
 where NU CT.observe Mr.Fanselow the lark yesterday  
 'Where did Mr. Fanselow see the lark yesterday?'<sup>10</sup>

The *no*-construction can also be used to front, i.e. focus, non-WH constituents, e.g. corresponding the question in (5b) we have:

(6) Ny ibora no tazanin'- dRafansilao amin'ny masolavitra  
 the lark NU TT.observe Mr.Fanselow with.the telecope  
 androany.  
 today

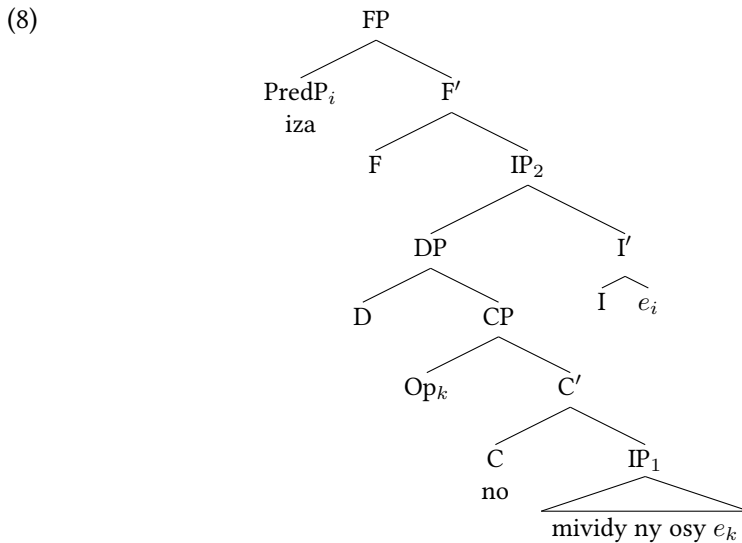
'It's the lark that Mr. Fanselow is watching with the telescope today.'  
 or '(What) Mr. Fanselow is watching with the telescope today is the lark.'

Since Malagasy is a predicate initial language, it has been widely argued that the WH-constituent (or non-WH topic) is a predicate and the construction is really a cleft, intuitively, for (5a): "the one watching the lark is who?"—see also the second free translation in (6). There is extensive

10. I've put (5c) in past tense, as the present sounds odd to me.

literature on this; the analysis of the *no*-construction as a pseudo-cleft goes back to Paul (2000, 2001). See some arguments in P and references therein; several variants of cleft-like analyses have been proposed, see for example discussion in Law (2007)<sup>11</sup>, who presents a similar but alternative analysis. A typical structure is P's (12b):

- (7) Iza no mividy ny osy?  
 who NO PRES.AT.buy the goat



(NB: Here pivot CP is in a DP which is a “subject” (pivot) of IP<sub>2</sub>.)

### 3 Merchant (2001, 2013)

Merchant’s approach relies on the combination of matching syntactic structure and mutual semantic implicature. What is the motivation for having (so much) syntactic structure in the ellipsis site? The answer is, empirical phenomena: for example the judgments of active/passive mismatches: allowed with VP-ellipsis, ungrammatical in sluicing. If it were

11. As noted in footnote 7, Erlewine has a different analysis for Toba Batak, but the facts seem to be different for that language.



only a matter of semantics, one might expect both to be acceptable or both to be out. But with elided (unpronounced) structure in the ellipsis site, there is a difference (examples from Merchant 2013); the feature  $\boxed{E}$  triggers deletion of its complement:

(9) VP Ellipsis:

- a. The janitor must remove the trash whenever it is apparent that it should be < ~~removed~~ >
- b. Deleted structure matches vP of antecedent:  

$$[\text{TP } it_i \text{ [ should [ be [VoiceP Voice}_{[\text{pass}]}] \boxed{E} < \text{[vP } e_i \text{ [vP remove } e_i \text{ ]} > ]]] ] > ]]$$

(10) Sluicing<sup>12</sup>:

- a. \*Someone murdered Joe but we don't know by whom < ~~Jøe was murdered~~  $e_i$  >
- b. Deleted structure includes VoiceP<sub>Pass</sub> and doesn't match VoiceP<sub>Act</sub> in the antecedent:  

$$[\text{CP by whom } C^0 \boxed{E} < \text{[TP } Jøe_i \text{ [ was [VoiceP Voice}_{[\text{pass}]}] \text{ [vP } e_i \text{ [vP remove } e_i \text{ ]} ]]] ] > ]$$

As one can see, in “VP ellipsis” only the vP is elided, which matches the VP in the active antecedent; in the case of sluicing, the TP containing VoiceP<sub>Pass</sub> is elided, which doesn't match VoiceP<sub>Act</sub> in the antecedent.<sup>13</sup>

Importantly, note that the *content* of the presumed syntactic structure in the ellipsis site need not be literally identical. For example, to avoid Condition C violations, “Vehicle Change”, suggested independently for VP ellipsis by Fiengo & May (1994), is invoked: the elided material is not literally a full noun phrase, but a bundle of pronominal features:

12. Note that the non-sluiced version is OK, with stress on *by whom*.

13. Note that sluicing ameliorates island violations, but English VP ellipsis doesn't; Merchant (2001) argues that certain violations are PF violations, but for others the material sluiced is only the local clause and doesn't include the island; VP on the other hand *contains* the island, and hence is ungrammatical. See sections 5–7.

- (11) The boss fired Fred<sub>i</sub>, although he<sub>i</sub> didn't know why < ~~the boss fired Fred<sub>t</sub>~~ > → < ~~the boss fired him<sub>t</sub>~~ >

Here a pronominal is assumed in the ellipsis to avoid the Condition C violation. This differs from the active/passive mismatch: here the pronominal features are assumed to be a subset of the full DP; in the former case, active and passive presumably contradict one another.<sup>14</sup>

#### 4 Potsdam 2007; Paul & Potsdam 2012

P discusses a Malagasy construction which looks like sluicing<sup>15</sup>:

- (12) Nandoko zavatra i Bao fa hadinoko hoe inona.  
 PST.AT.paint thing the Bao but TT.forget.1SG COMP what  
 'Bao painted something but I forget what.' [P (18a)]

- (13) Nangalarin' ny olona ny fiarako fa tsy fantatry ny  
 PST.TT.steal the person the car.1SG but NEG know the  
 polisy hoe iza.  
 police COMP who  
 'My car was stolen by someone but the police don't know who.'  
 [P (18c)]

P refers to it as sluicing, arguing that it differs from Japanese pseudo-sluicing (where the sluice is “what/who<sub>i</sub> < ~~it was e<sub>t</sub>~~ >”), but explaining that it differs from “true” sluicing in that it doesn't involve WH-movement of the stranded WH element. P&P (2012) simply refer to it as a “Sluicing Like Construction” to emphasize the difference.

Importantly, the pivot can never be an indefinite (for single-argument verbs with indefinite subjects, speakers circumvent this problem by using an existential construction; see below). This means that in a sluicing construction, the antecedent, which needs to have an indefinite XP

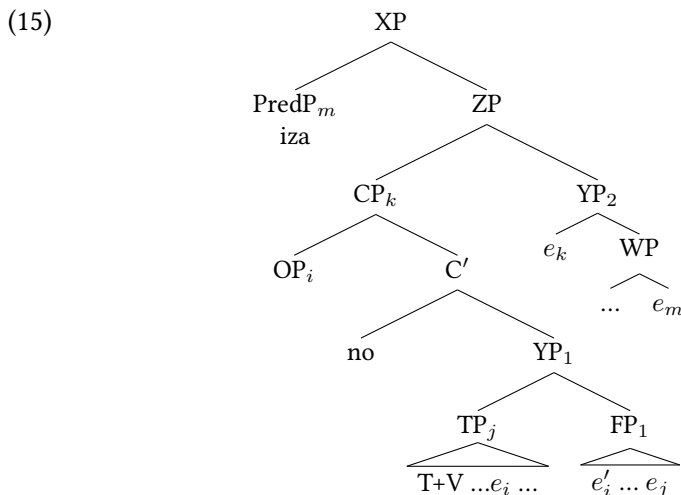
14. Note the problem of non-identical morphology in Malagasy: different voice and the presence of *no* in the sluice. Note Austronesian voice is not two-way, but three or more. See later discussion.

15. I've adapted the glosses to conform with the previous examples.

correlate<sup>16</sup> of the stranded WH-constituent, will necessarily have the indefinite XP located in the “middlefield” between the predicate and the pivot:

- (14) Structure of (13):  
 [ V ... indef<sub>i</sub> ... Pivot], “but” [matrix clause [ WH<sub>i</sub> < ... ?? > ]]

What structure, if any, is in the elided part < ... > ? Unless we want to countenance (distributed) deletion<sup>17</sup> on both sides of the WH-phrase, it would seem that the deleted/unpronounced part must be a *no*-construction. Common to all the various analyses, the *no* and everything that follows it is a constituent. A possible structure for the right-hand clause is then (15).<sup>18</sup>



16. Merchant calls the element corresponding to the stranded WH the *correlate*. Note that it may or may not be present in the antecedent clause: e.g., “Gisbert is reading, but I don’t know what”.

17. *Pace* Gisbert (Fanselow & Ćavar 2002). Distributed Deletion is, as far as I know, an as yet unexplored option for Potsdam’s problem.

18. The reader may wonder why CP<sub>k</sub> moves from Spec,YP<sub>2</sub> to Spec,ZP; the tree has been simplified, and the projections with post-sentential adverbs mentioned in the text would appear between YP<sub>2</sub> and ZP.

where the  $OP_i$  corresponding to the  $XP_i$  is the pivot, but its correlate in the antecedent clause is not a pivot.

Note that here the verb morphology *must* be different, at least for argument sluices: the correlate cannot be the pivot, but the stranded WH must be, hence if the verb in the antecedent clause is Theme Topic (“passive”), then the elided verb must be Actor Topic (“active”) and vice versa.<sup>19</sup> Hence if one views the pivot as a true “subject” and AT/TT as active/passive, the question arises as to why the Malagasy construction ignores this mismatch in structure as in English sluices described in the previous section. The answer in P and P&P is that only the semantics counts (mutual entailment), but this raises the question as to why syntactic structure allegedly plays a role in English and other European languages such as German and Greek, discussed in Merchant (2013), but not in Malagasy.

Ch proposes that matching argument structure is crucial for eliding otherwise differing material; we will claim below that this argues for regarding the pivot as an A-bar position, and the argument structure on both sides is then identical, following Ch’s proposal.

## 5 Chung (2013)

In Chamorro, another Austronesian language, Ch finds, as in Malagasy, another sluicing mismatch, prompting her to revise the (syntactic) criteria for matching. Chamorro has a rather different voicing system from Phillipine-type languages like Malagasy. There are three: active, passive, and antipassive. Active and passive behave much like Malagasy AT-voice and TT-voice, but change the case-marking on the arguments rather than moving one to a “designated” position. Antipassive<sup>20</sup> (AntP), basically turns transitives into intransitives, with the direct object realized optionally as Oblique. Generating the appropriate morphological

19. Note that for certain classes of adverbials and PPs, they can be “fronted” via the *no*-construction even when the verb is not in the CT voice. Thus there is still an available pivot which can be “fronted” yielding the much-discussed “bodyguard” construction.

20. Not to be confused with traditional “antipassive” in ergative languages, which turns the structure  $DP^1$ :Erg(Actor)  $DP^2$ :Abs(Theme) into  $DP^1$ :Abs(Actor)  $DP^2$ :Oblique(Theme)—in Chamorro the Actor/subject stays the same.

form from the sort of DP and its Case is rather complex (see Ch's article for details), but here are some samples (UNM = unmarked, basic order VSO):

- (16) a. Ha bisita si Dolores si Antonio.  
 AGR visit UNM Dolores UNM Antonio  
 'Dolores visited Antonio.' [Ch (8a), active transitive]
- b. Binisita si Antonio (gi)as Dolores.  
 AGR<sub>pass</sub>.visit UNM Antonio OBL Dolores  
 'Antonio was visited by Dolores.' [Ch (8b), passive]
- c. Man-bisita si Dolores as Antonio.  
 AGR<sub>AntP</sub>-visit UNM Dolores OBL Antonio  
 'Dolores payed a visit to Antonio.'<sup>21</sup> [Ch (8c), antipassive]

WH-moved DPs lose their case, but are accompanied by special agreement on the verb indicating their function (subject, direct object, adjunct); e.g.,

- (17) Hâyi *gumugu*'ut esti na pattida?  
 who? WH<sub>sub</sub>.support.PROG this L party  
 'Who is supporting this party?'<sup>22</sup> [Ch (12a)]

Importantly, the oblique objects of antipassive verbs cannot undergo WH-extraction:

- (18) \*Hâfa man-li'i' si Juan?  
 what? AGR<sub>AntP</sub>-see UNM Juan  
 ('What did Juan see?') [Ch (75c)]

An example of sluicing in Chamorro is as follows:

21. I've changed Ch's translation to convey her final analysis.

22. L = linker, a common element in Austronesian.

- (19) Man-anaitai           gui', lao ti hu tungu' [hâfa \_\_\_\_]  
 AGR<sub>AntP</sub>-read.PROG he, but not AGR know what?  
 'He's reading, but I don't know what.' [Ch (14b)]

Note that this will turn out to be a problematical example; the antecedent clause is in AntP-voice, but it's unclear what the voice of the sluiced clause is. We return to this later. Ch has examples of ordinary sluices, but most are taken from actually occurring sources and are rather complex for non-speakers of an Austronesian language; a typical example:

- (20) Ha hunguk atyu na bois   tâotao i um-a'apatti,  
 AGR hear   that L voice.L person the WH<sub>sub</sub>.AGR-divide.PROG  
 ti ha tungu' [hâfa \_\_\_\_]  
 not AGR know what  
 'He heard these voices of people who were dividing (something)  
 up, he didn't know what' [Ch (16c)]

This involves a one word relative clause *um-a'apatti*, a transitive verb with an implied object.<sup>23</sup> It is this relative clause that is sluiced: a transitive antecedent and a (presumably) transitive sluice.

Ch also notes that these are true sluices, and not pseudo-sluicing ("Hâyi (gui')" *lit.* who she/he: 'She is who?', like the Japanese "who < it-is >" cases mentioned above): speakers find elided copular sentences peculiar. In addition, there are indeed unacceptable mismatches, which would be unexplained if they just involved deleted copular sentences. Both of the below are grammatical in the unsluiced versions:

- (21) a. Mang-guaiya si Dolores, lao ti hu tungu' [hâyi  
 AGR<sub>AntP</sub>-love UNM Dolores but not AGR know who?  
       ha           guaiya].  
       WH<sub>obj</sub>-AGR love  
 'Dolores is in love (with someone), but I don't know who she  
 loves.'

23. The Det *i* presumably introduces the relative, similarly to a *ny+V* construction in Malagasy.

- b. Um-a'andi' si Juan, lao ti hu tungu' [hãyi  
 AGR-flirt.PROG UNM Juan but not AGR know who?  
 ha andidi'i ].  
 WH.Obj.AGR flirt.with.PROG  
 'Juan is flirting (with someone), but I don't know who he is  
 flirting with.' [Ch (21)]

However, the first can be sluiced and the second can't:

- (22) a. Mang-guaiya si Dolores, lao ti hu tungu' [hãyi \_\_\_\_].  
 AGR<sub>AntP</sub>-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' [hãyi \_\_\_\_].  
 AGR-flirt.PROG UNM Juan but not AGR know who?  
 'Juan is flirting (with someone), but I don't know who.'  
 [Ch (22)]

Note that in the (a) examples we have an *antipassive* (AntP-voice) with an *implicit* object matching a "sprouted" object of a normal transitive; in the (b) examples we have an *intransitive* verb (*andi*') with an implicit object and a *derived* transitive (*andi'i*). The contrast seems rather puzzling to speakers of European languages, since the "sprouting" of a direct object in English, as in footnote 16, repeated here, is unproblematical:

- (23) Gisbert is reading, but I don't know what.

A clue, which is at the heart of Ch's later argument, is that the English translation of the Chamorro sluice in (22b) without the implied argument given in parentheses is also ungrammatical: "\* Juan is flirting, but I don't know who." The real mystery is why the sluice in (22a) is grammatical in Chamorro, since the English translation is just as ungrammatical: "\* Dolores is in love, but I don't know who."

There are also passive/active mismatches under sluicing, as in English:

- (24) Esta mang-ginacha', lao ti in tingu' [hãyi gumacha'].  
 already AGR-PASS.detect but not AGR know who? WH<sub>subj</sub>.detect  
 'They were caught, but we don't know who caught them.'  
 [Ch (27a)]

- (25) \*Esta mang-ginacha', lao ti in tingu' [hãyi \_\_\_].  
 already AGR-PASS.detect but not AGR know who?  
 (\*They were caught, but we don't know who < caught them > )  
 [Ch (28a)]

Unlike the English cases discussed in the previous section, it's hard to find a *syntactic* mismatch, since the passive is inflectional, rather than analytic as in English. They are *semantically* equivalent under Merchant's algorithm for mutual entailment. Ch takes this to mean they have different argument structure (however that is to be represented) and this is the reason for the mismatch.

The same reasoning applies to the forbidden mismatch between intransitives and their *-i*-derived transitive counterparts as in (22b). These intransitives take an optional PP for the other argument, and so one can't license sprouting a direct object DP as there is no match, as opposed to the English example in (23).

Similar remarks apply to Case licensing. Ch assumes that possessors in Chamorro need to be licensed by being "assigned abstract Case that is also responsible for the morphological marking on N (e.g., possessor-noun agreement)" [Ch p. 20]; e.g.:

- (26) i che'chu'-ñiha<sub>i</sub> [i Español]<sub>i</sub>  
 the work-AGR the Spanish  
 'the work of the Spaniards' [Ch (41a)]

In addition, possessors can be WH-moved, like their Slavic counterparts<sup>24</sup>:

24. Note the first AGR belongs to the verb. Interestingly, although ungrammatical in standard English, the translation is attested certain British and Dutch dialects; see Meijer



- (27) Hâyi un fâhan karetâ-ña?  
 who? AGR buy car-AGR  
 ‘\*Who<sub>i</sub> did you buy e<sub>i</sub>’s car?’ [Ch (42b)]

Note, as with other moved WH-words, the possessor has no inflection. This would seem to allow for sluices involving the possessor, but these are ungrammatical, like the English translation:

- (28) Ilek-ña na guaha ma-yamak karetâ, lao  
 say-AGR COMP AGR.exist WH<sub>subj</sub>.AGR.PASS-destroy car but  
 ti hu tungu’ [hâyi ma-yamak karetâ-ña].  
 not AGR know who? AGR.PASS-destroy car-AGR  
 ‘He said that a car was smashed, but he didn’t tell me whose car  
 was smashed’ [Ch (43c)]

- (29) \*Ilek-ña na guaha ma-yamak karetâ, lao  
 say-AGR COMP AGR.exist WH<sub>subj</sub>.AGR.PASS-destroy car but  
 ti hu tungu’ [hâyi \_].  
 not AGR know who?  
 ‘\*He said that a car was smashed, but he didn’t tell me who.’  
 [Ch (44c)]

Ch’s explanation is that the Case licenser is lacking in the antecedent, so even though the extraction is valid (28), the sluice in (29) is not. As might be expected, adding an indefinite possessor *karetâ-n tâotao* = car+N someone (“someone’s car”), makes the sluice acceptable. Similar effects obtain with oblique objects, which Ch assumes are PPs; they can’t be “sprouted” unless there is an indefinite in the first clause, see the article for examples.

In the case of English “He said that a car was smashed, but he didn’t say whose”, the WH-word *whose* (really “who+’s”) the determiner *-’s* licenses the *who*. However, the same effect can be recreated in English with optional PPs, etc.; Ch has numerous English examples, which space considerations preclude us from discussing.

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(2017). The Russian equivalent of 27, “Чей вы купили автомобиль” (“Chei vy kupili avtomobil?”, *lit.* whose you buy car), is different from Chamorro in that the inflection stays on the moved possessor.

Ch observes that the “matching” part of a sluice is quite local. In a sentence like

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

the matrix elision could be either of (a) or (b):

- (31) 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~~ >.

(In fact the sluice could be just < ~~she was dating~~  $e_i$  >, alleviating the island violation. Merchant (2001), Chap. 5, uses this to explain why sluices tolerate certain kinds of island violations, as noted in footnote 13.)

All of this leads Ch to conclude that there must be two licensing conditions on (the syntactic side of) sluicing (she retains mutual entailment) [Ch (64)]:

- (32) 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.

This brings us back to the problematic example (19) that we started with, repeated here as (33):



- (35) Mpianatra i Ketaka.  
 student the [name]  
 ‘Ketaka is a student.’ Malagasy, Paul (2001), (17b)

Hence the Case Licensing part of condition (32) will be obeyed vacuously in Malagasy.

What about the argument structure? Consider the typical clause structure of a *no* phrase [(5b), repeated here]:

- (36) a. Inona no tazanin'- dRafansilao amin'ny masolavitra  
 what NU TT.observe Mr.Fanselow with.the telecope  
 androany?  
 today  
 ‘What is Mr. Fanselow looking at with the telescope today?’  
 b. Inona [<sub>ZP</sub> OP<sub>i</sub> *no* [<sub>XP</sub> V ... e<sub>i</sub> ... ]<sub>j</sub> [<sub>YP</sub> e'<sub>i</sub> [<sub>WP</sub> e<sub>j</sub> ] ] ] ]  
 (cf. the tree in (15))

We need to ask what the values of XP, etc., really are. There have been several different proposals over the years; for example, is the *no* a C<sup>0</sup>, meaning the OP<sub>i</sub> should be on its left, or is it something else, which takes a CP complement? Paul (2001) views ZP, the “subject” of the WH-phrase, as a DP containing the CP as a sort of honorary relative clause, and assumes the *no* is the determiner (her (11a)), but warns that this is a matter of convenience (p. 712):

For clarity, I will gloss *no* as a determiner, leaving for future research to determine which of the above structures are correct for Malagasy.

Kalin (2009) adopts the predicate fronting analysis, but the pivot is in Spec,TP and it's the VP which fronts in (a); consistently, the same structure is used for the *no*-construction<sup>26</sup>:

- (37) a. [FP [VP ... e<sub>k</sub> ... ]<sub>i</sub> [TP DP<sub>k</sub> [T' ...e<sub>i</sub> ]]]  
 b. [FP [VP BE DP<sub>Top</sub> ]<sub>i</sub> [TP *no* CP/IP [T' ...e<sub>i</sub> ]]]

26. Although she is more interested in the semantics of *no*-constructions than its syntax.

Pearson (2001) has a rather intricate structure which space considerations don't allow us to reproduce here, but basically, the WH-phrase, being a predicate, is not generated *in situ*; rather, for consistency, it is a fronted remnant predicate (his PivotP) and the *no*-phrase is a WhP (like CP) of which the *no* is presumably the head and the OP is on its left.<sup>27</sup> He continues this approach in Pearson (2005); he doesn't discuss predicate fronting or the *no*-construction at length here, and the pivot is generated *in situ* in Spec,TopP, but it is linked to its base position via an  $OP_i e_i$  chain with the OP in Spec,WhP.

In any case, what most of the various analyses have in common is some version of the structure in (2) or (3). The question is how to interpret it; cf. discussion in footnote 8. As noted, if the pivot is interpreted as a "subject", then one could argue that the voice of the verb has indeed changed the argument structure. However, the pivot behaves in many senses like an A-bar position<sup>28</sup>; and as noted in footnote 6, a "demoted" pivot doesn't disappear (as does the subject in standard passives), it simply appears in what is presumed to be its base position. It has been argued that the voice on the verb simply marks the A-bar movement, as in languages like Chamorro<sup>29</sup>, so the basic argument structure, TP/vP in (2) or PredP in (3), remains unchanged, fulfilling Ch's criterion.

As mentioned above on p. 192, single-argument verbs are a special case, and speakers circumvent the "definite-pivot" restriction by using an existential construction [P&P (36a)]:

- (38) Nisy olona nihomehy ka nanontany ianao hoe iza  
 existed person PST-laugh so PST-ask you C<sup>0</sup> who  
 <  $\Theta_{p_i}$  no nihomehy  $t_i$  >  
 NU PST-laugh  
 'There was someone who laughed and so you asked who < laugh-  
 ed >'

27. One has to be careful with his complex trees since he uses past tense for naturalness, hence there are two *no* morphemes floating around, the other being the past tense on the verb, e.g. *novakinao* = no+vakin+ao "you were reading".

28. There is much controversy about this, beyond the scope of this short article!

29. Although see den Dikken (2017) for a different view.

There is an existential first clause vs. an elided cleft.<sup>30</sup> But this is actually less of a problem, since there argument structure doesn't change in the elided material, in fact P&P use this example and don't discuss the "active-passive" mismatch with transitive verbs.

Note, by the way, that the above observations apply vacuously to sluices sprouting adverbials as in P's (75d):

- (39) Nividy gazety ny mpiasa fa tsy fantatro hoe  
 PST.buy magazine the worker but NEG know.1SG COMP  
 taiza.  
 PST.where  
 'The worker bought a magazine, but I don't know where.'

Here of course the argument structure is unchanged under any approach.

What about English passives? As is clear, their behavior is quite different: unlike Malagasy, they are analytic constructions, arguably involving two projections, so Merchant's account can remain unchanged.

This approach suggests some tests for future research. One possible test for this approach would be to test for the (un-)grammaticality of Malagasy sluices involving elements which need to be licensed, like possessives. My guess is that they would be sharply ungrammatical (like Ch's Chamorro and English examples), but improve remarkably if there is an indefinite correlate in the antecedent.<sup>31</sup>

Another possible test for this would be PP sluices, cf. P&P's (44)–(45)<sup>32</sup>:

30. Cf. English "There was a car in the driveway, but I don't know what kind ~~of car~~ ~~was in the driveway~~ >." The non-matching structure of the DP is beyond the scope of this article; see Merchant (2001).

31. I'm assuming that sluicing would be from sentences with a raised possessor, which could then take part in a *no*-cleft: [marary] ny zanan-dRabe (sick the child of Rabe) → [marary zanaka] Rabe.

32. P&P gloss the tense of *namonoan* as Pass, but note in a footnote that it is actually CT voice. See discussion in text.

- (40) Tamin' inona no namonoan -dRasoan ny akoho?  
 PST.with what NU PST.CT.kill -Rasoan the chicken  
 'What did Rasoan kill the chicken with?'
- (41) Namono ny akoho tamin-javatra maranitra Rasoan fa  
 PST.AT.kill the chicken PST.with-thing sharp Rasoan but  
 tsy fantatro hoe tamin' inona.  
 not know-1sg COMP PST.with what  
 'Rasoan killed the chicken with something sharp but I don't know  
 with what.'

We need to note that normally preposition is omitted if the verb is in CT voice (42) and optional in the *no* construction (43):

- (42) Amonoan'ny mpamboly akoho ny antsy.  
 CT.kill.DET farmer chicken DET knife  
 'The knife is being used by the farmer to kill chickens.'
- (43) (Amin') ity antsy ity amonoan'ny mpamboly akoho.  
 (with) this knife this CT.kill.DET farmer chicken  
 'This knife, the farmer is killing chickens (with it).'

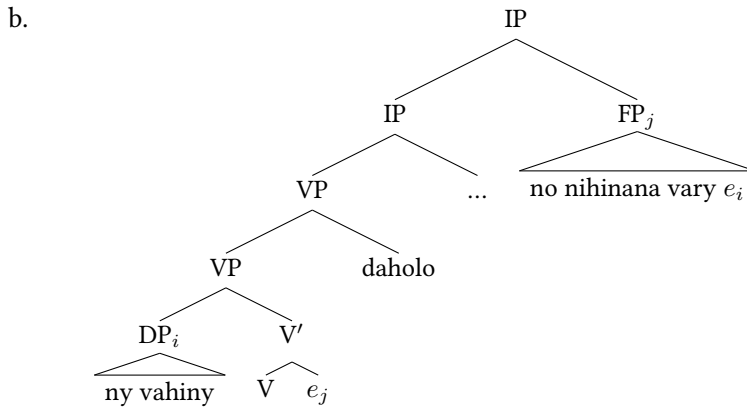
The test would be to see if one could have *inona* in (41) alone without (*t*)*amina* in a sluice both with and without a correlate in the antecedent: without a correlate it should be hopelessly ungrammatical, or nonsensical if *inona* were to be interpreted as one of the arguments in the antecedent; I assume it would be good if the Prep was sprouted on *inona* "what", as in Merchant's examples. The question is whether the ungrammatical sentence with naked *inona* and no correlate would be improved by adding the PP to the first clause. We hope to check this with informants in the near future.

## 7 Some potential problems

It should be noted that there have been many mutations of the basic structure of the *no*-construction over the years, and Law (2007) argues

that the WH-phrase is not a predicate, but the *subject* of a (silent) copula and the *no*-phrase is the predicate, which, being a full clause, is extra-posed; cf. the tree in (44b):

- (44) a. (\*Daholo) ny vahiny (daholo) no nihinana vary (\*daholo).  
 all the guest all NU ate.ACT rice all  
 ‘It is (all) the guests who ate rice.’



One piece of evidence that suggests the focused XP is not a predicate is that DPs with a determiner may not appear in predicate position, but they are fine in the *no*-construction:

- (45) a. \*Ny mpianatra i Ketaka.  
 ‘K is the student’, wrong meaning; cf. (35) above.
- b. Ny mpianatra no mamaky teny.  
 the students NU AT.read word  
 ‘It’s the students who are reading’ cf. (44a)

The argumentation in Law’s long article is complex, but if the challenge holds, one needs to reassess the above argumentation.

Another problem which deserves mention is raised by Pearson’s (2001) original approach to voice, where the voices were represented by separate projections (remember, there are at least three), albeit all under TP. Nevertheless under Pearson’s approach, it is the TP which fronts,



hence the same argument presumably holds: one of the arguments is an A-bar trace.

Finally a somewhat problematic aspect is the (hypothesized) appearance of a normally overtly realized functional projection head in the ellipsis site, namely *no*, without correlate in the antecedent clause. Of course, this has no effect on the mutual entailment, nor on the argument structure; its only apparent effect in a normal simple *no*-construction sentence is to allow the entire clause to itself be a pivot (under the cleft approaches).

## 8 Conclusion

Hence, while there are some wrinkles to be ironed out, it seems that the variant of Merchant's approach proposed in Ch and building on and P&P is a promising avenue to approach the problem of the sluicing(-like) construction in Malagasy.

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