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Malagasy framing demonstratives and the syntax of doubling

Ileana Paul, University of Western Ontario, Canada, ileana@uwo.ca

Eric Potsdam, University of Florida, United States, potsdam@ufl.edu

Malagasy demonstratives appear simultaneously initially and finally within the DP and must be identical: *ity boky ity* 'DEM book DEM' "this book". We argue that the unusual doubling pattern arises from multiple pronunciation of a single demonstrative formative and not from base-generation of two independent formatives. The primary goal is to show that doubling, which has been amply discussed in the verbal domain, particularly in the literature on verb doubling in predicate clefts, also occurs in the nominal domain and can be successfully analyzed with existing theoretical machinery.

1 Introduction

Doubling constructions in syntax present a particular challenge to the analyst. Why are some items pronounced more than once when most cannot be? There is a significant body of research on doubling constructions, but most are within the clausal domain.[1] Perhaps the best known is the predicate cleft construction, which occurs in a wide range of languages, and typically involves the pronunciation of the verb (phrase) in a clause-peripheral position as well as in the canonical, clause-internal position, as exemplified by the Spanish data in (1).

(1)　a.　**Leer**,　　Juan ha **leído** un libro
　　　　 read.INF Juan has read　a　 book
　　　　 'As for reading, Juan has read a book.'　　　　　(Vicente 2009: (1a))

　　　b.　**Leer**　　**el**　**libro**, Juan lo ha **leído**
　　　　 read.INF the　book　 Juan CL has read
　　　　 'As for reading the book, Juan has indeed read it.'　　(Vicente 2009: (10a))

This paper adds to the existing literature on doubling by looking at a case of DP-internal doubling: what we call framing demonstratives in the Merina dialect of Malagasy, where "framing" refers to the fact that the demonstratives "frame" all other material in the DP. Examples of such demonstratives are given in (2), where we have glossed the initial and final instances of the demonstrative as DEM1 and DEM2, respectively.

(2)　a.　**io**　　 boky **io**
　　　　 DEM1 book DEM2
　　　　 'this book'

　　　b.　**ireo**　saka telo　**ireo**
　　　　 DEM1 cat　 three DEM2
　　　　 'those three cats'

　　　c.　**izany** teny　mahatezitra izay nolazain-dRabe **izany**
　　　　 DEM1 word angry　　　 REL said-Rabe　　 DEM2
　　　　 'those angry words that Rabe said'

Framing is obligatory with demonstratives, with some exceptions to be discussed below.

　　This paper has two main contributions. First, it describes and analyzes the Malagasy framing demonstrative construction. Our analysis relies on proposals within the predicate cleft literature, specifically Saab (2017), and is successful in accounting for the core set of facts. The central claim

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[1] Some languages allow for possessor doubling within the DP (e.g. German; Weiß 2008) or determiner doubling (so-called Determiner Spreading) (see Alexiadou et al. 2007 for discussion of a range of languages). Tan (2022) reports a case of pronominal doubling within DP in Amarasi.

of the analysis is that doubling arises from a single syntactic representation of the demonstrative, not two independent representations. Although we do not explore alternatives, we believe that other movement-based analyses of the predicate cleft construction (e.g. Hein 2017; 2018; Arregi & Pietraszko 2021) could also account for the patterns. An important consequence is that doubling/copy constructions exist within the nominal domain. Second, despite a rich descriptive literature, Malagasy nominal syntax is almost completely unexplored (but see Zribi-Hertz & Mbolatianavalona 1999 and Ntelitheos 2012). This paper therefore provides novel proposals regarding the structure of noun phrases, including the syntax of demonstratives.

We begin in Section 2 with a descriptive overview of noun phrases in Malagasy, including a discussion of the distribution of demonstratives and the core properties we need to account for. Section 3 provides a structural analysis of Malagasy DPs, where the DP-internal word order is derived via Roll Up within the lexical domain, and this rolled up constituent then fronts to an inflectional position below DP. We also posit that the base position for demonstratives is low in DP, as the head of DemP just above the lexical domain. In Section 4, we explore two approaches to doubling/copy constructions and the framing demonstrative phenomenon: single representation and dual representation. The single representation derivation involves a single base-generated representation of the demonstrative. Our instantiation of the single representation involves long head movement of Dem-to-D. Adopting theoretical proposals in Saab (2017) leads to doubling of the demonstrative. In our dual representation alternative, there are two independent representations of the demonstrative. Although both approaches can account for the framing word order, Section 5 shows that only the single representation analysis can capture additional facts. Section 6 concludes.

2 Aspects of Malagasy nominals

Malagasy is a western Austronesian language spoken in Madagascar. In this paper we describe the Merina dialect of Malagasy, spoken in and around the capital city, Antananarivo. The Merina dialect, which is the basis for Standard Malagasy, is used in government and media. The unmarked word order is VOS, and the language is strongly head-initial. Word order in the Malagasy nominal is relatively rigid, obeying the generalization in (3). The nominal is head-initial, preceded only by determiner-like elements and demonstratives, discussed further below. As indicated in (3) and illustrated by the data above, the demonstratives are initial and final in the nominal. All other dependents follow the noun head in a relatively fixed order: adjective, possessor, numeral, quantifier, and relative clause.[2] Section 3 provides a more detailed discussion of the internal structure of the DP.

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[2] Ntelitheos (2012: 64) notes the restricted possibility of prenominal adjectives, which we do not indicate. We have seen some freedom in the ordering of adjectives and possessives and Ntelitheos (2012: 63) reports variation in the ordering of adjectives and numerals, neither of which we will attempt to document or account for.

(3)   *Malagasy DP word order* (modified from Ntelitheos 2012: 63)
        DEM1/DET N ADJ POSS NUM QUANT RC DEM2

This section provides an overview of the key elements in the noun phrase.

2.1 Determiner-like elements

Malagasy has two determiner-like elements. Conforming to the head-initial nature of the language, these articles appear in a DP-initial position. The default article *ny* is often translated as 'the', but the consensus is that it is not equivalent (Fugier 1999; Law 2006; Keenan 2008; Paul 2009; others). In addition to more usual definite uses, *ny* allows indefinite or novel readings, as illustrated in (4). There is no overt indefinite article.

(4)   a.   Lalina **ny** fitiavan' **ny** Malagasy maro an' ilay antoko vaovao
             deep   DET love   DET Malagasy many ACC DET party   new
             'The love that many Malagasy have for this new party is deep.'

        b.   Nokapohiko **ny** hazo
             hit.PASS.1SG DET tree
             'I hit a tree.'   (Fugier 1999: 16–17)

In addition to *ny*, there is an anaphoric article *ilay*, which Rajaona (1972) calls deictic. It is used when referring to objects that have been previously mentioned or are otherwise salient, as in (5) and (4a).

(5)   Te   hividy **ilay** fiara fotsy aho
        want   buy   DET   car   white 1SG.NOM
        'I want to buy that white car (one that we were talking about).'

While *ny* is unmarked for number, *ilay* is typically understood as singular. There are, however, cases where *ilay* is compatible with plural reference (B. Ralalaoherivony, p.c.), such as in (6).

(6)   Nalevina avy hatrany **ilay** omby roa maty
        buried   immediately DET   cow   two dead
        'The two dead cows were immediately buried.'

Singular and plural distinctions are overtly marked only on demonstratives.[3]

   We consider *ny* and *ilay* as determiner-like in part because they are in complementary distribution, (7a, b), and they do not have intransitive, pronominal uses, (7c). As we will see below, this distribution contrasts with the demonstratives.

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[3] Personal pronouns show number distinctions, but we do not discuss them here.

(7)   a.   Te   hividy **ilay/ny** fiara aho
           want buy   DET   car   1SG.NOM
           'I want to buy that/the car.'

      b. *Te   hividy {**ny   ilay**, **ilay ny**} fiara aho
           want buy   DET DET   DET DET car   1SG.NOM
           ('I want to buy the/that car.')

      c. *Te   hividy **ilay/ny** aho
           want buy   DET   1SG.NOM
           ('I want to buy that/the.')

2.2 Demonstratives

The demonstrative system in Malagasy is very rich, encoding not only distance (proximal, distal, and neutral) and number (singular and plural), but also visibility (visible and non-visible) and "boundedness". Bounded and unbounded indicate whether the space that the object occupies is seen as enclosed or open. There are also demonstratives for generics. As shown in **Tables 1** and **2**, adapted from Rajaona (1972: 633) and Imai (2003), some distinctions are leveled for certain forms (e.g. *ireto* is the plural, proximal demonstrative, but it is unmarked for bounded versus unbounded).

	Proximal		Distal			Neutral (but not near speaker)	
	bounded	**unbounded**	**close**		**very far**	**bounded**	**unbounded**
singular	ito	ity	itsy	iroa	iry	io	iny
plural	ireto		iretsy	ireroa	irery	ireo	ireny
generic	itony		itsony	irony			

Table 1: Visible demonstratives.

	Proximal		Distal			Neutral (but not near speaker)	
	bounded	**unbounded**	**close**		**very far**	**bounded**	**unbounded**
sing/pl	izato	izaty	izatsy	izaroa	izary	izao, izay	izany
generic	izatony		izatsony	izarony			

Table 2: Non-visible demonstratives.

The reader will note clear morphological regularities (see Rajaona 1972: 623–632 for some discussion), but we set those aside here, focusing instead on the external syntax of demonstratives.

As noted above, the framing pattern for demonstratives is required in Malagasy, with some exceptions to be discussed in 2.3. A second crucial fact about the framing demonstratives is that they must be identical. The initial and final demonstratives must be exactly the same, (8); we have not encountered any text or elicited examples where the demonstratives do not match.[4]

(8) a. **io**   boky **io/*ity/*iny/*itsy/*iroa/*iry/**etc.
         DEM1 book DEM2
         'this book'

     b. **ireo** boky **ireo/*ireto/*iretsy/*irery/*ireny/**etc.
         DEM1 book DEM2
         'those books'

Framing demonstratives are strictly initial and final in the nominal. They frame any dependents that occur in the nominal. We illustrate non-exhaustive possibilities in (9). (9a) shows framing of a noun, adjective, and possessor; (9b) shows framing of a noun, numeral, and PP modifier; and (9c) shows framing of a noun, quantifier, and relative clause. In no cases can either demonstrative appear internal to the nominal instead of in the peripheral positions.

(9) a. *possessor & adjective*
         io   akoho   (*io)   fotsin- (*io)   -dRasoa **io**
         DEM chicken DEM   white   DEM   Rasoa   DEM
         'this white chicken of Rasoa's'

     b. *number & PP modifier*
         ireo boky (*ireo) telo   (*ireo) momba ny   planety **ireo**
         DEM   book DEM   three   DEM   about DET planet   DEM
         'those three books about the planets

     c. *quantifier & relative clause*
         ireo fitsipika (*ireo) vitsivitsy (*ireo) izay tena   ilaina   **ireo**
         DEM   rule   DEM   few   DEM   REL   really needed DEM
         'those few rules which are very needed'

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[4] The one exception we have found is in Rajemisa-Raolison (1966: 53) and Dez (1980: 189), who give examples where DEM2 is not identical to DEM1. DEM2 in these cases is affixed with *-katra, -kitra,* and *-ana.* Note, however, that the base for the affixed form is in fact the same as DEM1 (*irery* in the example below). Our speakers do not accept the affixed forms, so we assume they are no longer in use. B. Ralalaoherivony p.c. tells us that *katra* is more common in other dialects, but has no specific meaning.

(i) Avy   any Antsihanaka irery omby vaventy ireri-katra
     come there Antsihanaka DEM1 cow   big   DEM2-??
     'Those big cows come from Antsihanaka.'   (Dez 1980: 189)

We have encountered two exceptions to this pattern, two elements that can exceptionally appear after the final demonstrative. The first is exceptive phrases that modify a DP and form a constituent with it, which must occur after the final demonstrative, (10). The second case is non-restrictive relative clauses, which may optionally appear after the final demonstrative, (11).[5] We assume that, in both instances, the modifier must or can adjoin to the right of the nominal, which will place it strictly final under most any structural analysis.

(10) **ireo** vahiny rehetra **ireo** afa-tsy Rasoa (*ireo)
       DEM guest all   DEM except Rasoa   all
       'all the guests except Rasoa'

(11) a. **ity** varavarana (**ity**) izay nolokoina mena (**ity**)
           DEM door   DEM REL painted   red   DEM
           'this door, which is painted red'

      b. Nahatsiaro menatra i Koto, raha nifanena tamin' **ireny** mpianatra
          remember   shame   Koto when meet   with   DEM   student
          namany   **ireny** izay efa   tsy azony   nandosirana intsony
          friend.3SG.GEN DEM   REL already NEG can.3SG.GEN flee   anymore
          'Koto felt embarrassed when he came across these students, his friends, who he
          could no longer avoid.'   (Fugier 1999: 190)

We have nothing more to say about these cases as they do not appear to have any implications for the correct analysis of the framing pattern.

2.3 Non-framing uses of demonstratives

The demonstratives have three non-framing uses which we discuss here. First, the most prominent non-framing use is what we will call the pronominal function, or pronominal demonstratives. The demonstrative appears alone, unmodified, and cannot be doubled, (12).[6] All demonstratives can appear in this use as far as we are aware, and they can appear in any position where DPs can appear (e.g. subject, object, object of a preposition).

(12) a. Te   hihinana an' **ity/io/itony/iretsy/irery/**etc. aho
          want eat   ACC DEM   1SG.NOM
          'I want to eat this/that/these/those.'

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[5] Note that the second demonstrative in (11a) appears either before the relative clause or after. It is not possible to have three demonstratives within a single DP.

[6] As noted by a reviewer, the ungrammaticality of (12b) could be due to a constraint on adjacent homophonous elements. Keenan (1976: 252) shows this constraint applies to Malagasy pronouns. See Section 5 for our account of the lack of doubling with pronominal demonstratives.

    b. *Te   hihinana an' **ity** **ity** aho
        want eat   ACC DEM DEM 1SG.NOM
        ('I want to eat this.')

Cross-linguistically, this is a common use of demonstratives (Alexiadou et al. 2007: 95); nevertheless, it is perhaps surprising that pronominal demonstratives are never doubled, where they might be framing a null noun. Accounting for this pattern will be important in the analyses to follow.

Second, a lone final DEM2 demonstrative is sometimes possible if the initial determiner is *ilay*, (13). The interpretation of such nominals combines the anaphoric meaning of *ilay* with the parameters of number, visibility, distance from the speaker, and boundedness of the demonstrative that is used. Rajaona (1972: 686) indicates that *ilay* is only compatible with [+visible] demonstratives but not those that are [–visible], except for *izay*. We have not systematically investigated which demonstratives are possible in this context.

(13)   a. Te   hividy **ilay** fiara fotsy **ity**   aho
           want buy   DET car   white DEM 1SG.NOM
           'I want to buy that white car (which we previously discussed and is near the speaker).'

       b. Nanamboatra lakana **ilay** lehilahy **iny**
           fixed   boat   DEM man   DEM
           'That man (that we already talked about but cannot see) fixed the boat.'

       c. **Ilay** fiara frantsay **io**   dia lafo   be
           DET car   French DEM TOP expensive very
           'This French car is very expensive.'

The presence of *ilay* precludes the framing pattern. Only the final instance of the demonstrative is possible:

(14)   a. *Te   hividy (***ity**) **ilay** (***ity**) fiara fotsy **ity**   aho
           want buy   DEM DET   DEM   car   white DEM 1SG.NOM
           'I want to buy that white car.'

Ilay can cooccur with DEM2 without any intervening nominal material:

(15)   a. Tsy matahotra haizina mihitsy **ilay** **iry**
           NEG fear   darkness at.all   DET DEM
           'That person is not afraid of the dark at all.'

       b. **Ilay** **io**   dia lafo   be
           DET DEM TOP expensive very
           'This one is very expensive.'

Turning to *ny* 'DET', a demonstrative can never cooccur with *ny*, with or without nominal material, (16).

(16) a. *Te   hividy **ny** fiara fotsy **ity**   aho
      want buy   **DET** car white **DEM** 1SG.NOM
      ('I want to buy that white car.')

    b. *Te   hividy {**ny** **ity**, **ity** **ny**} fiara fotsy **ity**   aho
      want buy   **DET DEM DEM DET** car white **DEM** 1SG.NOM
      ('I want to buy that white car.')

    c. *Te   hividy {**ny** **ity**, **ity** **ny**} aho
      want buy   **DET DEM DEM DET** 1SG.NOM
      ('I want to buy that one.')

Malagasy has a null determiner, which is possible in object position, (17a); however, DEM2 is not possible here either, (17b).[7]

(17) a. Te   hividy **ø**   fiara fotsy aho
      want buy   **DET** car white 1SG.NOM
      'I want to buy a white car.'

    b. *Te   hividy **ø**   fiara fotsy **ity**   aho
      want buy   **DET** car white **DEM** 1SG.NOM
      ('I want to buy that white car.')

Finally, we have determined that some initial DEM1 demonstratives can appear alone, without DEM2. This option is both lexically and idiolectally restricted in that most demonstratives are not possible in this pattern and the ones that are possible vary among speakers. All our speakers accept the proximal and neutral plural demonstratives *ireto* and *ireo* in this pattern, (18a). Some speakers accept the corresponding singular demonstratives, *ity* and *io*, as well, (18b). No speakers that we have consulted accept any of the other demonstrative as a lone DEM1, (18c).[8]

(18) a. ireto/ireo   boky
      DEM1.PL.NEAR/NEUTRAL   book
      'these books'

    b. %ity/io   boky
      DEM1.SG.NEAR/NEUTRAL   book
      'this book'

    c. *iny/itsy/iroa/iry/ireny/iretsy/ireroa/irery/etc.   boky
      DEM1   book
      ('that/those book(s)')

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[7] See Paul (2009) for discussion of the contexts in which *ny* is not required and the resulting interpretations.

[8] Rajaona (1972: 686–687) indicates that [+visible] demonstratives whose intervocalic consonant in the singular is not zero or *-n-,* but not *itsy/iretsy*, are permitted in this pattern. For [–visible] demonstratives, Rajaona indicates that only *izato/izatsy/izany* are possible. Our empirical findings are more restrictive.

We analyze these cases as a reanalysis of certain demonstratives as determiners (Rajaona 1972). This reanalysis is subject to inter-speaker variation, and we set it aside for the purposes of this paper.

2.4 Against DEM2 as a reinforcer

Before continuing to our analysis, we would like to dismiss treating DEM2 as a demonstrative reinforcer. There is a rich literature on demonstrative-reinforcer constructions in Germanic and Romance languages, exemplified in (19) (Brugè 1996; Bernstein 1997; Leu 2007; 2008; Roehrs 2010).

(19) a. *English*
          this here house
      b. *French*
          ce   livre rouge-ci
          DEM   book   red-here
          'this red book'

      c. *Spanish* (Brugè 1996)
          el   libro viejo este   de aquí
          the book   old   DEM   of here
          'this old book'

Despite superficial similarity between Malagasy framing demonstratives and demonstrative reinforcers, we believe that the two are distinct phenomena. There are notable differences between framing demonstratives and reinforcers. First, demonstrative doubling in Malagasy always involves identical demonstratives, while in the reinforcer construction, the demonstrative and reinforcer are always morphologically distinct vocabulary items. Second, reinforcers are optional, while in Standard Malagasy doubling is typically required.[9] Third, reinforcers are dependent upon the demonstrative and never appear without it, but we have seen that DEM2 can be licensed by the non-demonstrative determiner *ilay*. Fourth, demonstrative pronouns themselves can be reinforced, as illustrated in the French example in (20); however, we have seen that pronominal demonstrative doubling is impossible in Malagasy.

(20) *French* (Bernstein 1997: 91)
      celui-ci
      this.one-here
      'this here'

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[9] The reinforcer is obligatory in colloquial Swedish (Bernstein 1997: 91) and Québec French (J. Royer p.c.).

Fifth, reinforcers are typically locative elements (e.g. *here, there*) but DEM2 in the doubling construction must be a demonstrative, not a locative.[10] Finally, the position of reinforcers with respect to the head noun varies across languages, as can be seen in the examples in (19), but even in languages where the reinforcer appears to be final (French and Spanish), it precedes possessors and PP modifiers, as in the French examples in (21). The equivalent of (21a) is ungrammatical in Malagasy, as DEM2 must be strictly final (see Section 2.2).

(21)   *French* (Brugè 2002: 38)
   a.   ce   livre-**ci**   de Jean
        DEM book-here   of Jean
        'this here book of Jean's'

   b.   *ce   livre de Jean **ci**
        DEM book of Jean here

Thus, notwithstanding some points of resemblance, framing demonstratives and reinforcers are syntactically distinct and we do not unify the two.

2.5 Summary

In Section 4, we will be concerned with accounting for the empirical generalizations introduced above and summarized in (22), which we take to be the core facts regarding Malagasy framing demonstratives.

(22)   a.   DEM1 must be strictly initial and DEM2 must be strictly final
       b.   DEM1 and DEM2 must be identical
       c.   All demonstratives can be used pronominally but cannot be doubled in this use
       d.   Lone DEM2 is compatible with *ilay* but not *ny* or a null determiner

Before turning to possible analyses of these patterns, we first lay out a proposal for the structure of the Malagasy DP.

3 Malagasy nominal structure

There is very little work on the structure of Malagasy nominals. We are aware only of Ntelitheos (2005; 2006; 2010; 2012) on nominalizations, and Zribi-Hertz & Mbolatianavalona (1999) and

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[10] Demonstratives in Malagasy are morphologically related to locatives. Malagasy has an equally rich inventory of locative pronouns which are related to the singular demonstratives in **Table 1** through replacement of the initial vowel. For example, the demonstrative *ity* 'this' is related to the locatives *ety* 'here' and *aty* 'there' via a change in the initial vowel (see Rajaona 1972: 613–632 and Imai 2003 for discussion).

Paul & Travis (2022) on Malagasy personal pronouns. Consequently, we need to develop a preliminary picture of Malagasy nominal syntax before continuing.

As repeated in (23), Malagasy nominals are head-initial, with dependents arraying after the head noun in an order that is roughly inverse with respect to English.

(23)   *Malagasy DP word order* (modified from Ntelitheos 2012: 63)
        DEM1/DET N ADJ POSS NUM QUANT RC DEM2

This inverse ordering with respect to English is also seen in the domain of adjectives, although there is considerable freedom and speaker variation that we have not systematically explored. To first approximation, we take the unmarked order of adjectives to be (24) and illustrated by the data in (25).

(24)   *Malagasy adjective word order*
        N ≻ NATIONALITY ≻ COLOR ≻ SHAPE ≻ SIZE ≻ QUALITY

(25)   a. fiara italiana mahafinaritra
            car   Italian   nice
            'a nice Italian car'   NATIONALITY ≻ QUALITY

        b. fioze amerikanina lehibe
            gun   American   big
            'a big American gun'   NATIONALITY ≻ SIZE

        c. voankazo maintso mamy
            fruit   green   sweet
            'a sweet green fruit'   COLOR ≻ QUALITY

        d. latabatra fotsy boribory
            table   white round
            'a round white table'   COLOR ≻ SHAPE

        e. baolina boribory ngeza
            ball   round   big
            'a big round ball'   SHAPE ≻ SIZE

In what follows we propose a structure for Malagasy nominals that has three components: i) a spine of functional projections extending from the lexical NP at the base to DP at the top (Section 3.1), ii) a Roll Up derivation in a subdomain of the nominal that obtains the inverse ordering of modifiers seen above (Section 3.2), and iii) a Nominal Fronting movement that derives the positioning of the final demonstrative (Section 3.3). We develop each of these in turn. Section 3.4 shows that there are substantive parallels between our proposed nominal structure and the structure of Malagasy clauses.

3.1 The nominal spine

We propose the basic structure for Malagasy nominals in (26).

(26)

```
DP
 \
  D'
 / \
D   NIP
     \
      NI'
     /  \
   NI   DemP
          \
          Dem'
         /   \
       Dem    XP
             /  \
           RC    X'
                /  \
               X    YP
                   /  \
                 AP₁   Y'
                      /  \
                     Y    ZP
                        /   \
                      AP₂    Z'
                            /  \
                           Z    NP
                                 |
                                 N
```
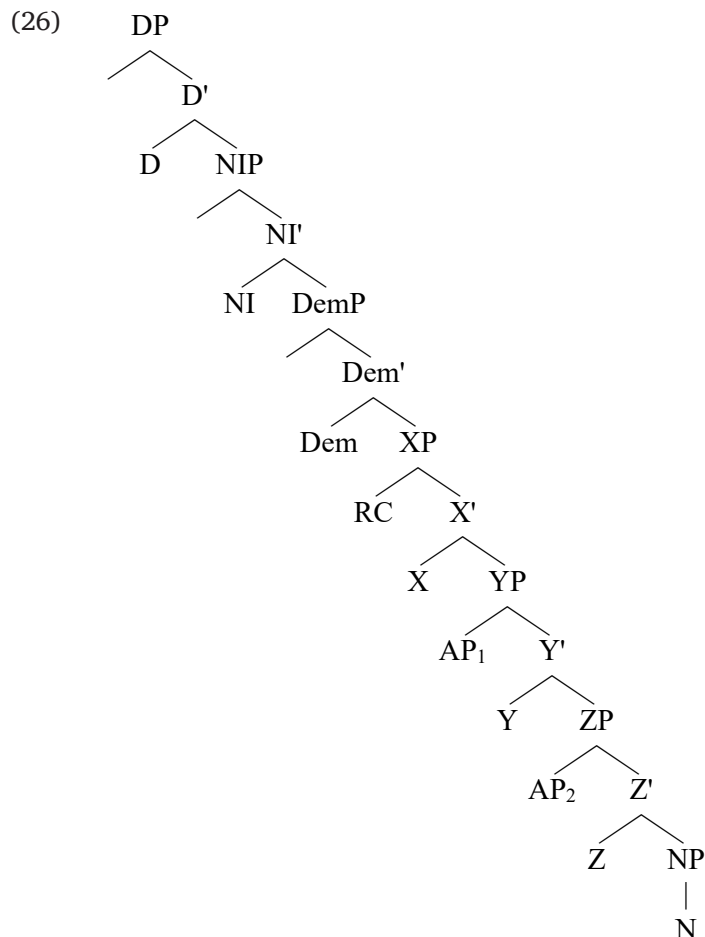
The nominal is built on an NP, which will contain the lexical head. Above this NP is a series of functional projections which will introduce the various modifiers: relative clauses, quantifiers, numerals, a possessor, and adjectives. Because the focus of the paper is on the analysis of demonstratives, we will not develop a specific proposal for most of these dependents. We will take adjectives (AP) and relative clauses (RC) as representative in order to illustrate our proposal. We assume that they are introduced in specifiers of functional projections above NP (Cinque 2010; 2020), labeled XP, YP, and ZP, above. The topmost projection, XP, is roughly equivalent to PredP/vP in the clausal domain, containing the head noun, its arguments, if any, and diverse modifiers.

Above XP we posit a Dem(onstrative)P(hrase) where demonstratives will originate (Bernstein 1997; Giusti 1997; 2002; Pangiotidis 2000; Brugè 2002; Shlonsky 2004; Roehrs 2010; Cinque 2010; 2020; and others). We will have more to say about the syntax of demonstratives, DemP,

and its position after spelling out the remainder of the nominal spine. DemP is dominated by a nominal inflectional projection, labeled NIP, whose more precise identity, if it has one, we will not attempt to determine. While Zribi-Hertz & Mbolatianavalona (1999) identify this projection as Num(ber)P, we will not give it that specific label as we believe it may contain more general inflectional information, beyond number.[11] We consider NIP to be equivalent to IP in the clausal domain. In some languages, for example those without tense morphology, IP is a more suitable label for the main inflectional head in a clause compared to T(ense)P that has become standard. Finally, NIP is dominated by D(eterminer)P, following much work within the DP Hypothesis (Abney 1987, inter alia), which we adopt. We view the projections above XP (DemP through DP) as an inflectional domain, roughly equivalent to the projections between vP and CP in the clausal domain.

Returning to the syntax of demonstratives, there are at least two dominant families of analysis in the literature. In the determiner analysis, demonstratives are a kind of determiner. Within the DP Hypothesis, they are base-generated in D, at the top of the nominal spine. The determiner analysis is driven by languages such as English in which determiners and demonstratives are in complementary distribution. Placing demonstratives in the same structural position as determiners straightforwardly accounts for this fact (Jackendoff 1977). On the other hand, the analysis faces several empirical and conceptual difficulties. First, there are languages, such as Greek, in which the two are not in complementary distribution, (27).

(27)   *Greek* (Alexiadou et al. 2007: 76)
        afti i   ghata
        this the cat
        'this cat'

Second, the demonstrative is a universal category while determiner is not. There are many languages that lack determiners, most famously the Slavic languages, but none that lack demonstratives (Diessel 1999; Alexiadou et al. 2007: 95). Assigning them to the same position does not yield an immediate explanation for why such an asymmetry might exist. Third, demonstratives can be used intransitively (i.e., pronominally) while determiners generally cannot be (Alexiadou et al. 2007: 95). Finally, the interpretation of demonstratives is different from determiners (Diessel 1999: 35–55; Alexiadou et al. 2007: 98–104).

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[11] For Zribi-Hertz & Mbolatianavalona (1999), the presence or absence of NumP plays an important role in their analysis of pronouns. More specifically, only pronouns lacking NumP can be bound variables.

Responding to these differences, researchers have defended some version of the DemP analysis we adopted above. Demonstratives are base-generated in a lower position in the nominal spine. Cartographic principles or language-specific facts determine the location of DemP. Demonstratives may be phrasal and occupy spec,DemP and/or be heads in Dem. Both options have been proposed in the literature. Either of these elements may ultimately move to a higher position, such as spec,DP or D. Thus, there is a rather large family of DemP-based analyses, schematized in (28), depending upon the base and surface position(s) of the demonstrative and the movements posited within the nominal. We will develop two such analyses for Malagasy below. DP

(28)
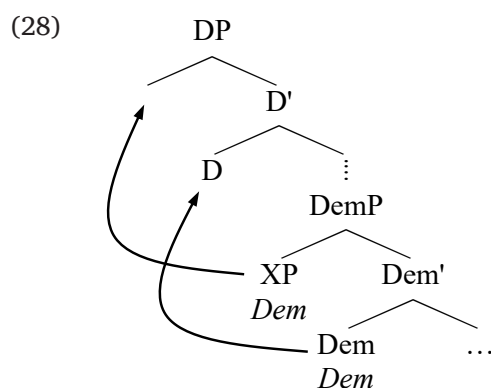
With this much in place, we develop a derivation for Malagasy nominals.

3.2 Roll Up

We assume that the inverse ordering of adjectives and relative clauses is achieved through Roll Up in the XP domain in (26). Assuming a universal base-generated order of adjectives as in English (quality > size > shape > color > nationality), Roll Up will yield the inverse ordering of adjectives, (24). Following Cinque (2005; 2010), relative clauses may be generated in leftward specifiers above the adjectives. Continued Roll Up will place the relative clause on the right.

A Roll Up, or Snowball, derivation consists in moving a constituent C_1 to a position above a modifier M_1 and then moving a constituent C_2 that properly contains C_1 and M_1 to a position above another modifier M_2. The movement carries along C_1 and M_1 in an inverse order. As each subsequent, larger constituent moves, it picks up a modifier on its right. We illustrate for an example with two adjectives, AP_1 and AP_2, and a RC. The base-generated order seen in (26) is $RC > AP_1 > AP_2 > N$. The word order resulting from Roll Up is the inverse $N > AP_2 > AP_1 > RC$, (29).

The derivation has an underlying structure as in (26) above. The first movement, labeled ①, moves NP to the (outer) specifier of ZP, above AP_2. This achieves the ordering N > AP_2. This constituent ZP then undergoes movement, labeled ②, to the (outer) specifier of YP, placing ZP to the left of AP_1 and deriving the order N > AP_2 > AP_1. Finally, YP moves to the (outer) specifier of XP, above RC. This movement is labeled ③. This yields the desired inverse order N > AP_2 > AP_1 > RC, seen in the bold-faced elements.

(29)

3.3 Nominal Fronting

We now turn to the framing word order. We assume that the determiner-like elements *ny* and *ilay* reside in D and that demonstratives are in Dem. This requires that all other nominal material move to a position between D and Dem. Consequently, we posit Nominal Fronting, which moves the Rolled Up XP constituent to a position between D and DemP, which we identified above as

spec,NIP (see Zribi-Hertz & Mbolatianavalona 1999; Ntelitheos 2012). Continuing the schematic derivation from (29), XP moves to spec,NIP, yielding the structure in (30).

(30)

The derivation above could correspond to the following nominal:

(31)   ilay   voankazo   maitso   mamy   izay   nohaniko   ity
         D   N   AP$_2$ AP$_1$ RC   DEM2
         DET   fruit   green   sweet   REL   eat.1SG.GEN   DEM
         'that sweet green fruit that I ate'

Moving forward, the details of the Roll Up structure will not be relevant to the analysis of framing demonstratives, and we will replace XP with NP, regardless of its structural make up, even when it contains modifiers. We therefore remain agnostic about the category label, but assume it is the highest projection in the nominal lexical domain. Thus, for the demonstrative-modified nominal in (32), we use the representation in (33).

(32)   ilay   fiara   fotsy   ity
         DET   car   white   DEM
         'this white car'

(33)

We will return to the motivation for Nominal Fronting in Section 4, where we discuss the derivation of framing demonstrative examples. Before turning to such examples however, we situate our proposal in the larger context of Malagasy phrase structure.

3.4 Comparison to Malagasy clause structure

The derivation of Malagasy nominals involves the following pieces:

(34)   a.   a nominal spine consisting minimally of DP > NIP > (DemP) > NP
       b.   Roll Up inside NP
       c.   Nominal Fronting: movement of NP to spec,NIP

This section briefly shows that our derivation for Malagasy nominals has parallels to the structure proposed for clauses, which typically posit both a Roll Up process low in the structure and fronting of the Rolled Up constituent to a higher, left peripheral specifier.

A Roll Up derivation in the clausal domain has been proposed for two independent purposes in Malagasy. First, Pearson (2000) uses Roll Up to achieve an inverse ordering of double objects compared to English, (35).

(35)   Nanolotra ny   dite ny   vahiny ny   zazavavy
        offered   DET tea DET guest   DET girl
        'The girl offered the guests the tea.'   (Pearson 2000: 329)

Second, Rackowski (1998), Rackowski & Travis (2000), and Pearson (2000) show that the order of preverbal adverbial elements in Malagasy patterns with English and Cinque's (1999) adverbial hierarchy; however, postverbal adverbials appear in the mirror order. The latter is again achieved via Roll Up. See those references for data. Thus, there is a parallel in the clausal domain for this movement. It takes place in the lower part of the clause, typically identified as vP/PredP. What we have called XP is the nominal equivalent of this phrase.

Nominal Fronting is roughly parallel to Predicate Fronting in the clausal domain. Predicate Fronting derives predicate-initial word order (VOS) from an underlying SVO ordering (see Massam & Smallwood 1997; Rackowski & Travis 2000; Pearson 2001; 2018; Aldridge 2004; Cole & Hermon 2008; Travis & Massam 2021; among others for discussion and motivation). There is a significant amount of literature that derives Malagasy's predicate-initial word order from an operation that moves the predicate (the verb plus all complements) to a high position in the clause. In other words, a sentence such as (36), has the structure schematized in (37), although the precise details of the category of the moved element and the position it moves to vary among authors.

(36)　Nanasa　lamba　Rabe
　　　washed　clothes　Rabe
　　　'Rabe washed clothes.'

(37)　[$_{XP}$　[$_{PredP}$　nanasa　lamba]$_i$　[$_{TP}$　Rabe [t$_i$]]]
　　　　　　　　　washed　clothes　　　　Rabe

We believe that the parallels between our nominal structure and that typically posited for clauses provide indirect evidence for our proposal.

Having discussed Roll Up and Nominal Fronting within DP, we turn to the framing demonstratives. Section 4 presents two different approaches to syntactic doubling in the literature—single versus dual representation—and applies them to the Malagasy case. Section 5 then argues for the single representation analysis.

4 Two approaches to demonstrative doubling
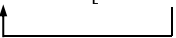
COPY CONSTRUCTIONS are morphosyntactic phenomena in which two similar or identical syntactic elements, X1 and X2, identified with a single interpretation are both pronounced. There is a wide range of copy constructions and selected examples are given below.

(38)　COPY RAISING
　　　He seems like he is in trouble.

(39)　COPY CONTROL
　　　San Lucas Quiaviní Zapotec (Lee 2003: 102)
　　　R-cààa'z　Gye'eihlly　g-auh　Gye'eihlly　bxaady
　　　HAB-want　Mike　　IRR-eat　Mike　　　grasshopper
　　　'Mike wants to eat grasshopper.'

(40)　VERB DOUBLING
　　　Vata (Koopman 1984)
　　　Lī　à　lī-dā　zué　　sàká
　　　eat　1PL　eat-PST　yesterday　rice
　　　'We ATE rice yesterday.'

(41)   WH-COPYING
      Afrikaans (Du Plessis 1977: 725)
      Waarvoor dink julle waarvoor werk ons?
      wherefore think you wherefore work we
      'What do you think we are working for?'

When faced with a copy construction, syntacticians typically resort to one of two approaches, what we will call the single representation approach and the dual representation approach.

In the SINGLE REPRESENTATION approach, one representation of X is generated in the structure. X moves to a new position or positions and two (or more) pieces of the movement chain(s) created are pronounced.[12]

(42)   [… X1   … [… X2 …]]

With the replacement of trace theory by the Copy Theory of Movement (CTM) (Chomsky 1993), in which movement leaves behind identical copies of the moving element rather than null traces, such constructions have received greater attention. They provide support for the CTM because they potentially show the pronunciation of multiple chain links/copies. Such analyses are typically called Multiple Copy Spell Out (MCSO). Assuming the CTM, some principled mechanism to determine when multiple copies can be pronounced is required, as the dominant pattern in movement constructions is to pronounce only the highest copy; however, little else is necessary. There are several theories for determining which copies are pronounced in a complex chain, some of which are capable of handling MCSO (see Pesetsky 1998; Fox & Nissenbaum 1999; Bobaljik 2002; Nunes 2004; Kandybowicz 2008; and others for copy pronunciation strategies). Single representation analyses of the above copy constructions dominate the literature and include Copy Raising (Rogers 1974; Joseph 1976; McCloskey & Sells 1988; Déprez 1992; Moore 1998; Ura 1998), Copy Control (Lee 2003; Boeckx et al. 2007; Haddad 2009), Verb (Phrase) Doubling (Koopman 1984; Abels 2001; Landau 2006; Cheng 2007; Martins 2007; Bleaman 2022), and Wh-Copying (Du Plessis 1977; McDaniel 1989; Fanselow & Mahajan 2000; Felser 2004; Bruening 2006).

An alternative analysis of copy constructions is what we call the DUAL REPRESENTATION approach. In this analysis, the two similar elements are base-generated separately. They are linked by an interpretive mechanism such as coindexation or a syntactic mechanism such as feature matching.

(43)   [… X1$_i$ … [… X2$_i$ …]]

Dual representation analyses exist for some of the above constructions: Copy Raising (Potsdam & Runner 2001; Landau 2011) and Verb (Phrase) Doubling (Cable 2004; Antonenko 2018; Muñoz-Pérez & Verdecchia 2022). Two doubling constructions that are widely analyzed with dual representation are Hanging Topic Left Dislocation (Aissen 1992; Hirschbühler 1997; de Cat 2007;

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[12] Travis (2003) and Müller (2021) propose a variant of the single representation analysis, where doubling arises due to reduplication.

Sturgeon 2008; Polinsky & Potsdam 2014), and Prolepsis (Davies 2005; Salzmann 2006). Dual representation constructions typically terminate in a pronominal copy rather than identical copy.

In sections 4.1 and 4.2, we develop single and dual representation analyses for the Malagasy framing demonstrative construction. Looking ahead, Section 5 provides evidence in support of the single representation analysis. We argue that the two demonstratives are realizations of one base-generated element.

4.1 Single representation analysis

This section presents a single representation analysis of Malagasy framing demonstratives. We first lay out our proposed derivation and then present the machinery, from Saab (2017), that results in demonstrative doubling.

As a reminder, (44) contains our assumptions about Malagasy nominal structure.

(44)   a.   a nominal spine consisting minimally of DP > NIP > (DemP) > NP
       b.   Roll Up inside NP
       c.   Nominal Fronting: movement of NP to spec,NIP

To the framing demonstrative example in (45), we assign the structure in (46). In addition to Nominal Fronting of NP to spec,NIP, there is head movement of Dem to D.

(45)   io   boky   io
       DEM1   book   DEM2
       'this book'

(46)
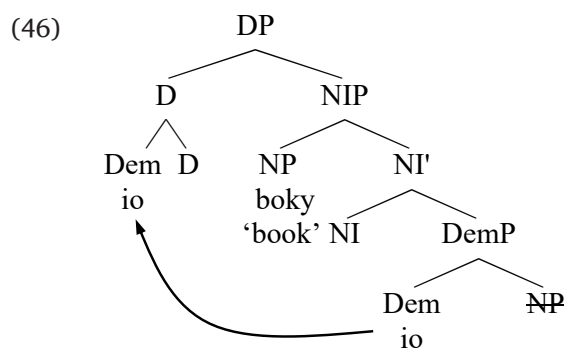
We follow Harizanov & Gribanova (2019), which argues that there are two types of head movement: syntactic head movement and post-syntactic morphological amalgamation. The former is a syntactic operation with syntactic properties and subject to syntactic restrictions. Our Dem-to-D is clearly of this type and has a number of its characteristics (Harizanov & Gribanova 2019): i) it affects word order, ii) it is not morphologically driven, iii) it does not result in word formation, iv) it is *not* governed by the Head Movement Constraint (HMC, Travis 1984) and can skip other heads, and v) it is driven by whatever is assumed to drive syntactic movement (i.e. Agree, feature checking, or a generalized EPP). Of particular note is the claim in iv) that syntactic head movement does not obey the HMC, potentially resulting in what has been called LONG HEAD MOVEMENT. Our Dem-to-D is an instance of long head movement. Much recent work (Lema &

Rivero 1990; Rivero 1994; Matushansky 2006; Roberts, 2010; Harizanov & Gribanova 2019; Arregi & Pietraszko 2021; others) has argued for the empirical necessity and theoretical viability of long head movement and we follow these works and others in assuming that it is allowed.[13]

We drive Dem-to-D movement with a strong Dem feature, [uDem*], on D. If D bears this feature, Dem will move to D. If there is no Dem in the derivation with this D head, it will crash. There are other D heads in Malagasy which do not bear this feature and result in D being spelled out as *ilay* or *ny* according to the vocabulary insertion rules in (47). This correctly derives the low position of the demonstrative and the lack of framing in (48), which has the structure we previously assigned in (49).

(47) a. ø   ↔ [uDem*, referential]
      b. *ilay* ↔ [anaphoric, referential]
      c. *ny*   ↔ elsewhere[14]

(48) (*ity) ilay (*ity) fiara fotsy ity
        DEM   DET   DEM   car   white DEM
      'that white car'

(49)
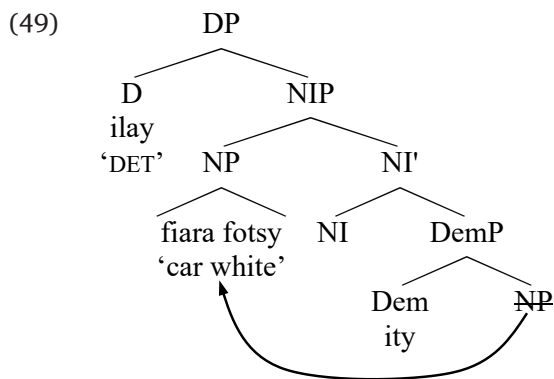
As previously discussed, Nominal Fronting is akin to Predicate Fronting in the clausal domain. Massam & Smallwood (1997), Pearson (2001), Massam & Travis (2021), and others invoke an EPP feature on a functional head (e.g. T) that drives Predicate Fronting, and we will simply stipulate that Nominal Fronting is driven by an EPP feature on NI, requiring that its specifier be filled.

We now turn to the theoretical machinery that results in double pronunciation of the demonstrative in (46). Saab's (2017) I-assignment mechanism was developed to account for

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[13] Such long head movement differs from A' head movement (Koopman 1984; Matushansky 2006; Vicente 2009; Hein 2017; others) in its landing site. A' head movement targets a specifier, in this case spec,DP. Our analysis could be recast in terms of A' head movement but would necessitate revising Saab's (2017) machinery below slightly. Alternatively, A' head movement of X to spec,YP could be followed by Matushansky's (2006) m(orphological)-merger, which merges the heads X and Y into a single constituent, yielding the same structure as above. For simplicity, we continue to show head movement to a head position.

[14] See Paul (2009) for conditions under which *ny* can be realized as null. We ignore that complication in the formulation of our vocabulary insertion rules.

verb doubling in the Predicate Cleft (PC) construction. The PC is a widely discussed doubling construction in the clausal domain. PCs consist of a fronted verb or verb phrase resumed by a lower copy or morphologically similar copy of the verb. PCs have received a great deal of attention in the literature since Koopman's (1984) work on Vata. Examples from typologically-diverse languages are given in (50).

(50) a. *Russian* (Abels 2001: (1))
           Čitat'   (-to) Ivan eë   **čitaet** (no ničego   ne ponimaet)
           read.INF TO   Ivan it.FEM.ACC reads   but nothing not understands
           'Ivan does read it (but he doesn't understand a thing).'

      b. *Yiddish* (Bleaman 2022: (2))
           Red-n   mame-loshn   **red**   ikh
           speak-INF mama-language speak.1SG I
           'As for speaking Yiddish, I speak it.'

      c. *Hebrew* (Landau 2006: (1))
           Lirkod   Gil lo **yirkod**   ba-xayim
           dance.INF Gil not dance.FUT in.the-life
           'As for dancing, Gil will never dance.'

      d. *Nupe* (Kandybowicz 2008: 101, (28b))
           Bi-ba   Musa **ba** nakàn o
           cut~cut Musa cut meat   FOC
           'It was CUTTING that Musa did to the meat.'

      e. *Vata* (Koopman 1984: 38, (50))
           lī   Ò   dā   sàká **lī**
           eat s/he PERF.AUX rice   eat
           'She has EATEN rice.'

Saab (2017), building on Saab (2008), analyzes the PC in Romance and argues that multiple copies of the verb arise due to the conditions that determine copy pronunciation. He proposes the notion of I-Assignment to achieve this. I-Assignment assigns a feature [I] to certain constituents that then blocks Vocabulary Insertion to that constituent at PF. There are two kinds of I-Assignment, phrasal and head. Phrasal I-Assignment occurs in the syntax under familiar conditions, namely, c-command. Head, or Morphological, I-Assignment occurs at PF.

Phrasal I-Assignment is defined as follows, where for Saab's purposes, chain links count as identical.

(51) *Phrasal I-Assignment in the syntax (simplified version)* (Saab 2017: (54))
      A copy C is I-Assigned if and only if there is an antecedent copy AC for C, such that
      i.   AC and C are identical, and
      ii. AC c-commands C

I-Assignment to heads occurs at PF under morphological considerations:

(52)   *Morphological I-Assignment (Head Ellipsis)* (Saab 2017: (75))
      Given a Morphosyntactic Word (MWd) Y^0, assign a [I] feature to Y^0 if and only if there is a node X^0 identical to Y^0 contained in an MWd adjacent or immediately local to Y^0 (where the notion of containment is reflexive).

Following Embick & Noyer (2001: 574), Y^0 is a Morphological Word (MWd) if and only if Y^0 is the highest segment of an X^0 not contained in another X^0. Morphological I-Assignment has the effect of marking for deletion any MWd that is either i) linearly adjacent to an identical head or ii) structurally immediately local to an identical head, where immediate locality is the relation between a head and the head of its complement.

     Consider how I-Assignment, in particular Morphological I-Assignment, leads to demonstrative doubling in the structure repeated below. The relevant MWd Y^0 which could be targeted for I-assignment is Dem in its base position. Given (52), [I] would be assigned to this lower Dem if and only if it is adjacent or immediately local to an MWd containing another instance of Dem, the X^0. Neither of these conditions is met. The two Dems are not adjacent because the NP *boky* intervenes. The lower Dem is also not local to D because D does not select DemP as its complement: NIP intervenes. As a result, the base position of Dem is not assigned an [I] feature and both instances of Dem are pronounced at PF.

(53)
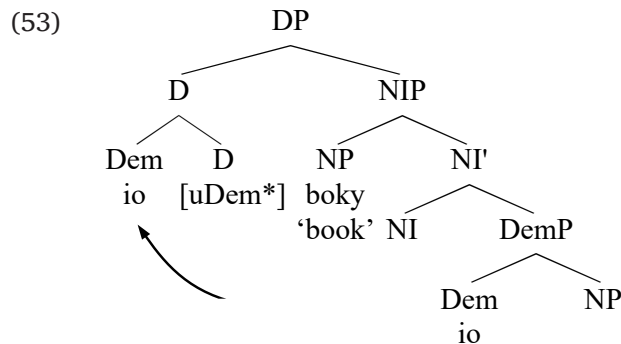
Constituent labels aside, this is the analysis that Saab (2017: (114)) assigns to the Vata PC in (50e). V-to-Foc is fully parallel to our D-to-Dem and results in verb doubling.

(54)
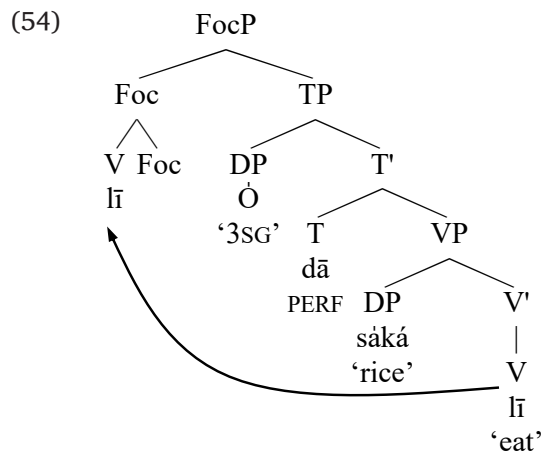
The theory makes the prediction that long head movement will normally lead to head doubling. Whether this is a correct prediction will need to be tested in other domains where long head movement is justified. Space prevents us from exploring it here.[15] [16]

4.2 Dual representation analysis

This section develops an alternative, dual representation analysis. Section 5 will show that it is not as successful as our single representation analysis in Section 4.1. A dual representation analysis of framing demonstratives necessarily base-generates two instances of the demonstrative. For the sake of parity, we will formulate a dual representation analysis that is similar to our single representation analysis above. In particular, i) we continue to adopt the DemP analysis of demonstratives, with demonstratives being base-generated within DemP, and ii) we posit movement of Dem into DP.

The dual representation structure for framing demonstratives is given in (55). DEM1 is phrasal and occupies spec,DemP, while DEM2 is the head of DemP. DEM1 moves to spec,DP to check the [uDem*] feature of D. DEM1 moves rather than the Dem head DEM2 because it is closer to D. The lower copy of DEM1 is I-assigned according to the Phrasal I-Assignment rule in (51) and is not pronounced. There is Roll Up within NP and Nominal Fronting as above.

(55)

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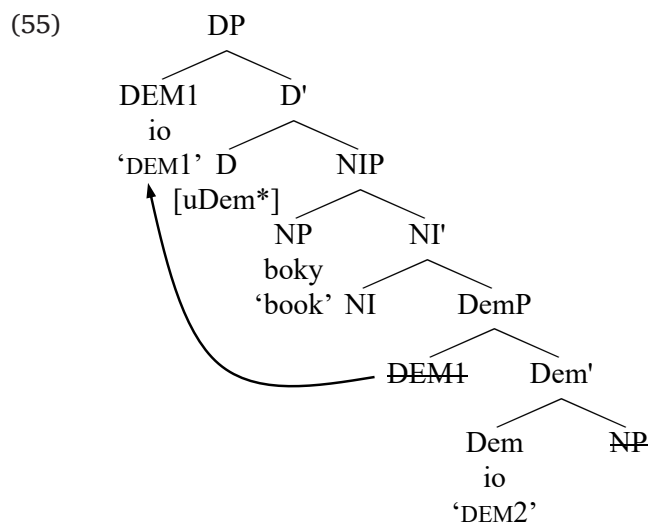
[15] Numerous other analyses for PCs in individual languages exist (see Kandybowicz 2008: 80 and Hein 2017: 3 for references), with the focus on two analytical points: i) the movement(s) involved in the derivation and ii) the theoretical machinery that yields multiple copy pronunciation of the verb (phrase). Alternatives in both of these domains could in most cases be applied to the Malagasy demonstrative doubling construction. We do not assert that our derivation in (46) or Saab's machinery is either the best or only analysis of framing demonstratives. Other derivations and machinery (e.g. Hein 2018; Arregi & Pietraszko 2021) could be used to make this same point, although we do not explore them here. Rather, our proposal demonstrates that the same considerations that go into the analysis of PCs exist in the analysis of nominal structure, but the framing demonstrative construction does not obviously help to decide between competing analyses of multiple copy pronunciation.

[16] In contrast, head movement that obeys the Head Movement Constraint will not lead to doubling because each movement is local and triggers I-Assignment. For the case at hand, when Dem moves to D, it must not stop in NI in our analysis; otherwise, only the highest copy of Dem would be pronounced.

This structure gives rise to the correct word order, where DEM1 and DEM2 are initial and final, respectively.[17]

5 Arguments for single representation

While both the single representation (SR) and dual representation (DR) analyses account for the basic framing word order, we argue here that DR does not cover the full range of empirical facts. We repeat the core patterns in (56), and show that DR is less successful in accounting for (56b-d). We have already seen that both analyses derive the framing word order, (56a).

(56)　a.　DEM1 must be strictly initial and DEM2 must be strictly final
　　　　b.　DEM1 and DEM2 must be identical
　　　　c.　all demonstratives can be used pronominally but cannot be doubled
　　　　d.　lone DEM2 is compatible with *ilay* but not *ny* or a null determiner

The identity between DEM1 and DEM2, (56b), falls out directly from SR because there is only one representation of the demonstrative. When it moves, it cannot change form; as a result DEM1 and DEM2 will be identical. Under DR, however, the identity is not automatic. One might try to enforce the identity through feature checking: DEM1 and DEM2 have morphosyntactic features that encode their semantics. Given **Tables 1** and **2**, we assume for concreteness that these features would be [±visible], [±bounded], [#distance], and [±singular]. Identity could be enforced with an Agree (or Spec-Head) relation between the features of DEM1 and the features of DEM2. Terenghi (2019), however, argues that features unique to demonstratives—in the case of Malagasy, [±visible], [±bounded], [#distance]—are not active in the syntax and therefore cannot participate in Agree. On that assumption, feature checking cannot be used to achieve identity. Moreover, even assuming that such features exist and can participate in Agree, DR arguably would allow cases of non-matching. Depending upon our feature analysis of demonstratives in **Table 1** and **2**, we might expect mismatched demonstratives if the feature specifications are distinct but compatible. For example, there are demonstratives that are not specified for distance (*io, ireo, iny, ireny*). Such demonstratives should be compatible with those that have the same [±visible], [±bounded] features but are unspecified for distance, unless "neutral" distance is itself a specification and not an underspecification. This constitutes an argument against DR if demonstrative matching must be done in the syntax.

　　The absence of doubling with the pronominal use, (56c), is accounted for by SR. We follow much of the literature on pronouns (e.g. Postal 1969; Cardinaletti 1994; Ritter 1995; Koopman 1999; Panagiotidis 2002; and references therein) in assuming that pronominal demonstratives involve an abstract nominal. They are not intransitive heads, contra Abney (1987). The derivation
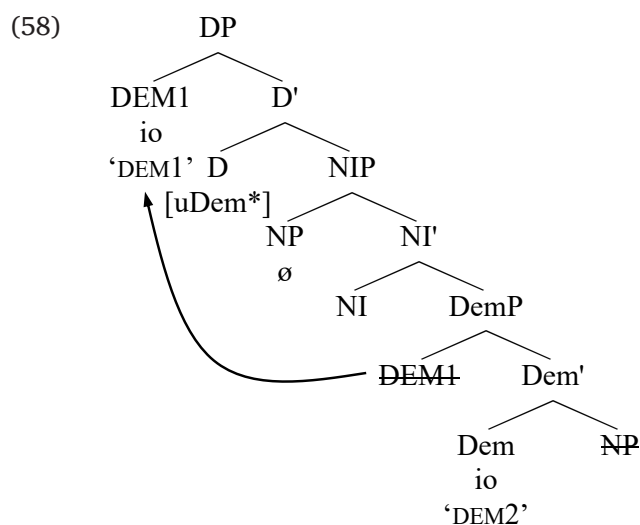
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[17] Rajaona (1972: 91–92, 684–687) proposes a dual representation analysis in which DEM2 is an appositive. The shortcomings of our approach discussed in the following section also apply to his analysis.

proceeds as above but with a null NP, (57). Saab's Morphological I-Assignment rule, (52), will result in [I] being assigned to the Dem head of DemP because the two copies of Dem are linearly adjacent. Thus, only the Dem in D will be pronounced, as shown.[18]

(57)

```
                        DP
                    ╱        ╲
                  D            NIP
                ╱   ╲        ╱    ╲
             Dem     D    NP      NI'
             io   [uDem*]  ø    ╱    ╲
                             NI      DemP
                                    ╱    ╲
                                 Dem[I]   NP
                                  io
```
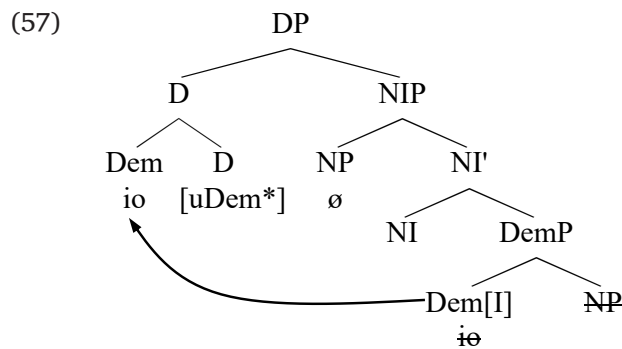
For DR, it is less clear why there is no doubling. As in SR, we assume a null NP. If the two demonstratives are generated in separate positions, however, both the specifier and head of DemP should be pronounced after movement, (58). It seems that additional stipulations would be required to prevent this structure, which results in the ungrammatical nominal *io io* 'DEM1 DEM2' (see also footnote 6).

(58)

```
                      DP
                   ╱      ╲
               DEM1        D'
                io       ╱    ╲
              'DEM1'   D       NIP
                    [uDem*]  ╱    ╲
                           NP      NI'
                            ø    ╱    ╲
                               NI      DemP
                                     ╱    ╲
                                  DEM1     Dem'
                                         ╱    ╲
                                      Dem      NP
                                       io
                                     'DEM2'
```

Finally, with respect to (56d), SR allows for *ilay (NP) DEM*, (59), and its structure in (49): There is no [uDem*] feature and no movement; D is realized as *ilay*. Consequently, the demonstrative is only pronounced in its base position, giving rise to the absence of doubling in the presence of *ilay*.

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[18] Alternatively, we could assume that pronominals do not involve an abstract nominal, in which case, the derivation would converge with no doubling if we stipulate that NI's EPP feature can go unchecked or that NIP is absent.

(59) Te   hividy **ilay** fiara fotsy **ity**   aho
      want buy   **DET** car   white **DEM** 1SG.NOM
      'I want to buy that white car (which we previously discussed and is near the speaker)'

DR, in contrast, would by default generate *ilay (NP) DEM1 DEM2*. As with the pronominal use, we incorrectly expect two instances of the demonstrative to surface, not one, and additional stipulations are required.

Turning finally to the ungrammatical pattern *ny (NP) DEM*, (60), neither analysis provides a straight-forward explanation.

(60) *Te   hividy **ny** fiara fotsy **ity**   aho
       want buy   **DET** car   white **DEM** 1SG.NOM
       ('I want to buy this white car')

If *ilay (NP) DEM* is possible, *ny (NP) DEM* should be as well since we analyze *ilay* and *ny* alike syntactically. We tentatively suggest that the pattern is ruled out by a selectional incompatibility between *ny* and demonstratives. *Ny* is number neutral and selects an NIP whose head does not contain a number feature. This numberless NI head we stipulate cannot select for DemP. In favor of this approach, we note that in Tsimihety, a dialect of Malagasy spoken in the north central region, it is possible to have DEM2 with *i*, the Tsimihety equivalent of the default determiner *ny* (V. Dimisy, p.c.):

(61) a. *Tsimihety dialect*
          i   zaha igny
          DET   child DEM
          'this child'

      b. *Merina dialect*
          *ny   zaza   iny
          DET   child DEM
          ('this child')

We take these data to indicate that the Merina pattern is not due to some deep semantic incompatibility (and recall that determiners and demonstratives do co-occur in other languages, such as Greek). Further investigation of demonstratives in other Malagasy dialects is beyond the scope of this article but might shed light on the ungrammaticality of (60) and (61b) in Merina.

Summing up, while both the single and the dual representation analyses account for the framing position of demonstratives, we have argued that SR provides a less stipulative account of additional facts: the identicality of the two demonstratives, the lack of doubling in the pronominal use, and the compatibility of a single final demonstrative with the anaphoric determiner *ilay*.

6 Conclusion

This paper has provided an analysis of framing demonstratives in Malagasy, a rare phenomenon that has yet to be analyzed in the literature. The analysis has both general theoretical and Malagasy-specific implications.

Doubling phenomena, notably predicate clefts, are well-known in the clausal domain but have hardly been recognized in the nominal realm. Malagasy framing demonstratives instantiate a nominal doubling construction. We argued that the construction is most adequately analyzed using a single representation analysis that instantiates a single syntactic instance of the demonstrative. The doubling results from multiple copy spell out. The single representation approach is superior to a dual representation analysis in which the two instances of the demonstrative are base-generated separately.

For concreteness, we adopted a derivation that includes long head movement of the demonstrative. Saab's (2017) principles for determining the pronunciation of phrasal and head copies yielded two instances of the demonstrative in most cases with such a derivation. Notably, Saab's analysis applied to Malagasy was able to explain the lack of doubling with pronominal demonstratives. We do not believe, however, that this derivation is the only one possible and we did not attempt to defend the derivation against alternatives, although we did motivate the individual movements within a minimalist context and within the context of Malagasy grammar. The analysis demonstrates that recent approaches to the pronunciation of copies, previously applied to clausal phenomena such as copy predicate clefts, are also useful in analyzing nominal phenomena. This is a welcome result, as one would not expect such mechanisms to only apply in clauses.

Within the context of nominal syntax, the analysis adopts a low position for demonstratives, as argued for by Bernstein (1997), Giusti (1997; 2002), Pangiotidis (2000), Brugè (2002), Shlonsky (2004), Roehrs (2010), Cinque (2010; 2020), among others. To the extent that our analysis of framing demonstratives is successful, it supports this approach to demonstrative syntax, providing evidence from a language typologically distinct from European languages that initially motivated the proposal.

With respect to Malagasy syntax, the analysis posits Nominal Fronting within the Malagasy DP, parallel to Predicate Fronting in the clausal domain. Parallels between clausal and nominal structure are well-known, so this is not necessarily a surprising result, but it provides further impetus to continue to expect such parallels across languages. At the same time, we have only scratched the surface of Malagasy nominal structure and detailed analyses of other nominal phenomena await. In future work, we would also like to extend our analysis of nominal syntax to personal pronouns and proper names. They are relevant to the current topic in as much as demonstratives can occur with these elements, (62).

(62) a. Mba tsy misy saina   loatra **i   Soa iny**!
          PRT NEG exist intelligence too   DET Soa DEM
          'Soa (who is not here) is not very intelligent!'   (adapted from Ravololomanga 1996)

     b. Ho   aiza   marina **isika   ity** e?
          FUT where   real   1PL.INCL   DEM   PRT
          'Where are we really going?'   (Jedele & Randrianarivelo 1998)

Our analysis of demonstratives is compatible with proposals for the syntax of personal pronouns (Zribi-Hertz & Mbolatianavalona 1999; Paul & Travis 2022) and proper names (Paul 2018), but we set aside working through the details for future research.

Finally, an anonymous reviewer raises the question of why demonstrative doubling is so rare. We know of no other language with a similar phenomenon, and we have not even encountered another Malagasy dialect that has it, although we have not systematically investigated. We can only speculate on the issue, building on suggestions from the reviewer, but it can be broken down into at least two separate questions: First, why doesn't Malagasy have HMC-obeying Dem-to-NI-to-D? If it did, I-assignment would mark each of the non-highest instances of Dem for non-pronunciation, resulting in no doubling. The reviewer points out that there is plausibly no motivation for Dem-to-NI in Malagasy. NI has an EPP feature but it is satisfied by movement of NP to spec,NIP. Thus, an intermediate movement of Dem-to-NI is syntactically unmotivated. Second, why don't other languages which nonetheless have initial demonstratives where Dem arguably moves to D have long head movement of Dem-to-D? If they did, we might expect to see demonstrative doubling in those languages. While long head movement is perhaps less common than local head movement, it is not clear why the former should be almost universally uninstantiated. We suggest that it is the interaction between Dem-to-D and Nominal Fronting that results in other languages not manifesting doubling, rather than the absence of Dem-to-D alone. In Saab's system, doubling only arises with Dem-to-D if phonological material intervenes between D and Dem. We speculate that other languages may well have Dem-to-D but they do not have Nominal Fronting, or some other operation that places material between D and Dem. If D and Dem are linearly adjacent, I-assignment applies to the base position of Dem, resulting in the pronunciation of Dem only in D. In Malagasy, we have not been able to find empirical evidence that Dem does or does not stop in NI. Our choice of long head movement over local movement was made on theory-internal grounds. This may be the case for other languages as well. To summarize, demonstrative doubling requires Dem-to-D that, additionally, crosses over phonological material in the inflectional layer of the DP. We speculate that it is this combination of requirements that makes the phenomenon so rare.[19]

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[19] The other Malagasy dialects that we are aware of have Nominal Fronting but they do not have Dem-to-D, i.e. the null D head with a strong Dem-feature, and, thus, no framing demonstratives.

Abbreviations

Glossing follows the Leipzig Glossing Conventions with the following additions: CL: clitic; HAB: habitual; PREP: preposition.

Ethics and consent

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the University of Western Ontario Non-Medical Research Ethics Board and the University of Florida Institutional Review Board. Informed consent was obtained from all participants involved in the study.

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Competing interests

The authors have no competing interests to declare.

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