

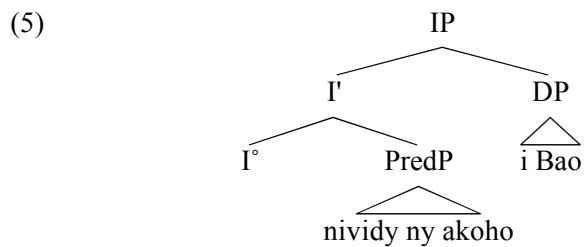
argument or adjunct. Section 5 explores some details of the cleft analysis and the final section concludes.

2 Malagasy Syntax and Wh-Questions

Malagasy is an Austronesian language spoken on the island of Madagascar. It is well-known for having basic VOS word order in active clauses, as in (4).^{1,2}

- (4) nivity ny akoho i Bao
 PAST.ACT.buy the chicken Bao
 ‘Bao bought the chicken.’

For concreteness I follow Guilfoyle, Hung, and Travis 1992 and adopt the structure for VOS in (5), with the clause-final subject occupying a right specifier of IP. The material preceding the subject is the predicate, constituting a Predicate Phrase, PredP, which is a complement to I° (Bowers 1993, Chomsky 1995, Kratzer 1996).³



Malagasy also has a well-developed voice system which advances thematically diverse elements to the clause-final subject position. Corresponding to the active sentence in (4), the PASSIVE sentence in (6a) has the direct object as the clause-final subject and the CIRCUMSTANTIAL sentence in (6b) has an oblique element as its subject, in this case a benefactive. The agent in non-active clauses appears immediately following the verb.

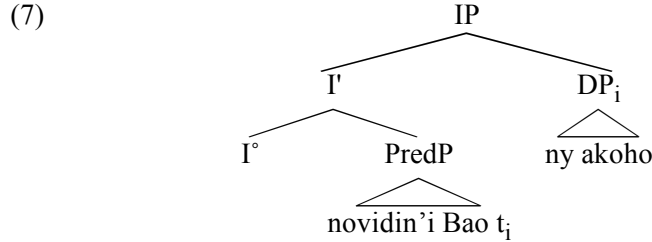
¹ I use the following abbreviations in glossing: 1/2/3, person; ACC, accusative; ACT, active voice; CIRC, circumstantial voice; DET, determiner; EMPH, emphatic; EXCL, exclamative; FUT, future; NEG, negative; NOM, nominative; PASS, passive voice; PRT, particle; REL, relativizer; SG, singular.

² There is considerable debate as to whether this clause-final DP is actually a subject or an A' topic-like element. I continue to refer to it as a subject for convenience, without taking a stand on the issue. See Pearson 2005 for discussion.

³ Other researchers argue that the subject-final order is derived from subject-initial order by predicate fronting (Massam and Smallwood 1997, Pearson 1998, 2001, Rackowski 1998, Rackowski and Travis 2000, Massam 2000, Aldridge 2002, Travis 2004, Chung 2005). For the purposes of this paper, this innovation is not important.

- (6) a. novidin' i Bao ny akoho
 PAST.buy.PASS Bao the chicken
 'The chicken was bought by Bao.'
 b. nividianan' i Bao ny akoho i Soa
 PAST.buy.CIRC Bao the chicken Soa
 'Soa was bought a chicken by Bao.'

For such non-active clauses, I again follow Guilfoyle, Hung, and Travis 1992 and assign a structure as in (7) in which the surface subject has raised to the right specifier of IP.



Wh-questions in Malagasy are formed in one of two ways. For non-subjects, wh-in-situ is possible (see Sabel 2002 for description and analysis). The second method, relevant for this paper, is to prepose the wh-phrase and follow it immediately with the particle *no* (glossed as PRT) and then the remainder of the clause, minus the wh-phrase:

- (8) a. iza no nividy ny akoho?
 who PRT buy.ACT the chicken
 'Who bought the chicken?'
 b. inona no novidin' i Bao?
 what PRT buy.PASS Bao
 'What was bought by Bao?'

It is widely cited that only subjects can be questioned with this strategy (Keenan 1976, 1995, Keenan and Comrie 1977, MacLaughlin 1995, Paul 2000, 2002, Pearson 2001, Sabel 2002, and others). Consequently, it is ungrammatical to wh-question a non-subject argument, (9). Either wh-in-situ can be used or the sentence can first be 'turned around' using voice morphology so that the non-subject corresponds to a subject.

- (9) a. *inona no nividy i Bao?
 what PRT buy.ACT Bao
 ('What did Bao buy?')
 b. *iza no novidina ny akoho?
 who PRT buy.PASS the chicken
 ('Who was the chicken bought by?')

An exception to this generalization is that some adjuncts, including temporal, locative, and instrumental adverbials, can be questioned without first advancing to subject position (Keenan 1976, Rabenilaina 1998, Paul 2000, 2001a, 2002, Pearson 2001, Sabel 2002, and others). (10) shows that a question with *taiza* 'where' is compatible with any verbal voice form.

Only in the example with circumstantial voice, (10c), does the adverbial plausibly correspond to a subject.

- (10) a. taiza no nanafina ny lakileko ny zaza
 where PRT hide.ACT the key.1SG the child
 b. taiza no nafenin' ny zaza ny lakileko
 where PRT hide.PASS the child the key.1SG
 c. taiza no nanafenan' ny zaza ny lakileko
 where PRT hide.CIRC the child the key.1SG
 'Where did the child hide my key?'

This restriction, stated in (11) below, will be an important descriptive generalization in the discussions that follow (see MacLaughlin 1995, Sabel 2002, Paul 2002, and Pearson 2005 for possible analyses of the restriction).

- (11) *Malagasy extraction restriction*
 Only subjects and some adjuncts can be extracted

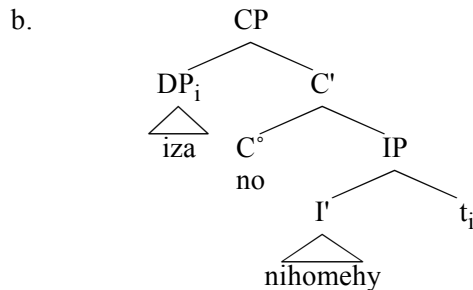
3 Two Hypotheses

This section introduces two structural analyses of Malagasy wh-questions. Section 3.1 presents Sabel's (2002, 2003) fronting analysis of wh-questions and section 3.2 develops the pseudocleft analysis based on Paul 2001a.

3.1 The Fronting Analysis

The fronting analysis of wh-questions likens their structure to that of wh-fronting constructions in better studied language families like Germanic, Romance, and Slavic. Sabel (2002, 2003) is the primary articulator of such an approach, although it is assumed in MacLaughlin 1995, Pensalfini 1995, and Potsdam 2003. Wh-questions, such as (12a), resemble English wh-fronting examples and can be assigned a familiar structure, (12b). The wh-phrase moves to spec,C and *no* is a question complementizer in C°. The motivation for the movement can be as in other languages: a strong [wh] (or EPP) feature on C° *no*.

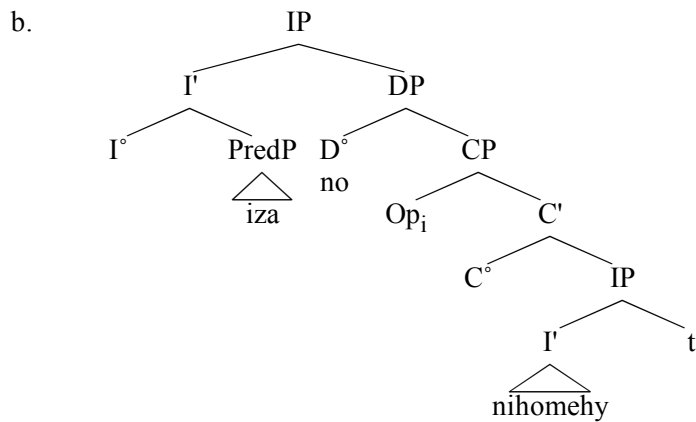
- (12) a. iza no nihomehy?
 who PRT laugh.ACT
 'Who laughed?'



3.2 The Cleft Analysis

The cleft analysis, which I will ultimately defend, builds on proposals in Dahl 1986, Pearson 1996, Paul 2001a, 2003b, and others. Under the cleft analysis, *wh*-questions in Malagasy are pseudocleft structures in which the *wh*-phrase is a non-verbal predicate and the subject is a headless relative clause involving internal movement of a null operator, *Op*. The closest English translation is with a pseudocleft: *Who laughed is who?* or *The one who laughed is who?* The *wh*-question repeated in (13a) is assigned the structure in (13b).

- (13) a. iza no nihomehy?
 who PRT laugh.ACT
 ‘Who laughed?’



For now, I take the particle *no* to be a determiner, following suggestions in Paul 2001a, 2002, 2003a. I return to this issue in section 5.1. I assume that the relative clause is directly selected by the determiner *no*, as shown.

Given that Malagasy has *wh*-in-situ questions, the pseudocleft analysis is simply an extension of this strategy, in which the *wh*-phrase is in-situ as a predicate. Malagasy thus has no *wh*-movement at all under the cleft analysis. The *wh*-phrase is always in-situ, either as an argument, an adjunct, or a predicate. Malagasy does still have A'-movement, of null operators.

Several related Austronesian languages are also claimed to employ a pseudocleft structure for questions—for example, Palauan (Georgopoulos 1991), Malay (Cole, Hermon, and Aman to appear), Tsou (Chang 2000), Tagalog (Richards 1998, Aldridge 2002), and Seediq (Aldridge 2002)—and in the next section I provide a wide range of arguments showing that the cleft analysis is appropriate for Malagasy also.

4 Argumentation Against the Fronting Analysis

This section provides empirical and theory-internal argumentation in favor of the pseudocleft analysis for Malagasy *wh*-questions and against the fronting analysis. Section 4.1 illustrates various ways in which the *wh*-phrase behaves like a predicate and not a fronted argument/adjunct. Section

4.2 points out parallels with a focus construction that Paul 2001a analyzes as a pseudocleft. Lastly, section 4.3 argues that the cleft analysis provides a superior treatment of certain multiple fronted-wh questions.

4.1 Predicational Properties of the Wh-Phrase

One distinction between the pseudocleft and fronting analyses concerns the characterization of the initial wh-phrase. Under the pseudocleft analysis, it is a predicate. Under the fronting analysis, the wh-phrase is not a predicate but a preposed constituent—argument or adjunct. We can thus differentiate the two analyses by seeing whether a fronted wh-phrase has properties characteristic of a predicate or not. To facilitate the discussion, I will use VOS clauses as examples of predicate-initial clauses. There is abundant evidence that the verb plus complement(s) in such clauses constitute a predicate to the exclusion of the subject (Keenan 1976, 1995). Of particular interest is that Malagasy has a variety of particles whose distribution can be described as preceding or following the predicate. What we will see is that such particles treat initial wh-phrases as predicates, not as fronted constituents.

4.1.1 Post-Predicate Particles

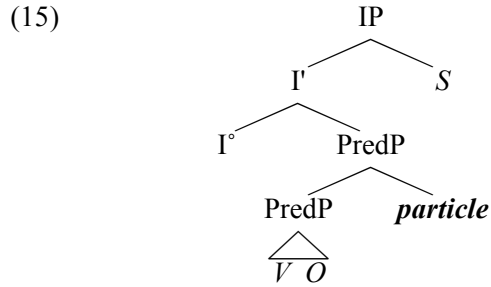
Malagasy has a number of particles that immediately follow the predicate, including floating quantifiers like *daholo* ‘all’ and *avy* ‘each’ (Keenan 1976, 1995), the exclamative particle *anie* (Keenan 1976, 1995),⁴ and VP adverbs such as *foana* ‘always’ (Pearson 1998, Rackowski 1998). In VOS clauses, these elements only appear immediately after the predicate and before the subject and not elsewhere:⁵

- (14) a. nihinana vary (**daholo**) ny vahiny (***daholo**)
 eat.ACT vary all the guest all
 ‘All the guests ate rice’
 b. manapaka bozaka (**anie**) Rasoa (***anie**)
 cut.ACT grass EXCL Rasoa EXCL
 ‘Rasoa is really cutting the grass!’
 c. mihomehy (**foana**) Rasoa (***foana**)
 laugh.ACT always Rasoa always
 ‘Rasoa is always laughing’

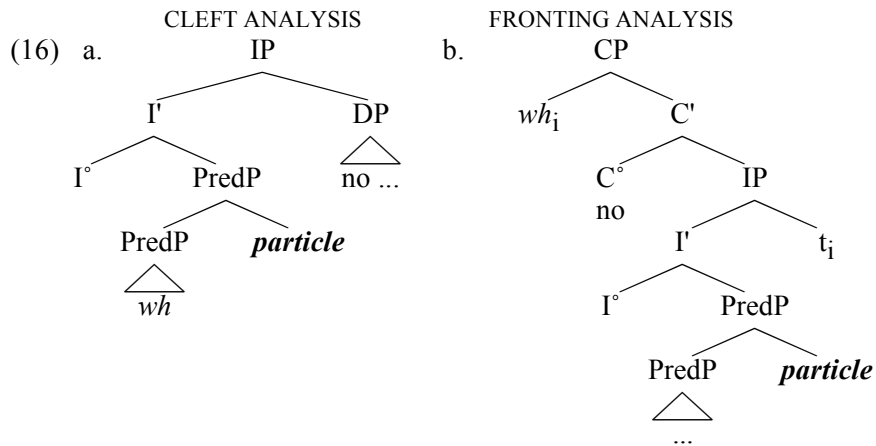
For concreteness, I assume that these particles right adjoin to PredP as shown in (15). This correctly places them between the object and the subject in VOS clauses.

⁴ Paul 2001a suggests that *anie* may be a second-position clitic. If this is correct, it would not be a post-predicate particle and would not provide evidence in favor of the cleft analysis of wh-questions. For this reason, I use a variety of particle types above.

⁵ Pearson 1998 documents the availability of rightward object shift with definite objects in Malagasy. In such cases, an adverb like *foana* ‘always’ may occur to the left of the shifted definite object. I ignore such cases here. This position is still not possible for *daholo* and *anie*.



The two analyses under consideration make different predictions about where these particles will appear in *wh*-questions. As shown in (16a), the cleft analysis places them immediately after the *wh*-phrase. The fronting analysis, in contrast, predicts that they cannot occur immediately after the *wh*-phrase but must occur near the end of the clause, (16b).



The prediction of the cleft analysis is correct. Post-predicate particles immediately follow the *wh*-phrase, (17). The fronting analysis does not permit these grammatical examples.

- (17) a. iza **daholo** no nihinana vary?
 who all PRT eat.ACT vary
 ‘Who all ate rice?’
- b. iza **anie** no manapaka bozaka?
 who EXCL PRT cut.ACT grass
 ‘Who is really cutting the grass?’
- c. iza **foana** no mihomehy?
 who always PRT laugh.ACT
 ‘Who is always laughing?’

The clause-final position predicted by the fronting analysis is also largely grammatical, (18). although I have no explanation for the ungrammaticality of (18a) with *daholo*. These data are also accounted for by the cleft analysis, however, because there is a second predicate within the subject headless relative clause of these examples and it permits a PredP adjunct. These data do not differentiate the two hypotheses.

- (18) a. *iza no nihinana vary **daholo?**
 who PRT eat.ACT vary all
 ('Who all ate rice?')
- b. ?oviana no nanapaka bozaka Rasoa anie?
 when PRT cut.ACT grass Rasoa EXCL
 'When really did Rasoa cut the grass?'
- c. zaza iza no mitomany **foana?**
 child which PRT crying.ACT always
 'Which child is always crying?'

4.1.2 Pre-Predicate Particles

Malagasy also has a number of particles that immediately precede the predicate in VOS clauses. These pre-predicate particles are largely inflectional in nature and include *toa* 'seem', *tokony* 'should' (Paul 2001a), *tena* 'indeed (affirmative emphasis)', and *h(o)*- 'future/irrealis':

- (19) a. **tokony** hamangy an-dRabe Rasoa
 should visit.ACT ACC-Rabe Rasoa
 'Rasoa should visit Rabe'
- b. **tena** hovidin' ny zaza ny fiaramanidina
 EMPH buy.PASS the child the airplane
 'The child will indeed buy the airplane'
- c. **ho** lasa dokotera Rabe
 FUT depart doctor Rabe
 'Rabe will be a doctor'

The cleft analysis of questions correctly predicts that these particles also immediately precede the wh-phrase in a wh-question because it too is a predicate:

- (20) a. **tokony** iza no hamangy an-dRabe?
 should who PRT visit.ACT ACC-Rabe
 'Who should visit Rabe?'
- b. **tena** inona no hovidin' ny zaza?
 EMPH what PRT buy.PASS the child
 'What will the child indeed buy?'
- c. %**ho** iza no vadinao?⁶
 FUT who PRT marry.PASS.2SG
 'Who (among them) will you marry?'

Under the fronting analysis, such data are unexpected because the wh-phrase is not a predicate. Instead, the particles should necessarily appear

⁶ The possibility of tense marking on wh-phrases varies with the wh-phrase but the phenomenon is compatible with the predicate status of wh-phrases. *Aiza* 'where' is normally marked for tense: *ho aiza* 'where (fut.)' and *taiza* 'where (past)'. Similarly 'when' has two forms *oviana* 'when (non-future)' and *rahoviana* 'when (future)'. *Iza* 'who' is more unusual in this context but (20c) shows that tense marking is nonetheless possible in this context as well for some speakers.

farther to the right, before the verbal predicate. This position is possible, (21), but it is allowed by both analyses because the verb constitutes a predicate under either approach.

- (21) a. iza no **tokony** hamangy an-dRabe
 who PRT should visit.ACT ACC-Rabe
 ‘Who should visit Rabe?’
 b. inona no **tena** hovidin’ ny zaza
 what PRT EMPH buy.PASS the child
 ‘What will the child indeed buy?’
 c. iza no **ho** vadinao?
 who PRT FUT marry.PASS.2SG
 ‘Who will you marry?’

One might defend the fronting analysis by saying that these particles are not pre-predicate particles but clause-initial particles. If that were the correct description, the fronting analysis would account for the data in (20). Then however, the grammatical examples in (21) would remain unexplained since they are not clause-initial. In any case, there is independent evidence that clause-initial is not the correct description of the positioning of the particles. There is a topicalization construction in Malagasy in which a constituent is preposed, followed by the topic particle *dia* (Keenan 1976):

- (22) a. Rasoa dia manoroka an-dRabe
 Rasoa TOPIC kiss.ACT ACC-Rabe
 ‘Rasoa, she kisses Rabe’
 b. ny fiaramanidina dia hovidin’ ny zaza
 the airplane TOPIC buy.PASS the child
 ‘The airplane, the child will buy it’

Both Paul 2001a and Flegg 2003 suggest that the initial constituent in the topicalization construction is not a predicate and, indeed, the pre-predicate particles cannot occur initially in this construction; they must precede the verbal predicate:

- (23) a. (***tokony**) Rasoa dia (**tokony**) hanoroka an-dRabe
 should Rasoa TOPIC should kiss.ACT ACC-Rabe
 ‘Rasoa, she should kiss Rabe’
 b. (***tena**) ny fiaramanidina dia (**tena**) hovidin’ ny zaza
 EMPH the airplane TOPIC EMPH buy.PASS the child
 ‘The airplane, the child will indeed buy it’
 c. (***ho**) Rabe dia **h-anoroka** an-dRasoa
 FUT Rabe TOPIC FUT-kiss.ACT ACC-Rasoa
 ‘Rabe, he will kiss Rasoa’

If the particles under consideration were clause-initial particles, such data would be unaccounted for since here we see the particles associating exclusively with predicates, not clause-initial position.

In summary, the fronting analysis does not allow the grammatical placement of a wide variety of clause-internal particles, while the cleft analysis does. The wh-phrase in a wh-question behaves like a predicate

with respect to the positioning of these particles, as claimed in the cleft analysis.⁷

4.2 Parallels with the Focus Construction

Malagasy has a focus construction illustrated in (24) that is formally similar to *wh*-questions. Dahl 1986 first proposed that this focus construction is a kind of cleft and Paul 2001a, 2003a develop this analysis, assigning (24a) the pseudocleft structure in (25). The focused element is the predicate of the clause and the subject is a headless relative clause.

- (24) a. Rasoa no nihomehy
 Rasoa PRT laugh.ACT
 ‘It was Rasoa who laughed’
 b. ny mofo no novidin- dRasoa
 the bread PRT buy.PASS Rasoa
 ‘It was the bread that was bought by Rasoa’
- (25) [[_{predicate} Rasoa] [_{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 which suggest that they should receive the same structural analysis. First, both are formed by preposing a constituent and following it immediately with the invariant particle *no*. Second, the two constructions place a focus interpretation on the initial XP. *Wh*-phrases indicate a request for new information in the same way that focused XPs supply new information. Third, the two constructions are subject to the same extraction restriction in (11), that only subjects and adjuncts can be extracted. In (26), an adjunct is focused regardless of the voice of the verb (compare to the *wh*-questions in (10)). In (27), we see the ungrammaticality that results from focusing a non-subject argument.

⁷ Malagasy has a number of other particles which, for various reasons, cannot be used in these tests. The post-predicate question particle *ve* (Paul 2001b) does not occur in *wh*-questions, only yes/no questions. The pre-predicate negative particle *tsy* is semantically incompatible with the main *wh*-predicate, as evidenced by the ill-formedness of the English **Who isn't the one who laughed?* (Potsdam 2004).

- (26) a. ao ambanin' ny fandriana no
 there under the bed PRT
 nanafina ny lakile ny zaza
 hide.ACT the key the child
- b. ao ambanin' ny fandriana no
 there under the bed PRT
 nafenin' ny zaza ny lakile
 hide.PASS the child the key
- c. ao ambanin' ny fandriana no
 there under the bed PRT
 nanafenan' ny zaza ny lakile
 hide.CIRC the child the key
 'It's under the bed that the child hid the key'
- (27) a. *ny mofo no nividy i Bao
 the bread PRT buy.ACT Bao
 ('It's the bread that Bao bought')
- b. *Rabe no novidina ny akoho?
 Rabe PRT buy.PASS the chicken
 ('It's Rabe that the chicken was bought by')

Fourth, neither construction allows a resumptive pronoun corresponding to the fronted element:

- (28) a. *iza no nihomehy izy?
 who PRT laugh.ACT 3SG.NOM
 ('Who laughed?')
- b. *Rasoa no nihomehy izy
 Rasoa PRT laugh.ACT 3SG.NOM
 ('It was Rasoa who laughed')

Finally, the focus construction shows the same predicate behavior of the initial constituent with respect to particle placement documented for wh-questions in section 4.1 (Paul 2001a). Post-predicate particles immediately follow the initial focused element, (29), and pre-predicate particles immediately precede the initial element, (30).

- (29) a. ireo lehilahy ireo **daholo** no milalao baolina
 these man these all PRT play.ACT ball
 'It's all these men who are playing ball'
- b. Rasoa **anie** no nanapaka bozaka
 Rasoa EXCL PRT cut.ACT grass
 'It was really Rasoa who cut the grass!'
- c. Rasoa **foana** no mihomehy
 Rasoa always PRT laugh.ACT
 'It's always Rasoa who laughs'

- (30) a. **tokony** Rasoa no hamangy an-dRabe
 should Rasoa PRT visit.ACT ACC-Rabe
 ‘It’s Rasoa who should visit Rabe’
- b. **tena** Rabe no mahandro ravintoto
 EMPH Rabe PRT cook.ACT pounded.manioc.leaves
 ‘It’s indeed Rabe who cooks ravintoto’⁸

Analyzing wh-questions as clefts immediately accounts for these parallels since the two constructions would have the same syntax. The parallels are perhaps unexpected under the fronting analysis in which the two constructions have rather different derivations and they may require independent explanations in each case.

4.3 Multiple-Wh Questions

The final argument for the cleft analysis comes from a consideration of multiple-wh questions introduced in Paul 2000 and Sabel 2003, in which there are two wh-phrases at the front of the clause.⁹ (31a,b,c) are from Sabel 2003:245-246, (31d,e) are from Paul 2002:202. I will suggest that the cleft analysis provides a better treatment of such data. To see this we need to lay out how each hypothesis would handle such data. I then provide arguments in favor of the cleft-based approach.

- (31) a. aiza iza no mividy ny vary?
 where who PRT buy.ACT the rice
 ‘Who buys rice where?’
- b. aiza (ny) inona no vidinao?
 where the what PRT buy.PASS.2SG
 ‘What do you buy where?’
- c. nahoana iza no mividy ny vary?
 why who PRT buy.ACT the rice
 ‘Why does who buy the rice?’
- d. oviana iza no lasa nody?
 when who PRT left go.home.ACT
 ‘Who went home when?’
- e. taiza ilay inona no novidin-dRaso?
 where that what PRT buy.PASS-Raso
 ‘Where did Raso buy which of these things?’

⁸ The focus construction is not possible with an initial future marker *ho* and a DP predicate:

- (i) ***ho** Rabe no (ho)fidina
 FUT Rabe PRT elect.PASS
 (It will be Rabe who is elected’)

I have no explanation for this fact but note that some wh-questions with initial *ho*, specifically those with *iza* ‘who’ as in (20c), are also dispreferred and judged ungrammatical by some speakers.

⁹ My consultants did not accept such examples. I am grateful to Joachim Sabel and Elisabeth Ravaoarimalala for help with additional multiple-wh examples.

4.3.1 Sabel's (2003) Fronting Analysis

Sabel 2003 proposes a clever analysis of the multiple-wh question examples within the fronting approach. It argues that Malagasy is an optional multiple wh-fronting language like some of the Slavic languages. In such languages, all wh-phrases move to clause-initial position as seen in the Bulgarian data in (32) (examples from Pesetsky 2000:19, see also Rudin 1988,, Bošković 2002, Richards 2002, and references therein).

- (32) a. koj kakvo na kogo dade?
 who what to whom gave
 ‘Who gave what to whom?’
 b. *koj dade kakvo na kogo?
 who gave what to whom

Rudin 1988 first argued that there are two types of multiple wh-fronting languages. In Polish/Serbo-Croatian type languages, fronted wh-phrases move to separate CP specifiers. In Romanian/Bulgarian type languages, the fronted wh-phrases move to a single spec,C where they form a constituent. Sabel argues that Malagasy is of this latter type: “multiple wh-elements in Malagasy undergo cluster formation and occupy one sentence-initial spec,C position, similar to languages such as Bulgarian and Romanian” (Sabel 2003:243).

Sabel 2001, 2003 lay out the theoretical apparatus that achieves cluster formation. He first assumes that wh-phrases need to move to spec,C to check a strong [FOCUS] feature of C°. General feature-checking mechanisms given in (33) and (34) allow cluster formation in line with the proposal in (35).

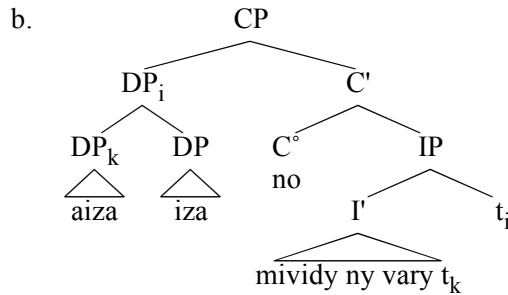
- (33) *Attract F* (Chomsky 1995)
 K attracts F if F is the closest feature that can enter into a checking relation with a sublabel of K
- (34) *Closeness* (Chomsky 1995)
 β is closer to K than α if β c-commands α
- (35) *Cluster Hypothesis* (Sabel 2003:243)
 A feature F which is attracted by K attracts a feature of the same type F

Wh-cluster formation proceeds as follows: Assume a pre-movement structure of the form $[_{CP} C^\circ [\dots wh_1 \dots [\dots wh_2 \dots]]]$ in which C° c-commands wh-phrase1 which in turn c-commands wh-phrase2 and all three elements have a [FOCUS] feature that must be checked. By (33), C° can attract wh1 but it cannot attract wh2 because wh1 is closer according to (34). If it were to do this however, the strong [FOCUS] feature on wh2 would go unchecked, causing the derivation to crash. Given the Cluster Hypothesis, an alternative derivation is available: wh1 attracts wh2, forming a cluster. C° then attracts the cluster of wh1 and wh2.

To the multiple-wh question repeated in (36a), the derivation in (36b) is assigned. *Iza* ‘who’ in spec,I attracts *aiza* ‘where’, which left

adjoins to it. The cluster in spec,I then moves to spec,C. Crucially, the cluster is formed prior to movement to spec,C.

- (36) a. aiza iza no mividy ny vary?
 where who PRT buy.ACT the rice
 ‘Who buys rice where?’



4.3.2 Paul's (2003a) Cleft Analysis

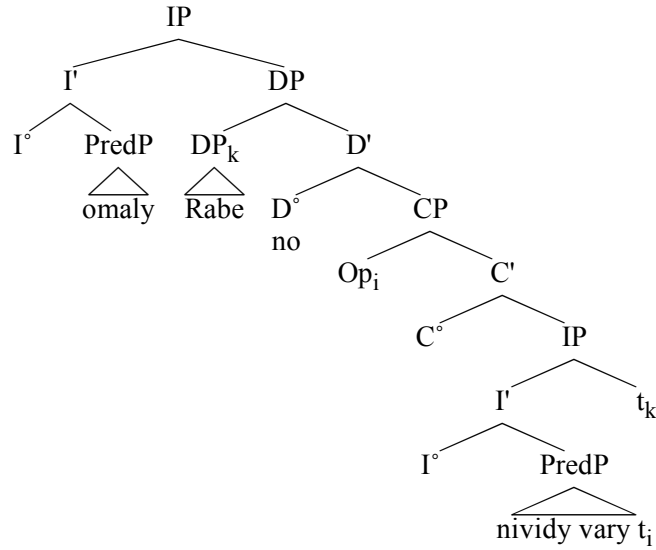
Paul 2003a indirectly provides an alternative analysis of the multiple-wh questions within the cleft approach. The analysis rests on the existence of another construction in Malagasy which Keenan 1976 named the BODYGUARD CONSTRUCTION (see also Paul 2000). Keenan 1976 first observed that when a non-subject is questioned or focused, the subject may optionally appear immediately after the wh-phrase/focus, and before *no*. The subject serves as a “bodyguard” for the fronted element. (37b) illustrates the bodyguard variant of the wh-question in (37a) and (38b) illustrates the bodyguard variant of the focus construction in (38a). The bodyguard construction is only possible when the first XP is an adjunct and the second XP is the subject.

- (37) a. aiza no mividy mofo **Raso**?
 where PRT buy.ACT bread Raso
 b. aiza **Raso** no mividy mofo?
 where Raso PRT buy.ACT bread
 ‘Where does Raso buy bread?’

- (38) a. omaly no nividy vary **Rabe**
 yesterday PRT buy.ACT rice Rabe
 b. omaly **Rabe** no nividy vary
 yesterday Rabe PRT buy.ACT rice
 ‘It was yesterday that Rabe bought rice’

Paul 2003a analyzes the bodyguard construction, arguing that the bodyguard phrase is in the specifier position of the DP subject. It is a kind of possessor. This correctly places the bodyguard between the focus and the particle *no*. To the focus construction with bodyguard in (38a) Paul assigns the structure in (39).

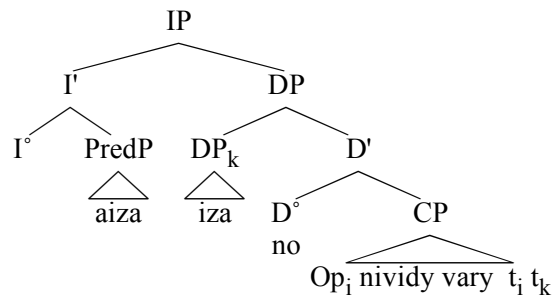
(39)



Given Paul's analysis, we have a natural account of the multiple-wh questions, repeated in (40a). They are wh-questions in which the bodyguard in spec,D is also a wh-phrase, (40b).

(40) a. aiza iza no mividy ny vary?
 where who PRT buy.ACT the rice
 'Who buys rice where?'

b.



4.3.3 Against the Fronting Analysis of Multiple-Wh Questions

In this subsection I present four arguments in support of the cleft treatment of the bodyguard construction and multiple-wh questions, in (40). My discussion owes much to Paul 2000:ch. 4 which investigates the same data and arrives at the same conclusion regarding the untenability of a cluster analysis.

The first argument comes from a consideration of the ordering of the initial phrases and superiority. Pesetsky 2000 and Bošković 2002, following Rudin 1988, show that Bulgarian multiple wh-fronting examples exhibit Superiority effects. The wh-phrase that originates structurally higher must appear before the wh-phrase that originates structurally lower (Pesetsky 2000:22):

- (41) a. koj kũde udari Ivan?
 who where hit Ivan
 ‘Who hit Ivan where?’
 b. *kũde koj udari Ivan
 where who hit Ivan
 (*‘Where did who hit Ivan?’)

Sabel and Paul 2000:202 show that Malagasy patterns with Bulgarian in restricting the order of fronted wh-phrases, (42) (from Sabel 2003:245).

- (42) a. *iza aiza no mividy ny vary?
 who where PRT buy.ACT the rice
 (*‘Where does who buy rice?’)
 b. aiza iza no mividy ny vary?
 where who PRT buy.ACT the rice
 ‘Who buys rice where?’

There is a difference between the two languages, however, in that they show the opposite licit orderings. In Bulgarian we see *who where* but in Malagasy we see *where who*. The question that arises under the fronting analysis is why Malagasy shows anti-superiority. Given that the wh-phrases form a cluster, it must be the case that cluster formation proceeds via left adjunction in Malagasy but right adjunction in Bulgarian. The theory-internal issue is how to capture this parametric variation. It can be stipulated, of course, but this is unsatisfactory and I see no principled explanation given the widely accepted robustness of superiority (at least in the simple cases under consideration here). Under the cleft analysis, by contrast, the correct ordering in (42b) is fixed by the phrase structure. The bodyguard must be a subject and being in spec,D it must follow the initial adjunct wh-predicate.

A second argument for the cleft analysis of multiple-wh questions comes from examples with multiple fronted wh-adjuncts. We have already seen that wh-questions in Malagasy are sharply restricted: only subjects and certain adjuncts may be extracted. When one of each fronts, the subject must be rightmost. Even taking these restrictions into account, if Malagasy is a multiple wh-fronting language, it should still be acceptable to front other combinations of wh-phrases, specifically, two wh-adverbials. (43) shows that this is not possible however, regardless of whether or not a subject bodyguard is present ((43d) is from Paul 2000:203).¹⁰

¹⁰ Such examples are acceptable if the wh-phrases are coordinated since then they form a single phrase:

- (i) a. taiza sy oviana no nividy mofo Rasoana?
 whereand when PRT buy.ACT bread Rasoana?
 b. oviana sy taiza no nividy mofo Rasoana?
 when and wherePRT buy.ACT bread Rasoana?
 c. oviana sy taiza Rasoana no nividy mofo?
 when and whereRasoana PRT buy.ACT bread
 ‘Where and when did Rasoana buy bread?’

- (43) a. *aiza oviana no mividy vary Rasoa?
 where when PRT buy.ACT rice Rasoa
 b. *oviana aiza no mividy vary Rasoa?
 when where PRT buy.ACT rice Rasoa
 c. *oviana aiza Rasoa no mividy vary?
 when where Rasoa PRT buy.ACT rice
 ('Where does Rasoa buy rice when?')
 d. *nahoana taiza iza no nividy ilay boky
 why where who PRT buy that book
 ('Why do who buy that book where?')

By contrast, true multiple wh-fronting languages like Bulgarian, allow multiple adjunct questions:¹¹

- (44) koga kūde jade Ana?
 when where eat Ana
 'When did Ana eat where?'

This lack of parallelism between Malagasy and Bulgarian is surprising if the two are analytically the same kind of multiple wh-fronting language. If there is a well-formed cluster formation derivation for (44), there should also be one for (43). The cleft analysis in contrast explains (43), as Paul 2000 notes. The sentences cannot be generated since the second wh-adverbial can be neither a second wh-predicate, since only one predicate is allowed, nor a bodyguard, since it is not a subject.

The third problem for the cluster formation/fronting analysis comes from a consideration of the discourse status of the bodyguard when it is not a wh-phrase. Paul 2000, 2003a showed that the bodyguard is not part of the focus (new information) but, rather, is topical (old information). As such, the bodyguard must be definite, (45), it cannot constitute the answer to an information question, (46), and it is a preferential position for pronouns, (47). The data in (45) to (47) are from Paul 2003a.

- (45) tany an-tokotany *(ny) zazavavy no nilalao baolina
 there ACC-yard the girl PRT play.ACT ball
 'It was in the yard that the girls were playing ball'

- (46) a. iza no nanapaka bozaka oviana?
 who PRT cut.ACT grass when
 'Who cut grass when?'
 b. #omaly Rasoa no nanapaka bozaka
 yesterday Rasoa PRT cut.ACT grass
 (not acceptable as an answer to (46a))
 c. Rasoa no nanapaka bozaka omaly
 Rasoa PRT cut.ACT grass yesterday
 'It was Rasoa who cut grass yesterday'

¹¹ Thanks to Veronica Gerassimova and Maria Jordan for help with the relevant data in Bulgarian and Romanian.

- (47) tany an-tsena izy no nandeha fiara
 there market 3SG.NOM PRT go.ACT car
 ‘It was to the market that she went by car’
- b. ?tany an-tsena no nandeha fiara izy
 there market PRT go.ACT car 3SG.NOM
 ‘It was to the market that she went by car’

This observation is not compatible with the fronting analysis in which the bodyguard is part of the focus in spec,C. Further, it creates a technical problem in the cluster formation operation. Sabel argued that cluster formation is driven by attractions of [FOCUS] features on C° and the wh-phrase. However, a bodyguard need not be a wh-phrase as we have already seen, (48), and such non-wh bodyguards do not have characteristics of a focus.

- (48) a. oviana Rabe no nivity ny vary?
 when Rabe PRT buy.ACT the rice
 ‘When did Rabe buy the rice?’
- b. omaly Rabe no nivity ny vary
 yesterday Rabe PRT buy.ACT the rice
 ‘It was yesterday that Rabe bought rice’
- (49) aiza iza no mivity ny vary?
 where who PRT buy.ACT the rice
 ‘Who buys rice where?’

While a [FOCUS] feature may be driving movement of the wh-bodyguard in multiple-wh questions, such as the example repeated above in (49), it is not likely to be driving the movement of a non-wh-bodyguard. As a result, the fronting analysis would not seem to be able to unify both types of bodyguard constructions. Multiple wh-fronting would be cluster formation driven by the need to check [FOCUS] features on the wh-phrases. In non-wh-bodyguard examples like (48), on the other hand, there is no feature which would license cluster formation that is shared by the focus XP (*oviana* ‘when’ or *omaly* ‘yesterday’) and the topic bodyguard (*Rabe*); in particular, there is no shared [FOCUS] feature. Regardless of how (48) and (49) are ultimately generated, the claim that they are derived by different mechanisms seems theoretically costly. Under the cleft analysis, in contrast, the bodyguard is not part of the predicate focus; it is part of the subject and has a uniform derivation and discourse status in both examples.¹²

Fourth, there is constituency evidence against the claim of the fronting analysis that the two initial elements form a constituent. The fronting analysis follows Rudin 1988 in taking the fronted wh-phrases to

¹² Given Paul’s claim that the bodyguard is a topic, a wh-phrase bodyguard is perhaps somewhat unexpected since it would not seem to have topic properties. Paul 2000:197,203 reports that her consultant who allowed wh-bodyguards required that it be d-linked in the sense of Pesetsky 1987. There must be a contextually salient set of people or things over which the answer to the wh-phrase ranges. The presence of the determiner on the wh-bodyguards in (31b,e) supports this proposal.

form a cluster, as schematized in (50a). Data below will support the pseudocleft analysis, in which the wh-phrase and the bodyguard do not form a constituent, (50b).

- (50) a. [CP [WH BODYGUARD] [C' no ...]] FRONTING ANALYSIS
 b. [IP [PredP WH] [DP BODYGUARD no ...]] CLEFT ANALYSIS

Coordination data in (51) shows that the bodyguard and following material can be coordinated to the exclusion of the wh-phrase.

- (51) oviana Rasoa no nijinja vary ary
 when Rasoa PRT harvest.ACT rice and
 Rakoto no nanapaka bozaka?
 Rakoto PRT cut.ACT grass
 ‘When did Rasoa harvest rice and Rakoto cut grass?’

Such examples are straightforwardly accounted for with the pseudocleft structure since the coordinated material is a constituent, as reflected in (50b). Under the fronting analysis however, there is no constituent being coordinated, see (50a), and the result should be ungrammatical, contrary to fact. Further, the fronting analysis predicts that one should be able to coordinate the wh-phrase+bodyguard, to the exclusion of *no* and the remaining material. This is completely impossible:

- (52) *[oviana Rabe] sy/ary [taiza Rasoa]
 when Rabe and where Rasoa
 no nivity mofo?
 PRT buy.ACT bread
 (‘When did Rabe buy bread and where did Rasoa buy bread?’)

Coordination thus supports the cleft structure over the fronting structure.

Post-predicate particles also treat the initial wh-phrase structurally separate from the bodyguard. When both are present, the particle follows the wh-phrase, not the bodyguard:

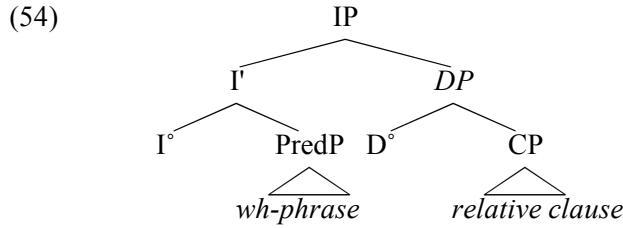
- (53) a. taiza (**daholo**) Rakoto (*daholo) no nandeha?
 where all Rakoto all PRT go.ACT
 ‘Where all did Rakoto go?’
 b. oviana (**anie**) Rasoa (*anie) no nanapaka bozaka?
 when EXCL Rasoa EXCL PRT cut.ACT grass
 ‘When really did Rasoa cut the grass?’
 c. aiza (**foana**) Rasoa (*foana) no mividy vary?
 where always Rasoa always PRT buy.ACT rice
 ‘Where does Rasoa always buy rice?’

In conclusion, there is good empirical evidence that Paul is correct in proposing the general structure in (39) for the bodyguard construction and, by extension, the structure for multiple-wh questions in (40). The bodyguard is part of the subject constituent and not the predicate. No operation treats the two initial phrases as a constituent, contra the fronting analysis but in line with the pseudocleft analysis. Several independent

strands of evidence thus point to the cleft analysis as superior for analyzing multiple fronted-wh questions.

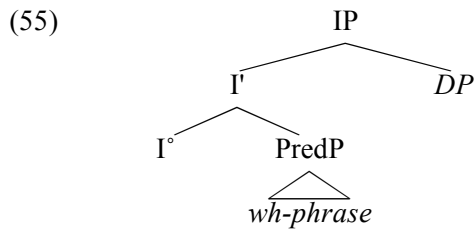
4.4 Interim Summary

This paper has argued thus far that wh-questions in Malagasy are not derived by wh-movement. They are pseudocleft structures in which the initial wh-phrase is a base-generated predicate, and the remaining material is a headless relative clause in subject position:



This pseudocleft analysis of wh-questions was shown to be superior in a number of independent domains. It better predicts the position of predicate-related particles in wh-questions, it unites the analysis of wh-questions and the focus construction, and it provides a superior analysis of multiple-wh questions and the bodyguard construction. It is worth pointing out that the above argumentation does not rule out a dual analysis scenario in which wh-questions have *both* fronting and cleft structures. We have only ruled out the possibility that wh-questions have only a fronting analysis. Given that a dual analysis scenario is not the optimal situation, I will not consider it further.

Observe that, given (54), the subject of the wh-phrase predicate need not contain a relative clause. The subject can be a simple DP (D° NP structure). Most generally then, the structure of wh-questions is as in (55), where the clause-final subject is some independently acceptable Malagasy DP.



This more general structure is instantiated by non-verbal questions as in (56). In these examples, the DP subject is not complex. It is a simple DP, pronoun, or a name.

- (56) a. iza ny prezida?
 who the president
 ‘Who is the president?’
 b. an’ iza ity boky ity?
 to who this book this
 ‘Whose is this book?’
 c. ho aiza ianao?
 FUT where 2SG.NOM
 ‘Where will you be?’
 d. aiza i Soa?
 where DET Soa
 ‘Where is Soa?’

Strictly speaking, these sentences are not clefts, as they are not biclausal. For simplicity however, I will continue to refer to the analysis represented by (55) as the cleft analysis regardless of whether or not the subject DP is structurally complex.

The picture we are led to is that Malagasy is a wh-in-situ language. Wh-phrases may appear in all positions: argument position, adjunct position, or predicate position and there is never wh-movement. This is a welcome result given Cheng’s (1997) claim that there are no optional wh-movement languages. In the following section, I assume the cleft analysis of wh-phrase-initial sentences and discuss some analytical challenges that it presents for future work.¹³

5 Further Issues

In this section I explore some of the details of the cleft analysis. Space considerations prevent me from fully addressing them; however, I introduce them because they are a previously undocumented part of the larger domain of data that any analysis of the Malagasy focus/wh-question construction must confront.

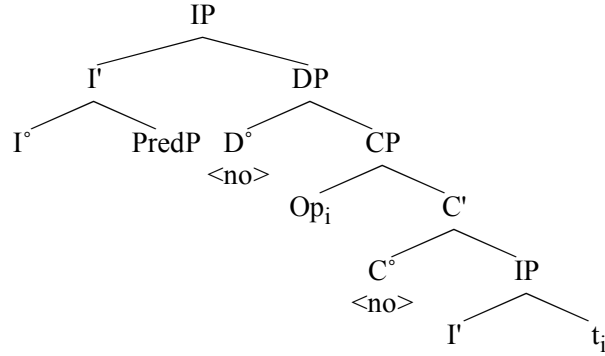
5.1 The Status of *no*

A central analytical detail within the pseudocleft analysis is the treatment of the particle *no*. Assuming that *no* is a head, it could be either a determiner or a relative clause complementizer in C°. Both options are shown in the schematic in (57).

¹³ If this general conclusion is correct, it has the consequence that Malagasy will be significant for the analysis of partial wh-movement documented in Sabel 2003, (i). If such examples are not exceptional, they too should not involve any actual wh-movement, partial or otherwise.

- (i) heverin-dRabe fa inona no novidin-dRakoto?
 think.PASS-Rabe that what PRT buy.PASS-Rakoto
 ‘What does Rabe think that Rakoto bought?’

(57)



There is another place in the grammar where *no* appears which suggests that it is a complementizer.¹⁴ *No* is possible in relative clauses just in case the modified noun phrase is of the form *na wh-XP na wh-XP* ‘wh-ever’:

- (58) a. voasazy [na iza na iza no tsy mamafa lalana]
 punish.PASS or who or who PRT NEG sweep road
 ‘Whoever doesn’t sweep the road will be punished’
 b. *voasazy [ny mpiasa no tsy mamafa lalana]
 punish.PASS the worker PRT NEG sweep road
 (‘The worker who doesn’t sweep the road will be punished’)

Such examples are preferred with the DP topicalized, confirming that the bracketed material is indeed a constituent containing a relative clause:

- (59) a. [na iza na iza no tsy mamafa lalana]
 or who or who PRT NEG sweep road
 dia voasazy
 TOPIC punish.PASS
 ‘Whoever doesn’t sweep the road will be punished’
 b. [na boky inona na boky inona no hovidinao]
 or book what or book what PRT buy.PASS.2SG
 dia hovakiko
 TOPIC read.PASS.1SG
 ‘Whatever book you buy, I will read’
 c. [na oviana na oviana no milasy aho]
 or when or when PRT camp 1SG.NOM
 dia avy ny orana
 TOPIC come the rain
 ‘Whenever I go camping, it’s raining’

Such strings can also be resumed with a pronoun, again suggesting the indicated constituency:

¹⁴ Rahajarizafy 1960:160 documents a number of additional uses of *no* which I leave for future investigation.

- (60) [na iza na iza no olo-meloka]
 or who or who PRT criminal
 dia iza no hanasazy azy?
 TOPIC who PRT punish 3SG.ACC
 ‘Whoever is a criminal, who will punish him?’

No in the above examples alternates with the uncontroversial relativizer *izay* and its null counterpart (see Rajemisa-Raolison 1969:67 for discussion of Malagasy relativizers):

- (61) [na iza na iza ø/izay/no tsy mamafa lalana]
 or who or who REL/REL/PRT NEG sweep road
 dia voasazy
 TOPIC punish.PASS
 ‘Whoever doesn’t sweep the road will be punished’

Assuming that there is only one *no* in the language, these data indicate that it is a relative complementizer. Extending this conclusion to *wh*-questions and the focus construction, their subjects must contain a relative clause. The subject is a headless relative, as Paul 2001a originally asserted and as assumed above. In the next section, I investigate this claim further.

5.2 Headless Relatives

If *no* and the following material, what I will call *no* DPs, are headless relative clauses with an approximate meaning “the one that ...”, we expect such strings to have the syntactic characteristics and distribution of other headless relatives in the language. In this section, I explore this general prediction. For comparison, I will look at uncontroversial headless relative clauses in Malagasy formed with *izay* (Keenan 1976):

- (62) a. izay manasa lamba
 REL wash clothes
 ‘who(ever) washes clothes’
 b. izay vakinao
 REL break.PASS.2SG
 ‘what(ever) you break’

I first point out two syntactic characteristics that *no* DPs share with headless relatives, supporting their headless relative clause status. I then discuss the distribution of *no* DPs and suggest that in this domain they do not behave like headless relative clauses. Their distribution is more restricted.

There are two unusual characteristics that *no* DPs share with *izay* headless relatives: they cannot be preceded by an overt determiner and the internal predicate may not be a DP. (63) illustrates that *izay* headless relatives cannot have an overt determiner preceding them.

- (63) *ny/ilay izay nihomehy
 the/that REL laugh
 (‘the/that one who was laughing’)

This is also true for *no* DPs. They also cannot be preceded by a determiner:

- (64) a. *iza [ny/ilay no nihomehy]?
 who the/that PRT laugh
 ('Who is the/that one who laughed?')
- b. *inona [ny no vaovao]?
 what the PRT news
 ('What's the news?')

Given the structure proposed in (57) for a headless relative with *no* in C°, this is perhaps surprising since the D° head is unoccupied. The fact that they share this property however suggests that *no* DPs are also headless relatives and the impossibility of an overt determiner is a general property of the structure. If (57) is roughly correct, there must be a null determiner that selects for headless relatives. While this may be stipulative, it appears to be a fact of the language.

The second property shared by *izay* headless relatives in (65) and *no* DPs in (66) is that the predicate within the (bracketed) relative clause cannot be a DP (see also Paul 2000:168):

- (65) *te hahalala [izay ny prezida] aho
 want know REL the president 1SG.NOM
 ('I want to meet the one who is the president')

- (66) a. *iza [no ny prezida]?
 who PRT the president
 ('Who is the president?')
- b. *an' iza [no ity boky ity]?
 to who PRT this book this
 ('Whose is this book?')
- c. *ho aiza [no ianao]?
 FUT where PRT 2SG.NOM
 ('Where will you be?')
- d. *aiza [no i Soa]?
 where PRT DET Soa
 ('Where is Soa?')

The predicates within the subject relative clauses of (66) are all DPs. This is clear when an overt determiner or framing demonstrative is present, (66a,b).¹⁵ It is also reasonably the case with pronouns, (66c), which are analyzed as determiners (Zribi-Hertz and Mbolatianavalona 1999 for Malagasy, Postal 1970, and Abney 1987). Names in Malagasy are also DPs with an obligatory determiner, either *i* as in (66d) or *ra-*, which is morphologically incorporated into some other names like *Rasoa*. The examples in (66) are all fully grammatical if *no* is removed, (56), in which case the DPs are subjects of the wh-predicates and there is no headless relative clause.

¹⁵ See Zribi-Hertz and Mbolatianavalona 1999 and Rajemisa-Raolison 1969 for discussion of Malagasy determiners.

These data show that the predicate in a headless relative cannot be a DP. While I have no satisfactory accounts of the two restrictions, the fact that they are shared by *no* DPs and *izay* headless relatives can be taken as evidence that the former are also headless relatives, as asserted by the pseudocleft analysis.

At the same time, a more obvious expectation concerning *no* DPs is that they will have the same external distribution as DPs and *izay* headless relatives.¹⁶ In fact, they do not. *No* headless relatives only appear in subject position, (67a), and not predicate, direct object, object of preposition or fronted topic positions, (67b,c,d,e).

- (67) a. iza no mihomehy SUBJECT
 who PRT laugh
 ‘Who is laughing?’
- b. *no mihomehy Rabe *PREDICATE
 PRT laugh Rabe
 (‘Rabe is the one who is laughing’)
- c. *mahalala [no mihomehy] aho *DIRECT OBJECT
 know PRT laugh 1SG.NOM
 (‘I know the one who is laughing’)
- d. *nipetraka tao ankaikin’ [no nihomehy] aho *P OBJECT
 sit there beside PRT laugh 1SG.NOM
 (‘I sat beside the one who was laughing’)
- e. *[no nihomehy] dia iza? *FRONTED TOPIC
 PRT laugh TOPIC who
 (‘As for the one who laughed, who is he?’)

Izay headless relatives are not so restricted in distribution, they can appear in a non-predicate position:

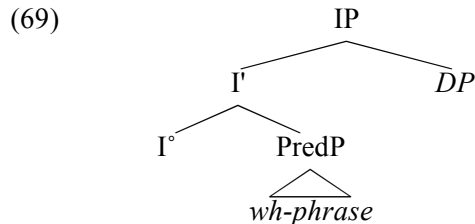
¹⁶ Cole, Hermon, and Aman to appear argues that some Malay wh-questions are clefts and that the subject is an unexceptional headless relative. Paul 2000 also notes the problem with Malagasy *no* and stipulates that *no* is restricted to equative clauses.

- (68) a. iza [izay mihomehy]? SUBJECT
 who REL laugh
 ‘Who is the one who is laughing?’
- b. *[izay mihomehy] Rabe *PREDICATE
 REL laugh Rabe
 (‘Rabe is the one who is laughing’)
- c. mahalala [izay mihomehy] aho DIRECT OBJECT
 know REL laugh 1SG.NOM
 ‘I know the one who is laughing’
- d. te hipetraka P OBJECT
 want sit
 eo ankaikin’ [izay hiresaka amiko] aho
 here beside REL talk with.1SG 1SG.NOM
 ‘I want to sit beside the one who will talk with me’
- e. izay mihomehy dia faly FRONTED TOPIC
 REL laugh TOPIC happy
 ‘The one who is laughing is happy’

If the pseudocleft analysis is correct, the distribution of *no* headless relatives is sharply restricted and this will need to be accounted for in future work.

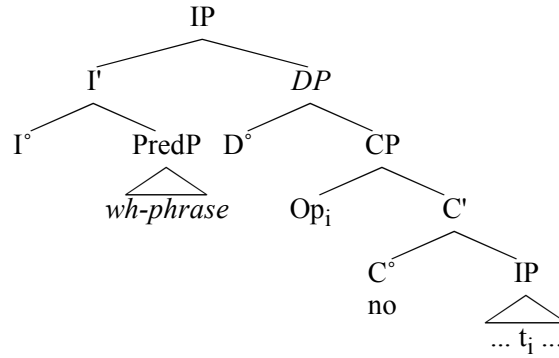
6 Conclusion

This paper has argued that *wh*-questions in Malagasy are base-generated pseudocleft structures. The initial *wh*-phrase is a predicate and the remaining material is the clause-final DP subject.



Having established the pseudocleft structure, a number of analytical details arose concerning the particle *no*. that appears when the subject DP is not a simple DP. I claimed that it is the complementizer head of a headless relative clause attached to the subject, as shown in (70). The *no* DP has some characteristics of other headless relatives in Malagasy but its distribution is more restricted.

(70)



Unlike English and other well-known Indo-European languages then, Malagasy does not employ *wh*-movement at all. Rather, it is like Chinese or Japanese in being a *wh*-in-situ language. *Wh*-phrases are either in-situ or they are predicates. Malagasy thus reraises a typological issue—one that has been addressed in many places, in numerous guises—namely, why do some languages make use of overt *wh*-movement while others do not?

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