Linearization at PF: Evidence from Malagasy Extraposition

Daniel Edmiston   Eric Potsdam
University of Chicago   University of Florida

This paper presents a case of prosodically-driven movement in the Austronesian language Malagasy. It argues that the obligatory, non-canonical placement of certain clauses is syntactically- and semantically-vacuous movement at PF, after syntactic structures have been constructed. Obligatory extraposition at PF results from a tension between the prosodic structure of Malagasy and a universal constraint against certain kinds of prosodic recursion. If correct, a grammatical architecture is needed in which at least some word order is determined post-syntactically.

Canonical word order in Malagasy is VOXS. Most constituents can extrapose to a position to the right of the subject, (1), and CPs must extrapose, (2), yielding VOSX word order (Keenan 1976).

(1)   Nametraka   dite   (teo   ambonin' ny   latabatra)   Rasoa   (teo   ambonin' ny   latabatra)
      PAST.put   tea   LOC   on   DET   table   Rasoa   LOC   on   DET   table
      'Rasoa put the tea on the table.'

(2)   Manantena   (*fa   hamono   akoho   Rabe)   Rasoa   (fa   hamono   akoho   Rabe)
      PRES.hope   that   kill   chicken   Rabe   Rasoa   that   kill   chicken   Rabe
      'Rasoa hopes that Rabe will kill the chicken.'

We propose that obligatory peripheral placement of CPs (CPEX) results from linearization at PF, or PF movement. Argumentation that CPEX is not syntactic comes from its lack of syntactic or semantic consequences. Syntactically, CPs behave as though they are in their base position for a range of phenomena (Law 2007): selection and idioms, scope, Binding Principles, variable binding, extraction, and NPI licensing. For example, (3a) shows that an extraposed CP may contain a pronoun bound by a quantified object; however, the object does not c-command the CP in its extraposed position. Reconstruction to the base position as schematized in (3b) is required. Example (4) shows that extraction from a CP in the extraposed position is possible. Such an example would violate Huang's (1982) Condition on Extraction Domains if extraction took place directly from the extraposed position.

(3)   a.   Niteny   tamin' ny   zazalahy tsirairay$_i$ aho   [fa   hanoroka   azy$_i$ Rasoa]
          PAST.say   PREP   DET   boy   each   1SG.NOM   that   FUT.kiss   3SG.ACC   Rasoa
          'I told each boy$_i$ that Rasoa will kiss him$_i$.'
      b.   *[Niteny   [tamin' ny   zazalahy tsirairay$_i$] [fa   hanoroka   azy$_i$ Rasoa]]   aho
          PAST.say   PREP   DET   boy   each   that   FUT.kiss   3SG.ACC   Rasoa   1SG.NOM

(4)   Rahoviana$_i$ no   mihevitra   Rabe   [fa   hividy   fiara   t$_i$ Rakoto]?
      FUT.when   FOC   PRES.think   Rabe   that   FUT.buy   car   Rakoto
      'When does Rabe think Rakoto will buy a car?' (must be a question about the time of car-buying)

Finally, an NPI is allowed in the extraposed position, (5), but coordination and the lack of subject NPIs argue that negation does not c-command extraposed elements. Reconstruction is again necessary to license the NPI. At the same time, NPIs are generally not licensed under reconstruction (Linebarger 1980). Consequently, NPIs show that the extraposition takes place post-syntactically and the base position of extraposed elements is also their Spell Out position.

(5)   Tsy   nandroso   vary   (tamin'   n'iza n'iza)   Rasoa   (tamin'   n'iza n'iza)
      NEG   PAST.serve   rice   PREP   anyone   Rasoa   PREP   anyone
      'Rasoa didn't serve rice to anyone.'

Semantically, extraposition of simple phrases backgrounds the extraposed constituent (Pearson 2001). Constituents that provide new information, such as answers to questions, cannot be extraposed, (6).

CPEX, in contrast, does not background the CP, which can be an answer to a question, (7).

(6) Q: Oviana no lasa nody Rabe?
        'When did Rabe go home?'
     A: Lasa   nody   (omaly   hariva)   Rabe   (??omaly   hariva)
        gone   PAST.go.home   yesterday evening   Rabe   yesterday   evening
        'Rabe left yesterday evening.'
(7) Q: Inona no notenenan-dRabe momba ahy?   A: Niteny Rabe   fa   miasa   tsara ianao
        'What did Rabe say about me?   said   Rabe   that   work   well   2SG.NOM
                                                   'Rabe said that you work hard.'

CPEX is thus semantically and syntactically vacuous. CPs in the extraposed position behave fully as though they were in their unextraposed, base position. We conclude that they are and that the movement to the peripheral position takes place only at PF, after the derivational split at Spell Out.

     This PF movement has a phonological motivation. It is due to the prosodic structure of Malagasy clauses and its interaction with the universal constraint of Layeredness (cf. The Strict Layering Hypothesis, Selkirk 1996, Bennett et al. 2015):

(8) *Layeredness*
     A prosodic constituent may not contain a constituent that is higher on the prosodic hierarchy

Malagasy clauses constitute an intonational phrase (ι-phrase) consisting of two phonological phrases (φ-phrases), the predicate and the subject (Dahl 1952), (9). If a CP were to appear inside the predicate, this would result in illicit embedding of the clausal CP ι-phrase inside the predicate φ-phrase, (10). Instead, the CP moves at PF to a position where it can form its own ι-phrase independent of the matrix clause ι-phrase, (11).

(9) ((predicate)φ (subject)φ)ι   (10) *((V (CP)ι)φ (subject)φ)ι   (11) (((V)φ (subject)φ)ι (CP)ι)ι

Support for this analysis comes from the fact that embedded CPs which lack a subject, such as controlled clauses or existential clauses, are only a φ-phrase and can appear in their canonical predicate-internal position unextraposed, (12), as they do not violate Layeredness.

(12) Manantena   (hianatra   teny   anglisy   PRO$_i$)φ   Rabe$_i$ (hianatra   teny   anglisy   PRO$_i$)φ
      hope   learn   lg   English   Rabe   learn   lg   English
      'Rabe hopes to learn English.'

     Our analysis builds on Manetta's (2012) proposal for Hindi CP extraposition and contributes to the growing body of evidence that prosody constrains and drives word order (e.g. Zec and Inkelas 1990, Zubizarretta 1998, Bennett et al. 2015, and others). The proposal has implications for the analysis of CP extraposition in other languages, and the cross-linguistic variation in this domain.

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