1 Introduction

Sluicing is the construction illustrated in (1a) in which an interrogative clause is reduced to only a wh-phrase. The standard analysis of sluicing (Ross 1969, Merchant 2001) is that it is movement of a wh-phrase to the specifier of C’ followed by deletion of the TP below the wh-phrase, as shown in (1b).

(1) a. Somebody left and I know who
   b. Somebody left and I know [CP who [C’ C˚[wh] [TP i left]]]

If wh-movement is a prerequisite for sluicing, the prediction is that wh-in-situ languages should not have this construction. For one wh-in-situ language, Malagasy, a Western Austronesian language spoken on the island of Madagascar, this prediction is apparently incorrect:

(2) nandoko zavatra i Bao fa hadinoko hoe inona
    paint thing Bao but forget.1SG COMP what

‘Bao painted something but I forget what’

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The goal of this paper is to explore how wh-in-situ languages, Malagasy in particular, can have sluicing without wh-movement. Our primary conclusion is that sluicing is not in fact a unified syntactic phenomenon and that different languages use different syntactic means to arrive at the same surface form. To avoid confusion, we will henceforth use the term **SLUICING-LIKE CONSTRUCTION** (SLC) to describe a construction in which an interrogative clause is realized only as a wh-phrase, regardless of its underlying syntactic derivation. We reserve the term **SLUICING** for Ross and Merchant’s analysis of SLCs in which there is wh-movement followed by TP deletion.

The paper is organized as follows: Section 2 presents an overview of analyses of SLCs in several wh-in-situ languages. It demonstrates that such languages use a variety of syntactic means to arrive at what looks superficially like English sluicing but is not upon closer analysis. It is in this context that we turn to Malagasy. Section 3 presents some basic facts about Malagasy word order. Section 4 turns to question formation and shows that Malagasy is in fact a wh-in-situ language. This observation is not uncontroversial because Malagasy appears to have wh-movement. We provide evidence that such apparent fronting is in fact a base-generated pseudocleft structure, not wh-movement. Section 5 presents the Malagasy SLC along with two possible analyses. We reject a sluicing analysis in which the Malagasy SLC involves exceptional wh-movement which is licensed by deletion of otherwise illicit structure at Phonological Form (PF). In section 6 we provide evidence for our own analysis, that the Malagasy SLC is derived via predicate fronting of the wh-phrase followed by deletion. Predicate fronting has been independently proposed by other researchers as a general mechanism to derive the predicate-initial (VOS) word order of some Austronesian
languages so our analysis dovetails well with recent theoretical proposals. Section 7 contains conclusions and further issues.

2 Typology of sluicing

Wh-in-situ languages are highly relevant to studies of sluicing because the standard sluicing analysis leads us to expect that such languages will not have sluicing, there being no wh-movement operation to feed the deletion. Contrary to expectations however, it has been documented that many wh-in-situ languages do have a sluicing-like construction (SLC)—a construction that looks like sluicing. Merchant (2001) briefly considers the relevance of wh-in-situ languages for his analysis of sluicing and concludes, based on data from Chinese and Japanese, that “what appears to be sluicing in these languages is the result of operations different from the movement+deletion derivation found in languages with overt wh-movement”. We agree with Merchant’s conjecture and in the remainder of this section we briefly review the diverse alternative strategies that have been proposed for the wh-in-situ languages Japanese, Chinese, and Javanese. The paper goes on to propose that the wh-in-situ language Malagasy appeals to yet a different strategy, in line with Merchant’s proposal.

In Chinese and Japanese, the SLC resembles a cleft, with the wh-phrase as a complement to a copular verb. Japanese derives its SLC using a reduced cleft with a deleted copula (Merchant 2006 and references therein):¹

¹ We use the following abbreviations in glossing: 1/2/3-person, ACC-accusative, ASP-aspect, COMP-complementizer, FUT-future, NEG-negative, NOM-nominative, PASS-passive voice, PREP-preposition, PRT-particle, SG/PL-number.
(3) dareka-ga sono hon-o yon-da ga
someone-NOM that book-ACC read-PAST but
watashi-wa [CP[TP pro_expl dare da/de aru] ka] wakaranai
I-TOPIC who be-PRES Q know.NEG

‘Someone read the book but I don’t know who (it is).’


(4) Xiaomei mai le yi-jian liwu_i, danshi
Xiaomei buy ASP one-CLASSIFIER present but
ta bu gaosu wo [TP pro_i shi sheme]
she not tell 1SG is what

‘Xiaomei bought a present, but she didn’t tell me what (that was)’

As Merchant concludes, these languages have something that looks like a sluice, but without wh-movement+deletion.

There is another class of wh-in-situ languages which adopts a different strategy for SLCs. In these languages, the wh-phrase moves, but not via wh-movement. Javanese (Adams 2003, 2005) has a SLC in which there is focus movement of a wh-phrase to a clause-initial position followed by TP deletion:2

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2 In fact, as discussed by Adams (2003), Javanese appears to have three different sluicing strategies, depending on the nature of the wh-phrase (NP, PP, non-PP adjunct).
(5) umpamane Tika lunga
    if Tika go
    ibune kudu ngerti [FocP [neng ngendi]; [TP dheweke lunga t;
    mother must know LOCATIVE where 3SG go
    ‘If Tika goes somewhere, her mother must know where (she goes)’

In what follows, we propose that Malagasy illustrates a similar, but distinct, possibility: the wh-phrase moves via predicate fronting and, as in Javanese and English, the TP is then deleted.

(6) nisy olona nihomehy ka
    exist person laugh and
    nanontany ianao hoe [FP [vP iza]; [TP no nihomehy t;
    ask you COMP who PRT laugh
    ‘Someone laughed and you asked who (the one who laughed was)’

If the analysis of Malagasy is correct, it strengthens the hypothesis that different languages may arrive at the same surface form via different syntactic means and SLCs do not constitute a unified analytical class. Which strategy (or strategies) a language uses to derive its SLCs will depend upon the syntactic mechanisms independently available in the language.\(^3\) Wh-in-situ languages thus make a valuable contribution to the study of sluicing phenomena. They support the claim that the English-type derivation is not the only route to a sluicing-like surface representation.

\(^3\) See Hoyt and Teodorescu (2012) for similar conclusions based on the difference between English, Romanian and Japanese sluicing.
3 Basic Malagasy word order

Malagasy is well known for having fairly rigid VOS word order, (7). More generally, the predicate can be any phrasal category, in addition to VP, so that the language can be described as predicate initial, (8).4

(7) mividy ny akoho i Bao
   buy the chicken Bao
   ‘Bao is buying the chicken’

(8) a. [vorona ratsy feo]NP ny goaika
    bird bad voice the crow
    ‘The crow is a bird with an ugly voice’

    b. [faly amin’ ny zanany]AP Rasoa
       proud PREP the child.3SG Rasoa
       ‘Rasoa is proud of her children’

    c. [any an-tsena]PP Rakoto
       PREP ACC-market Rakoto
       ‘Rakoto is at the market’

4 There is considerable debate in literature over the nature of the clause-final DP, whether it is a subject or an A’ topic-like element. We continue to refer to it as a subject for convenience, without taking a stand on the issue. See Pearson 2005 for discussion. As pointed out by the anonymous reviewer, if the clause-final DP is located in a topic projection within the CP layer, then the deleted constituent in the Malagasy SLC must be larger than TP.
One exception to this relatively fixed word order is that complement CPs are extraposed to a clause-final position yielding VSO order, (9a). The immediately post-verbal position for the CP is impossible, (9b).

(9) a. milaza Rabe [fa nividy ny akoho i Bao]
say Rabe that buy the chicken Bao
‘Rabe says that Bao bought the chicken.’

b. *milaza [fa nividy ny akoho i Bao] Rabe
say that buy the chicken Bao Rabe

4 Questions in Malagasy

4.1 Two types of wh-questions

Malagasy has two strategies for forming information questions. When questioning non-subjects, wh-in-situ is possible (see Sabel 2003 for discussion), (10).

(10) a. nividy inona i Be? OBJECT
buy what Be
‘What did Be buy?’

b. nividy vary taiza i Be? ADJUNCT
buy rice where Be
‘Where did Be buy the rice?’

c. *nividy vary iza? *SUBJECT
buy rice who
(‘Who bought the rice?’)

5 Certain CP-like constituents (control and raising-to-object complements) do not obligatorily extrapose.
There is no evidence of wh-movement in such examples. Tests for covert movement show that the wh-phrase does not seem to move even at LF: wh-in-situ is not sensitive to islands, (11), and does not trigger weak crossover, (12).

(11) namangy ny lehilahy izay nanasa inona i Be?
meet the man REL wash what Be
(lit. “Be met the man who washed what?”)
‘What did Be meet the man who washed?’

(12) manaja an’iza ny reniny?
respect who.ACC the mother.3SG
‘Who does his mother respect?’

The second question strategy is that, for non-complements (subjects and adjuncts), the wh-phrase appears at the beginning of the clause followed by the particle no\(^6\) (see Keenan 1976, MacLaughlin 1995, Paul 2001, Sabel 2003, Law 2007 for further description), (13).

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\(^6\) Traditional Malagasy grammarians (Malzac 1960) have suggested that no is a determiner that is diachronically related to the determiner ny. Potsdam 2005 suggests that it is a relative clause complementizer. Its exact analysis is not directly relevant.
While such examples might appear to involve wh-movement with a question complementizer *no* immediately following the fronted wh-phrase, we will show in the following subsection that they are actually pseudoclefts (Dahl 1986, Paul 2001, and Potsdam 2005, Kalin 2009; but see Law 2007 for a somewhat different view). As schematized in (14), the initial wh-phrase is the predicate of the clause, also called the focus or pivot. The remaining material is a headless relative in subject position. The wh-phrase has not actually undergone wh-movement; rather, it has its clause-initial position by virtue of being a predicate in a predicate-initial language. The only *A*-movement in the structure is null operator movement in the relative clause, as shown.

(14)  

    [predicate iza] [subject/headless relative  no Op_i nihomehy ti]

    who PRT laugh

(lit. “The one who laughed is who?”)

‘Who laughed?’
Embedded wh-questions take the same form, as illustrated in (15). They are introduced by the formative *hoe*, which we assume is a complementizer. They are obligatorily extraposed.\(^7\)

(15) a. nanontany ianao [hoe iza no nihomehy]
    ask you COMP who PRT laugh
    ‘You asked who laughed’

b. tsy fantatro hoe taiza no nividy vary i Be
    NEG know.1SG COMP where PRT buy rice Be
    ‘I don’t know where Be bought the rice’

4.2 Evidence for the pseudocleft structure

In this section we provide evidence supporting the pseudocleft analysis of wh-questions, repeated in (16a). We argue against a wh-movement analysis, schematized in (16b), in which wh-questions are derived by ordinary wh-movement to the specifier of CP, as in English. Further details and argumentation can be found in Potsdam (2005).

(16) a. \[[\text{predicate wh-phrase}] \ [\text{subject no Op}_i \ldots t_i]\] ✓PSEUDOCLEFT ANALYSIS

b. \[[\text{CP wh-phrase}_i \ [C: no [\text{TP \ldots t}_i]]]\] ✗WH-MOVEMENT ANALYSIS

Our two arguments in favor of the pseudocleft analysis and against the wh-movement analysis can be summarized as follows: 1) wh-questions show parallels with the focus construction, which Paul (2001) analyzes as a pseudocleft. The parallels are

\(^7\) *Hoe* is in fact a defective verb meaning ‘say’. We assume that its use here is as a complementizer. It may introduce either embedded questions, as in (15), or direct quotations. It is possible that the two uses are related but we take no stand on the issue.
immediately accounted for if both constructions have the same structure. 2) The initial wh-phrase in wh-questions behaves like a predicate, as is expected under the pseudocleft analysis but not under the wh-movement analysis.

Malagasy has a focus construction illustrated in (17a) that appears similar to wh-questions. The focus construction is most naturally translated into English with a cleft or pseudocleft. Paul (2001) advances a pseudocleft analysis of the construction, assigning (17a) the structure in (17b). The initial focused element is the predicate of the clause and the subject is a headless relative clause.

(17) a. Rasoa no nihomehy
   Rasoa PRT laugh
   ‘It was Rasoa who laughed’

b. [[[predicate Rasoa_i ] [subject/headless relative no Op_i nihomehy_t_i]]]
   Rasoa PRT laughed
   lit. “The one who laughed was Rasoa”

There are a number of parallels between the focus construction and wh-questions suggesting that they should share a single syntactic structure. First, both are formed by preposing a constituent and following it immediately with the particle no. Second, the two constructions have a similar focus interpretation of the initial XP. Wh-phrases indicate a request for new information in the same way that focussed XPs supply new information. Third, the two constructions are subject to an identical fronting restriction that we already saw above for wh-questions: only subjects and adjuncts can be fronted (Keenan 1976 and others). The same restriction holds of the focus construction, (18).
Analyzing wh-questions as clefts immediately accounts for these parallels. They are unexplained or at least accidental under the wh-movement analysis since the focus constructions and wh-questions would have very different structures.

The pseudocleft analysis is also supported by observations that the initial wh-phrase behaves like a predicate. There are a number of verbal elements that flank the predicate in Malagasy and thus help to identify it. For example, the floating quantifiers *daholo* ‘all’ and *avy* ‘each’, and the VP-adverb *foana* ‘always’ are post-predicate particles and must immediately follow the predicate in VOS clauses:

(19) a. namaky ny boky *daholo* ny ankizy
    read the book all the child
    ‘All the children read the book’

b. any an-tsena *foana* Rakoto.
    there ACC-market always Rakoto
    ‘Rakoto is always at the market’
For concreteness, we assume that these particles are right-adjointed to vP. Under the pseudocleft analysis then, these particles should immediately follow the wh-phrase, as illustrated in (20a). Under the wh-movement analysis, on the other hand, we expect to find these particles at the end of the clause, (20b).8

\[(20)\]
\[
\begin{array}{ll}
\text{CLEFT ANALYSIS} & \text{WH-MOVEMENT ANALYSIS} \\
\hline
(20a) & (20b) \\
\end{array}
\]

\[
\begin{array}{ll}
\text{T'} & \text{DP} \\
\text{T} & \text{vP} \\
\text{vP} & \text{particle} \\
\text{wh} & \\
\end{array}
\]

\[
\begin{array}{ll}
\text{CLEFT ANALYSIS} & \text{WH-MOVEMENT ANALYSIS} \\
\hline
(20a) & (20b) \\
\end{array}
\]

\[
\begin{array}{ll}
\text{wh} & \\
\text{vP} & \text{C'} \\
\text{C} & \text{TP} \\
\text{no} & \text{t_i} \\
\text{T'} & \text{vP} \\
\text{vP} & \text{particle} \\
\text{...} & \\
\end{array}
\]

As predicted by the pseudocleft analysis, these elements immediately follow a wh-phrase in questions:

\[(21)\]
\[
\begin{array}{ll}
\text{a.} & \text{b.} \\
\text{iza} & \text{iza} \\
\text{daholo} & \text{foana} \\
\text{no} & \text{no} \\
\text{namaky ny boky?} & \text{any an-tsena?} \\
\text{who all PRT read the book} & \text{who always PRT there ACC-market} \\
\text{‘Who all read the book?’} & \text{‘Who is always at the market?’} \\
\end{array}
\]

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8 In these trees, the subject/topic is in a rightward specifier of TP. We will modify this clause structure below. The purpose of these trees is to illustrate the position of particles – the precise position of the subject/topic is immaterial at this point.
Other post-predicate particles that behave the same way include the exclamative element *anie* and the parenthetical *hono* ‘so they say’.

Malagasy also has pre-predicate particles. The modal *tokony* ‘should’ and the emphatic *tena* ‘indeed’ must immediately precede the predicate in VOS clauses:

(22) a. *tokony* hamangy an-dRakoto Rasoa
    should visit ACC-Rakoto Rasoa
    ‘Rasoa should visit Rakoto’

b. *tena* nanapaka bozaka Rabe
    indeed cut grass Rabe
    ‘Rabe indeed cut the grass’

The pseudocleft analysis correctly predicts that these particles immediately precede a wh-phrase in wh-questions, (23). The fronting analysis cannot correctly account for the grammaticality of the examples.9

(23) a. *tokony* iza no hamangy an-dRakoto?
    should who PRT visit ACC-Rakoto
    ‘Who should visit Rakoto?’

b. *tena* iza no nanapaka bozaka?
    indeed who PRT cut grass
    ‘Who indeed cut the grass?’

9 Note that both sets of particles can in general appear farther to the right in the structure (Potsdam 2005). This position does not distinguish the two analyses however because there is also a vP adjunction site within the headless relative for these particles under the pseudocleft analysis.
Potsdam (2005, 2007) explores such data in more detail but even at this level of presentation the data make sense if wh-questions are pseudoclefts in which the initial wh-phrase is a predicate, not a fronted element. Under the wh-movement analysis, the placement of the various elements is unexpected because the wh-phrase is not a predicate but is very high in the clause structure. Such elements would have to have special distribution statements for wh-questions, different from ordinary clauses.

We conclude that Malagasy has no wh-movement. Wh-questions use either an in-situ or pseudocleft strategy. This sets up an analytical challenge because, as we show in the next section, Malagasy has a SLC.

5 Malagasy sluicing

Before introducing Malagasy SLC examples, recall the English example, repeated from (1):

(24)  a. Somebody left and I know who

    b. Somebody left and I know [CP who [C wh [TP t left]]]

In such examples, we will call the missing material the SLUICED CLAUSE and indicate it with strikethrough. The REMNANT is the wh-phrase that remains (who above) and the CORRELATE is the XP corresponding to the wh-phrase (somebody above) in the ANTECEDENT CLAUSE.

Two examples of the Malagasy SLC are given in (25).
If such examples instantiate genuine sluicing, they are surprising because wh-movement prior to the deletion would be required. We have just argued however that Malagasy has no wh-movement. If the SLCs are not sluicing, the questions arises as to how such examples can be derived. In what follows, we propose two analyses. The first, in section 5.1, suggests that there actually is wh-movement, despite our earlier conclusions about the syntactic structure of Malagasy wh-questions. Under this solution the Malagasy SLC actually is sluicing. We reject this analysis and propose instead, in section 5.2, that the Malagasy SLC does involve deletion but that the input configuration for TP deletion is derived not by wh-movement but by a general predicate fronting operation that exists independently to derive VOS word order. This analysis is compatible with our conclusions about the structure of wh-questions above and supports the claim that languages arrive at SLCs by different syntactic means.

5.1 Deletion repair

One analysis of the Malagasy SLC is that, despite appearances, the SLC examples do involve the necessary wh-movement and thus are sluicing. This analysis is a priori

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10 The antecedent clause in this example takes the form of an existential construction because indefinite
desirable in that appeals to an analysis that is well-motivated for other languages and does not require any new syntactic mechanisms. The derivation of (26) would be as in (27), parallel to the English sluicing derivation.

(26) nisy olona nihomehy ka nanontany ianao hoe

exist person laugh and ask you COMP

\[ \text{[CP} \text{iza} \text{[TP nihomehy \textit{t}]}}. \]

\[ \text{who laugh} \]

‘Someone laughed and you asked who’

(27)

We will call this the Deletion Repair analysis: Malagasy has wh-movement just in case deletion eliminates the TP containing the trace of wh-movement. We might assume that Malagasy does not show wh-movement because it would violate some general movement restriction in the language. The deletion somehow ameliorates the violation, perhaps by eliminating the offending trace. The analysis is based on the observation that sluicing apparently does rescue violations of constraints on movement, notably subjects are impossible in Malagasy (Keenan 1976).

(28)  a. complex noun phrase constraint

They want to hire someone who speaks a Balkan language, but I don’t remember which they want to hire someone who speaks.

b. wh-island

Sandy was trying to work out which students would be able to solve a certain problem, but she wouldn’t tell us which one she was trying to work out which students would be able to solve.

c. COMP-trace effect

It has been determined that someone will be appointed, but I can’t remember who it has been determined that will be appointed.

Lasnik (2001) and Kennedy and Merchant (2000) propose specific analyses of this genre in which an illicit movement is rendered licit by PF deletion.

In what follows, we present four problems with the Deletion Repair analysis. Further details of the argumentation are discussed in Potsdam (2007). First, if wh-movement is to the specifier of CP, as is usually the case, it is unexpected that the wh-phrase follows rather than precedes the embedded question complementizer *hoe*:
(29) nandoko zavatra i Bao fa ...
    paint thing Bao but

  a. hadinoko hoe inona
      forget.1SG COMP what
  b. *hadinoko inona (hoe)
      forget.1SG what COMP

'Bao painted something but I forget what'

Second, the Deletion Repair analysis predicts that accusative case wh-phrase remnants should be grammatical because wh-movement should be able to target any wh-phrase. This is incorrect, (30).

(30) *nanasa olona Rabe ka nanontany aho hoe an’iza
    invite person Rabe and.so asked I COMP who.ACC

('Rabe invited someone and I asked whom')

Note that we are working within a Deletion Repair analysis whereby deletion remedies any movement constraint violations. Thus, the fact that Malagasy cannot in actuality question complements, as mentioned in section 3, is irrelevant because the deletion by hypothesis relieves the violation of this restriction.

Third, the analysis predicts that if there were a configuration in which sluicing could not ameliorate the movement constraint violation, such examples would be ungrammatical. An example is sluicing with implicit correlates. English sluicing with implicit correlates is illustrated in (31). There is no overt correlate in the antecedent clause to which the wh-remnant corresponds. The correlate is implicit.
Implicit correlates are relevant because sluicing with implicit correlates cannot violate constraints on movement (Chung, Ladusaw, and McCloskey 1995, Romero 1998, Merchant 2001). Sluicing deletion is unable to rescue such derivations (contrast these with the grammatical examples in (28)).

The Deletion Repair analysis predicts that Malagasy sluices with implicit correlates should likewise be ungrammatical; however, this is incorrect:

Finally, it remains mysterious why there would be wh-movement just in this instance. There does not seem to be any language-internal motivation for such movement. We conclude that the SLC in Malagasy does not involve otherwise unavailable wh-
movement. The question remains how Malagasy SLCs are derived. We offer an another answer in the next subsection.

5.2 Predicate fronting

Our proposal, in line with Merchant’s suggestion, is that what looks like sluicing in Malagasy makes use of other syntactic mechanisms. In other words, Malagasy’s SLC is not sluicing. The elements our analysis are as follows: First, the SLC involves embedded questions which are pseudoclefts, just as root questions are pseudoclefts. (34) illustrates an embedded question. It takes the form of a matrix wh-question introduced by the complementizer hoe.

(34) nanontany ianao hoe iza *(no) nihomehy
    ask    you COMP who PRT laugh

‘You asked who laughed’

Second, the wh-predicate of the pseudocleft moves out of TP via predicate fronting. Recently, there have been a number of proposals in the literature that VOS word order in Austronesian languages is derived from an underlying SVO order via predicate fronting (Massam and Smallwood 1997, Rackowski and Travis 2000, Massam 2000, Pearson 2001, Aldridge 2002, 2004, Travis 2004, Cole and Hermon 2008; see Chung 2005 for critical discussion). The derivation of a basic VOS is clause is as in (35) in
which an underlying SVO structure is transformed into VOS by fronting the predicate phrase, vP, to the specifier of a projection FP above TP.\textsuperscript{11}

(35) a. mividy ny akoho i Bao
   \hspace{1cm} buy the chicken Bao
   \hspace{1cm} ‘Bao is buying the chicken’

   b. \hspace{1cm} FP
      \hspace{1cm} vP
      \hspace{1cm} mividy ny akoho
      \hspace{1cm} ‘buy the chicken’
   \hspace{1cm} F
   \hspace{1cm} TP
   \hspace{1cm} DP
   \hspace{1cm} T
   \hspace{1cm} vP
   \hspace{1cm} i Bao
   \hspace{1cm} ‘Bao’
   \hspace{1cm} t_i

The simplest assumption is that such predicate fronting also occurs in (embedded) wh-questions and as part of the derivation of SLC examples. The wh-phrase predicate fronts and then the TP, which no longer contains the predicate, deletes, (36b).

(36) a. nisy olona nihomehy ka
       exist person laugh and
       nanontany ianao hoe iza no nihomehy
       ask you COMP who PRT laugh

       ‘Someone laughed and you asked who (laughed)’

\textsuperscript{11} The above authors differ in the details of the fronting analysis, in particular, in the final landing site of the predicate. These details are not relevant for present purposes. The anonymous reviewer asks how tense marking ends up on the verb. We assume a lexicalist approach to morphology: the verb is merged into the derivation fully inflected.
The predicate fronting account of VOS word order is motivated in part by theory-
internal considerations. By invoking predicate fronting, we avoid stating that Malagasy
has some rightward and some leftward specifier positions. Moreover, all movement is
strictly leftward, rather than mixed rightward and leftward. There are also empirical
motivations. As we have already seen, movement of complements in Malagasy is
blocked:

(37) a. *inona no nividy i Be? *OBJECT
    what PRT buy Be
    (‘What did Be buy?’)
b. taiza no nividy ny vary i Be? ADJUNCT
    where PRT buy the rice Be
    ‘Where did Be buy the rice?’
c. iza no nividy ny vary? SUBJECT
    who PRT buy the rice
    ‘Who bought the rice?’
Assuming that the fronted predicate, being in a specifier, creates an island for A' movement, and assuming that adjuncts such as *taiza* ‘where’ are adjoined above vP, we have a simple explanation of this otherwise unusual restriction on extraction. Objects are “frozen” within the fronted predicate, while (high) adjuncts and subjects are free for extraction.  

If predicate fronting is independently part of Malagasy grammar, then it provides the necessary movement to feed TP deletion in the SLC examples, as shown in the derivation in (36b). In the next section we provide some evidence that the above derivation is on the right track. Before turning to this evidence, however, we discuss some details of the licensing of deletion. Since at least Lobeck (1995), it has been believed that deletion must be licensed by a syntactic head. We propose that it is the complementizer *hoe* that licenses TP deletion in Malagasy. Since it is not the complement of the complementizer *hoe* that deletes, but rather the complement of F˚ (see the tree in (36b)), the head of FP must also play a role in licensing deletion. To see how this can be implemented formally, consider Merchant’s (2001) discussion of the licensing conditions on sluicing in English. Merchant (2001: 54ff) argues that only the null [ +wh, +Q] interrogative C˚ licenses a null TP (i.e. sluicing). Within a Minimalist checking theory, he claims that a feature E on the T head moves to C˚ to be checked but it can only be checked by the null [ +wh, +Q] interrogative C˚. This feature, as well as giving the semantics for sluicing, indicates that its sister (i.e. TP) is not to be

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12 An anonymous reviewer asks if we predict that all VOS languages will show the same extraction asymmetry. We don’t believe, however, that all VOS languages necessarily involve predicate fronting and so not all VOS languages would necessarily be subject to this restriction. We leave this issue open to further empirical research, but see Chung (2005) for some relevant discussion.

13 For discussion of the identity conditions on sluicing, we refer the reader to Potsdam (2007), who argues in favor of semantic rather than syntactic identity.
pronounced. Adapting this analysis to Malagasy, the feature E can be generated on $F^\star$ and it enters into an Agree relation with $C^\star$ (*hoe*) without movement.). As in English, E marks its sister (TP) to be unpronounced at PF. The result is that the TP in (36b) is not pronounced.

The above implementation suggests one source of cross-linguistic variation in the realization of sluicing. The feature E, which licenses deletion, can be generated on different heads: $T^\star$ in English (and other languages discussed by Merchant 2001) and $F^\star$, the head above $T^\star$ in Malagasy. In addition, the feature can be strong in some languages, forcing movement for checking, and weak in others, being checked by Agree. This creates the appearance that either the complementizer itself, or the head of the complement of the complementizer licenses sluicing. Another language that seems to illustrate this second state of affairs is Hungarian (Merchant 2001: 81), in which the wh-phrase remnant also follows the embedded complementizer in sluicing:

(38) a gyerekek találkoztak valakivel de nem emlékszem, the children met someone.with but not I.remember (hogy) kivel. that who

‘The children met someone, but I don’t remember who.’

Finally, we note here that Malagasy SLCs, like Hungarian, do not at first glance conform to Merchant’s (2001: 62) generalization:

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14 At this point we take no stand on whether other complementizers also license deletion. Initial data indicate that they may but we have not adequately explored the facts.
(39)  **Sluicing-COMP generalization**

In sluicing, no non-operator material may appear in COMP.

As can be seen in the tree in (36b), the C˚ head is filled with *hoe*. Merchant (2001: 80), however, takes the generalization in (39) to be a prosodic constraint, relating to complementizers being adjacent to the sluicing site. In Malagasy, *hoe* is not adjacent to the elided TP. The wh-phrase intervenes. Therefore it may not be a true counterexample once the generalization is more precisely formulated. See van Craenebroeck (2012) for related discussion of sluicing with multiple CP projections.

We now turn to evidence in favor of predicate fronting.

### 6 Evidence for the Predicate Fronting Analysis

Our evidence in favor of predicate fronting plus TP deletion as the source of Malagasy SLCs consists in showing that the wh-phrase remnant in sluicing is actually a predicate, as is expected under the proposed derivation.

First, the same elements that can flank predicates in matrix clauses (see section 4.2) also co-occur with wh-phrase remnants in SLCs. Pre-predicate elements such as the modal *tokony* ‘should’ and the emphatic element *tena* ‘indeed’ can precede a wh-phrase in a SLC, (40), and post-predicate elements such as the floating quantifier *daholo* ‘all’ and the VP adverb *foana* ‘always’ can follow the wh-remnant, (41).
(40) a. misy olona tokony hamangy an-dRasoa fa
exist person should visit ACC-Rasoa but
tsy fantatro hoe [\text{pred tokony} iza]
NEG know.1SG COMP should who

‘Someone should visit Rasoa but I don’t know who should’

b. nisy olona nanapaka bozaka fa
exist person cut grass but
tsy tadidiko hoe \text{tena} iza
NEG remember.1SG COMP indeed who

‘Someone cut the grass but I don’t remember who indeed did’

(41) a. nahandro zavatra maro Rasoa fa
cook thing many Rasoa but
tsy fantatro hoe inona \text{daholo}
NEG know.1SG COMP what all

‘Rasoa cooked several things but I don’t know what all’

b. any an-tsena matetika ny mpivarotra sasany fa
there ACC-market often the merchant some but
tsy fantatro hoe iza \text{foana}
NEG know.1SG COMP who always

‘Some merchants are often at the market but I don’t know who always is’

Second, all and only the wh-phrases that can be predicates can be SLC remnants. We have already seen that accusative wh-phrases cannot be SLC remnants, (42). They
also can not be questioned in a pseudocleft, (43), because only subjects and some
adjuncts can be questioned with this strategy as discussed in section 4.1.

(42) *nanasa olona Rabe ka nanontany aho hoe an’iza
     invite someone Rabe and ask I COMP who.ACC
     (‘Rabe invited someone and I asked whom’)

(43) *an’iza no nanasa Rabe?
     who.ACC PRT invite Rabe
     (‘Whom did Rasoa invite?’)

In the same vein, prepositional phrases can be pseudoclefted and sluiced:15

(44) tamin’ inona no namonoan-dRasoa ny akoho?
     with what PRT kill.PASS-Rasoa the chicken
     ‘What did Rasoa kill the chicken with?’

(45) namono ny akoho tamin-javatra maranitra Rasoa fa
     kill the chicken with thing sharp Rasoa but
     tsy fantatro hoe tamin’ inona
     NEG know.1SG COMP with what
     ‘Rasoa killed the chicken with something sharp but I don’t know with what’

The set of wh-phrases that can appear in SLCs is therefore identical to the set of wh-
phrases that can be predicates in pseudoclefts.

15 The verb in (44) is in what is called the circumstantial voice. It is roughly equivalent to the passive of an
applicative.
In summary, wh-phrase remnants in SLCs are predicates. This observation supports our claim that SLC examples are derived by predicate fronting and subsequent TP deletion. The derivation is similar to that assumed for English except that the wh-phrase is fronted by predicate fronting, not wh-movement.

7 Conclusion

In this paper we have provided an analysis of a SLC in the wh-in-situ language Malagasy. Our analysis of the Malagasy SLC contributes to the typology of ways in which wh-in-situ languages create a sluicing-like surface structure. In Malagasy, we have argued, a SLC involves wh-predicate fronting followed by TP deletion:

\[
\text{(46) } \text{nisy olona nihomehy ka} \\
\text{exist person laugh and} \\
\text{nanontany ianao hoe } \{_{\text{FP} [vP ixa]} \}_i \{_{\text{TP no nihomehy t}} \}_i \\
\text{ask you COMP who PRT laugh} \\
\text{‘Someone laughed and you asked who (the one who laughed was)’}
\]

Thus Malagasy has a SLC strategy that is distinct from other wh-in-situ languages, such as Japanese, Chinese and Javanese, discussed in section 2. The derivation is similar yet also distinct from English sluicing.

A consequence of our analysis is that Malagasy provides further support for a non-unified analytical approach to SLCs. Our proposal and the above languages highlight the fact that sluicing is not a syntactic construction per se. A sentence that superficially looks like English sluicing need not have an English-like derivation. Wh-in-situ
languages cease to be a counterexample to the movement+deletion view of sluicing if their SLCs can be derived by other means. The strategy (or strategies) a language uses to arrive at a sluice depends upon the syntactic mechanisms independently available in the language. Thus while Javanese employs focus fronting, Malagasy exploits predicate fronting. Chinese and Japanese, on the other hand, have no movement at all to feed a sluicing derivation and rely on ellipsis alone.

Another consequence of our analysis is that it provides evidence for predicate fronting in Malagasy. While there is much recent work espousing predicate fronting as the mechanism by which verb-initial word order in Austronesian languages is derived, there is thus far little empirical evidence for this fronting operation (see Chung 2005 for important discussion) and it is usually adopted based on theory-internal consideration. Our analysis suggests that Malagasy must have predicate fronting if the derivation of SLC examples is to succeed. The analysis thus has potentially important consequences for theories of Austronesian clause structure.

References


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