D-raising in Chamorro RCs (and beyond)

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1 Introduction and background

1.1 The phenomenon

- Chamorro has multiple RC formation strategies, one of which places the head noun phrase (head NP) within the boundaries of the RC.

(1) K⟨um⟩åti   i [ha   lalåtdi na påtgun si   Maria].
     ⟨SG.R.AGR⟩cry the 3SG.R.AGR scold   LK child   UNM Maria
     'The child that Maria scolded cried.'   (EDR: 62)

- More common strategies include placing the head NP at the left edge of the RC (head(-NP)-initial RC, (2a)) or at the right edge of the RC (head(-NP)-final RC, (2b))

(2) a. K⟨um⟩åti   i patgun [ni   ha   lalåtdi si   Maria].
         ⟨SG.R.AGR⟩cry the child   COMP 3SG.R.AGR scold   UNM Maria
         'The child that Maria scolded cried.'   (EDR: 60)

     b. K⟨um⟩åti   i [ha   lalåtdi si   Maria] na påtgun.
         ⟨SG.R.AGR⟩cry the 3SG.R.AGR scold   UNM Maria LK child
         'The child that Maria scolded cried.'   (EDR: 61)

- (1-2) express the same idea (in each case, the head NP is interpreted as being modified (restricted) by the RC)

- Prenominal RCs bear at least a superficial resemblance to IHRCs

    ▷ RC is not introduced by an overt complementizer
    ▷ Head NP is marked with the linker

1.2 The interest

- (IH)RC typology

    ▷ What are the possible ways a language can build a RC?

    ▷ RCs (across languages) generally show signs of WH-movement

      ∗ Is this a necessary component of deriving the function and meaning of a RC?

      ∗ IHRCs are an obvious place to investigate this question, since they appear to have no gap

- Syntax-semantics interface problem

    ▷ For Basilico (1996), this is a main interest of IHRCs:

    "[IHRCs] present a unique opportunity to examine the interface between syntactic representation and semantic interpretation. … Because IHRCs seem to overlap in interpretation with the more familiar externally headed relative clause yet have a very different syntax, they provide an important clue to how certain syntactic combinations of elements give rise to certain interpretations."(Basilico 1996, p. 498)

- ▷ How can a RC argument be interpreted as the phrase its own clause is modifying?

    ▷ Once we identify the best structure for them, Chamorro IHRCs can give us insight into compositional semantic rules
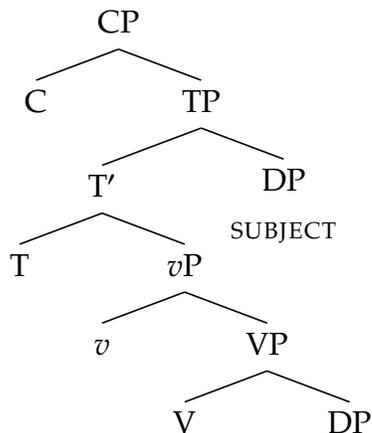
    IHRCs lend insight into parts of the syntactic machinery, potentially:

    ▷ The definition of locality
    ▷ How labeling works

1.3 Relevant facts about Chamorro

- Head-initial (heads of phrases come before their complements)

- Predicate-initial (default: VSOX)

- Post-verbal word order is flexible, especially for subjects

- Specifiers not implicated in WH-movement surface on the right (Chung 1998)

    ▷ Spec, TP (subjects)
    ▷ Spec, DP (possessors)

- Subjects usually surface in apparently lower positions than Spec, TP (closer to the verb), but evidence suggests they are still interpreted in Spec, TP (e.g. there are Principle C effects)

(3)   Assumed clause structure:

```
              CP
            /    \
           C      TP
                /    \
              T'      DP
             /  \     SUBJECT
            T    vP
                /  \
               v    VP
                   /  \
                  V    DP
```

2   IHRCs and the linker

- In IHRCs, the internal head NP (IH) must be preceded by the linker particle *na* (4)

- If instead the linker is replaced with a definite or indefinite determiner, the result is ungrammatical (5)

(4)   Malagu' yu' un ha   fa'gåsi-n måolik na ⌈mansåna⌉ si   Juan.
      want   I   a 3SG.R.AGR wash-LK well   LK apple   UNM Juan
      'I want an apple that Juan washed well.'   (EDR: 224)

(5)   a.   *...un ha   fa'gåsi-n måolik un ⌈mansåna⌉ si   Juan.
           a 3SG.R.AGR wash-LK well   an apple   unm Juan
           ('...an apple that Juan washed well.')   (EDR: 226)

      b.   *...i   ha   fa'gåsi-n måolik i   ⌈mansåna⌉ si   Juan.
           the 3SG.R.AGR wash-LK well   the apple   UNM Juan
           ('...the apple that Juan washed well.')   (EDR: 227)

- It is generally not possible to have *no* linker preceding the IH, except in rare cases in which other morphology interferes (6)

(6)   i   [k⟨in⟩enne'-ña   ⌈guihan⌉ i   rai]
      the ⟨WH[OBJ]AGR⟩catch-3SG.POSS fish   the king
      'the fish that the king had caught'   (Cooreman 1983, p. 118)

2.1   The linker

- In IHRCs, the linker appears to be occurring outside its usual distribution, so its presence might be able to lend some insight into the syntax of the IH.

3

- Loosely speaking, the linker typically separates a lexical head from a "modifier" (intentional vagueness)

  ▷ (Such that the modifier is completely on one side and the head is completely on the other side)

- "Modifiers":[1]

  ▷ Demonstrative determiners[2] (7a)

  ▷ Interrogative determiners (7b)

  ▷ Weak quantifiers: *meggai* 'many', *bula* 'many', numerals, ... (7c)

  ▷ Adjectives ()

  ▷ Head-final relative clauses (2b)

(7) a. Gof á'a'duku' [**atyu** na tåotao].
     very moron   that LK person
     'He [that guy] is a moron.'   (CD: *á'a'duku'*)

   b. Hekkua' [**håyi** na påtgun] g⟨um⟩omgum   esti i petta-n
      not.know who LK child   ⟨WH[NOM]AGR⟩pry.loose this the door-LK
        san-me'na.
        DIR-front
      'I don't know who (lit. which child) pried loose my front door.'   (CD: *gomgum*)

   c. Man-hokka [**meggai** na hutun dokduk] gi lanchun-ñiha.
      AGR-pick.up many   LK breadfruit.seeds LOC farm-3PL.POSS
      'He picked a lot of breadfruit seeds at their farm.'   (CD: *hutun dokduk*)

   d. i [**agaga'** na kareta-ña]...
      the red   LK car-3SG.POSS
      'the red car of hers...'   (ALC & ACV: 420)

- In IHRCs, the linker is not separating a lexical head from a modifier

  ▷ What is interpreted as the modifier is complex and *contains* the lexical head marked with the linker.

  ▷ Constituents that are unequivocally part of the modifier are flanking the IH.

- An analysis should have something to say about why the linker shows up on the IH of an IHRC.

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1. On Foley (1976)'s implicational "bondedness" hierarchy for linkers in Austronesian languages, Chamorro requires the linker for everything below Deictics (demonstratives), with few exceptions.
2. The linker occurs only optionally between demonstratives and the lexical head; otherwise, the definite determiner is used in place of the linker.

3 Analysis

At the level of the IH...

- **PROPOSAL:** The IH of an IHRC is a DP headed by the null operator

    ▷ The IH is a bona fide argument of the RC

- The operator is one of the determiners that requires the presence of the linker

(8) a. K⟨um⟩åti   i   [ha   lalåtdi **na** |påtgun| si   Maria].
     ⟨SG.R.AGR⟩cry the 3SG.R.AGR scold LK child   UNM Maria
     'The child that Maria scolded cried.'   (EDR: 62)

    b.

```
          DP
        /    \
      D       \
     Op   na   NP
              /  \
            påtgun
```
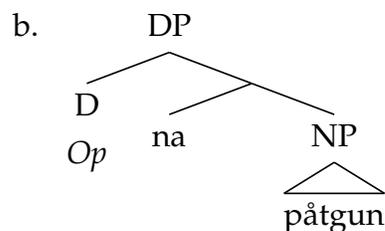
- The same analysis is suggested for the head NP in matching RCs (Sauerland 2003; Sauerland 2004; Hulsey and Sauerland 2006)

    ▷ (But with ellipsis of the NP component)

At the level of the IHRC...

- The IH is the goal for the RC complementizer probe

- Instead of the whole DP being targeted, just the null operator is targeted

- The remainder of the DP is stranded in the RC, producing the head-internal word order

- Illustration of the derivation for (9) in (10)

(9) Sen-malångu   på'gu i   [k⟨um⟩ekeha   na |haga-n Dora|
    SG.R.AGR.very-ill now   the   ⟨SG.R.AGR⟩complain.PROG LK daughter-LK Dora
      nigap].
      yesterday
    'The daughter of Dora's who was complaining yesterday is now very sick.'
                                    (BPS: 798)

(10)

CP

Op_{RC}
[*i*WH]

C′

C_{RC}
[EPP, *u*WH]

TP

TP

AdvP

nigap
yesterday

T′

DP

T

vP

⟨Op_{RC}⟩
[*i*WH]

NP

v

VP

na hagan Dora
daughter of Dora

V

keha
complain

3.1 Support

3.1.1 Islands

- Chamorro has many of the familiar islands, including complex NP islands (11) (Chung 1998, pp. 211-12)

(11) a. * Håfa₁ un   tungu' atyu i   boi [ni   para u   t⟨in⟩aitai
        what 2SG.R.AGR know   that the boy COMP FUT 3SG.IRR.AGR ⟨PASS⟩read
        t₁]?
        ('What₁ do you know the boy who is going to read *t₁*?')

        (Chung 1998, 351,(39a))

   b. * [I   kahita-n dångkulu]₁ na   tåya'   [in   pe'lu
        the box-LK   big   COMP SG.R.AGR.NEG.exist 1EXCL.PL.R.AGR put
        t₁].

        ('It was in [the big box]₁ that there was nothing we put *t₁*.')

        (Chung 1998, 351,(39d))

- IHRCs, despite no obvious case for movement, exhibit island effects (12, 13)

(12) * Hu   ayuyuda   i   [_RC_ bunitu   i   doktu [_RC_ ni
     1SG.R.AGR help.PROG the   SG.R.AGR.handsome (is) the doctor   COMP

     ha   tungu' na   ma-na'-malångu   na malångu
     3SG.R.AGR know   COMP SG.R.AGR.PASS-CAUS-SG.R.AGR.be.ill LK patient

     gias Juan]].
     OBL Juan

     ('I helped the patient who the doctor is handsome who knows that the patient was
     made sick by Juan.')   (EDR: 504)

(13) * Hu   li'i'   i   [_RC_ ha   tungu' si   Juan [_EQ_ håyi
     1SG.R.AGR see   the   3SG.R.AGR know   UNM Juan   who

     mu-na'-malångu   na tåotao]].
     WH[NOM]AGR-CAUS-be.ill LK person

     ('I saw the man who Juan knows who made that man sick.')   (EDR: 218)

3.1.2   Stranding in other A′ constructions

- This stranding pattern occurs in other A′ constructions in which the D that triggers
  the linker is overt

  ▷ Sentences with focused DPs containing weak quantifiers (14)

  ▷ Constituent questions (*which-NP* type) (15)

- Most commonly, the NP restrictor is pied-piped to the clause periphery with the
  determiner:

(14) **FOCUS**

a. [**Bula   na tåotao**]$_1$ g⟨um⟩uaiya t_1 esti i   buñuelus machaflilik.
   many LK people ⟨WH[NOM]AGR⟩love   this the doughnut twisted
   'Plenty of people like twisted doughnuts.'   (CD: *buñuelus machaflilik*)

b. [**Meggai na attikulu**]$_1$ f⟨in⟩ahån-ña   si   Josephine t_1 gi
   many   LK item   ⟨WH[OBJ]AGR⟩buy-3SG.POSS UNM Josephine   LOC

   Town House.
   Town House

   'Josephine bought a lot of items at Town House.'   (CD: *attíkulu*)

(15) **WH-QUESTIONS**

a. [**Håyi na måolik mediku**]$_1$ um-ayuda   hao t_1 gi   espitåt?
   who LK nice.LK doctor   WH[NOM]AGR-help you   LOC hospital
   'Which nice doctor helped you at the hospital?'   (BPS: 723)

7

b. Hekkua' **[håyi na påtgun]₁** g⟨um⟩omgum   *t₁* esti i petta-n
   not.know who LK child   ⟨WH[NOM]AGR⟩pry.loose this the door-LK

   san-me'na.
   DIR-front

   'I don't know who (lit. which child) pried loose my front door.'   (CD: *gomgum*)

- A less common, but fully acceptable option is to raise just the weak quantifier (in
  focus sentences: (16)) or WH-determiner (in constituent questions: (17)), resulting in
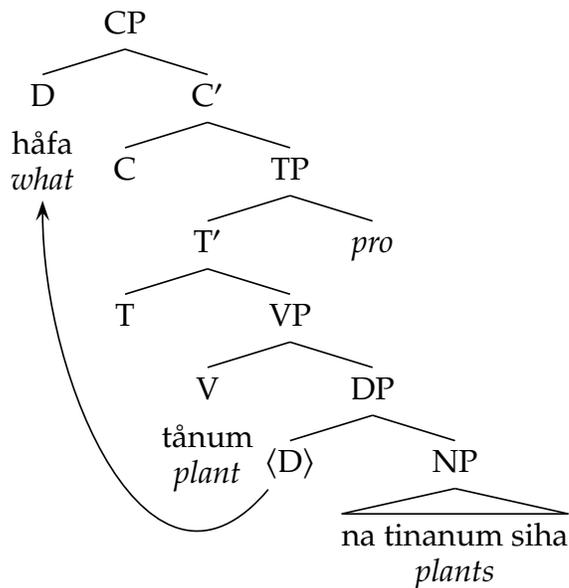 a "split" pattern:

(16) **SPLIT FOCUS**

   a. **Dididi' ha'** [k⟨in⟩annu'-måmi   na potu-n Carmen].
      few   EMP ⟨WH[OBJ]AGR⟩eat-1PL.EXCL.POSS LK rice.cake-LK Carmen
      'We ate [just] a few of Carmen's rice cakes.'   (Chung, p.c.)³

   b. **Ni håyiyi ha'** [h⟨um⟩ugågandu   gi kantu-n tasi na påtgun].
      NEG any.EMP EMP ⟨SG.R.AGR⟩play.PROG LOC edge-LK water LK child
      'No children were playing at the beach.'   (Chung, p.c.)

   c. **Bula** [man-oggan   na tåotao gi   tasi].
      many PL.R.AGR-be.stranded LK people LOC sea
      'There were a lot of people stranded at sea.'   (CD: *oggan*)

(17) **SPLIT WH-QUESTIONS**

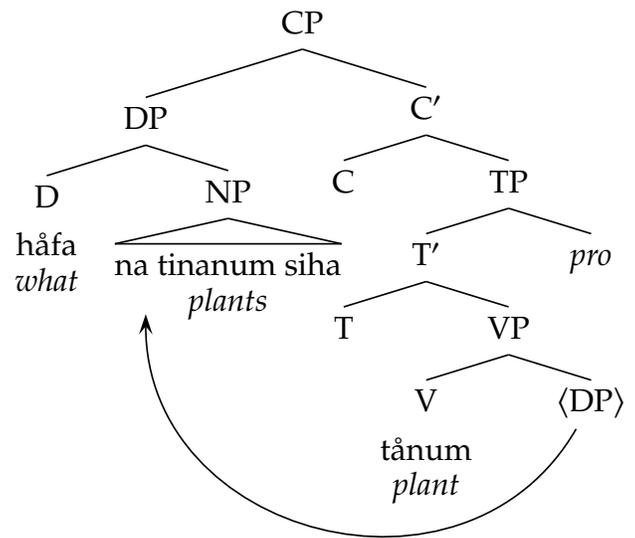   a. **Håfa** [un   tånum na tinanum siha gi   gualu' gi   ma'pus na
      what 2SG.R.AGR plant LK plant PL   LOC garden LOC last   LK

      simåna]?
      week

      'What plants did you plant in the garden last week?'   (EDR: 681)

   b. **Månu** [s⟨um⟩usugun   atyu na kareta na tåotao]?
      which ⟨WH[NOM]AGR⟩drive that LK car   LK person
      'Which person drives that car?'   (BPS: 696)

   c. **Håyi** [b⟨um⟩isita   hao na mañe'lu-mu   gi   ma'pus na
      who ⟨WH[NOM]AGR⟩visit you LK siblings-2SG.POSS LOC last   LK

      simåna]?
      week

      'Who among your siblings visited you last week?'   (EDR: 685)

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(18) **RAISING W/ STRANDING** (19) **RAISING W/ PIED-PIPING**

```
              CP
           /      \
          D        C'
        håfa      /  \
        what     C    TP
                     /   \
                    T'    pro
                   /  \
                  T    VP
                      /  \
                     V    DP
                  tånum  /  \
                  plant ⟨D⟩  NP
                        na tinanum siha
                             plants
```

```
                    CP
                 /      \
               DP        C'
             /    \     /  \
            D     NP   C    TP
          håfa  na tinanum siha  /   \
          what     plants       T'    pro
                                /  \
                               T    VP
                                   /  \
                                  V   ⟨DP⟩
                               tånum
                               plant
```

- Supports the possibility for certain determiners to raise independently of their nominal restrictors

3.1.3   A concern...

- Chamorro allows predicates of any category, including DP

- DP can consist of just a D, including the weak quantifiers (e.g. those in (16)) and WH-determiners (e.g. those in (17))

- The bolded words/phrases in (16-17) *could* be the predicate of the clause, and in this case the remainder of these sentences would be a DP containing... an IHRC

    ▷ "Headless relative cleft"
    ▷ Chung (1998, pp. 295-6) shows that this derivation is one of the options made available for Chamorro
    ▷ Other Austronesian languages have been argued to use this derivation *exclusively* to form constituent questions (Paul and Potsdam 2012; Potsdam 2009)

- Assuming that non-verbal predicates are complements of T and that the subject is base-generated in Spec, TP, we'd be looking at a structure like (20)

(20)

```
              CP
           ／    ＼
          C       TP
              ／     ＼
            T'         DP
          ／  ＼      ／  ＼
        T      DP        CP
               |      ／      ＼
               D    un tånum na tinanum siha
             håfa    plants that you planted
             what
```
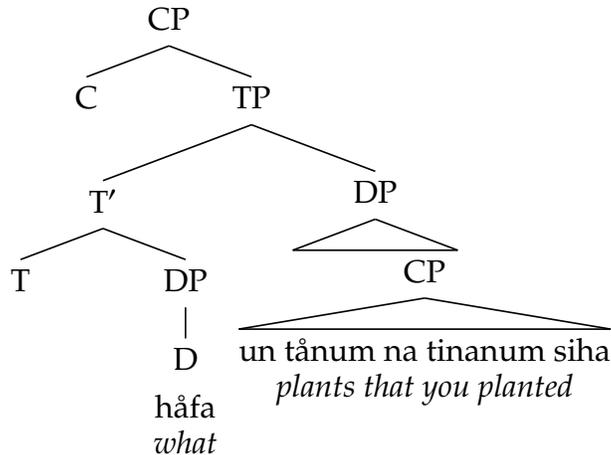
- The proposed analysis for IHRCs could be maintained, but the other split A' constructions couldn't be used as evidence for the proposed IHRC analysis

- (How do we know that all cases involving apparent stranding in split A' constructions don't always involve a non-verbal predicate with a HRC?)

- Is there any evidence for the overt determiners in split questions and split focus sentences being deeply connected to the nominal restrictor?

3.1.4 Negative concord

- Sentences exhibiting negative concord provide some clues.

- In Chamorro, indefinite DPs can exhibit negative concord if they are in the scope of sentential negation

  ▷ Sentential negator *ti* (21)
  ▷ Focused negative DPs (22)

(21) **Ti** ma påtti si Kiko' **ni un grånu na guihan**.
    NEG 3PL.R.AGR share UNM Kiko' NEG a piece LK fish
    'They didn't give Kiko' even one part of the fish.'   (CD: *ni un grånu*)

(22) **Ni unu** [mu-li'i' si Dolores **ni mánunu ha'**].
    NEG one WH[NOM]AGR-see UNM Dolores NEG anywhere EMP
    'No one saw Dolores anywhere.'   (Chung 1998, p. 273)

- **ASSUMPTION:** phrases exhibiting negative concord (NCI) must be c-commanded by an expression of negation (Ladusaw 1992)

  ▷ Negation supplied by *ti* → NCI c-commanded by *ti*
 ▷ Negation supplied by a focused negative DP → NCI c-commanded by that DP

- Can the focused weak quantifier in apparent split focus sentences be negative? **Yes:**

(23) **Ni håyi** [f⟨um⟩a'nå'gui   na ⌈ma'estra siha⌉ i   man-istudiånti...
     NEG anyone ⟨WH[NOM]AGR⟩teach LK teacher PL   the PL-student
     'None of the teachers taught the students...'   (BPS: 890)

- Can the focused negative weak quantifier in apparent split focus sentences license a NCI? **Yes:**

(24) **Ni håyi** [f⟨in⟩a'na'guen-ña   i   ma'estru na ⌈istudiånti⌉ **ni**
     NEG anyone ⟨WH[OBJ]AGR⟩teach-3SG.POSS the teacher   LK student   NEG
     håfa na leksion].
     any   LK lesson
     'No student was taught a single lesson by the teacher.'   (BPS: 892)

- Why does this matter?

- On the HRC analysis of these constructions, the apparently focused negative determiner would not c-command the NCI, which would leave it unlicensed, and we'd expect the resulting sentence to be ungrammatical (and unacceptable)

(25)
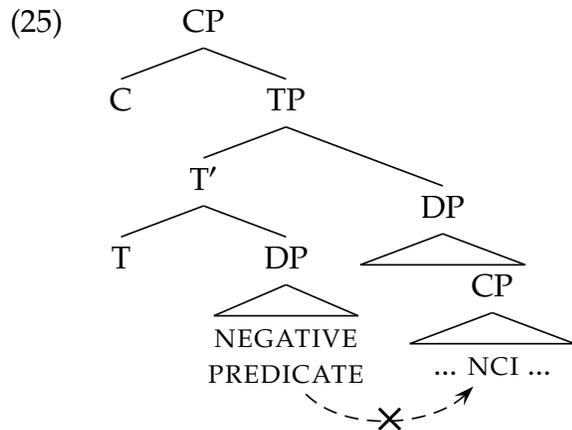
- If the NCI is being licensed by a focused negative, that negative must not be the predicate of the matrix clause

- If the focused negative has gotten to its peripheral position by movement, it must have originated as part of the same constituent as the apparently stranded nominal restrictor

(26) **Ni håyi** [f⟨um⟩a'nå'gui na ⟨ma'estra siha⟩ i man-istudiånti **ni**
NEG anyone ⟨WH[NOM]AGR⟩teach LK teacher PL the PL-student NEG

håfa na leksion].
any LK lesson

'None of the teachers taught the students a single lesson.'   (BPS: 890)

(27)
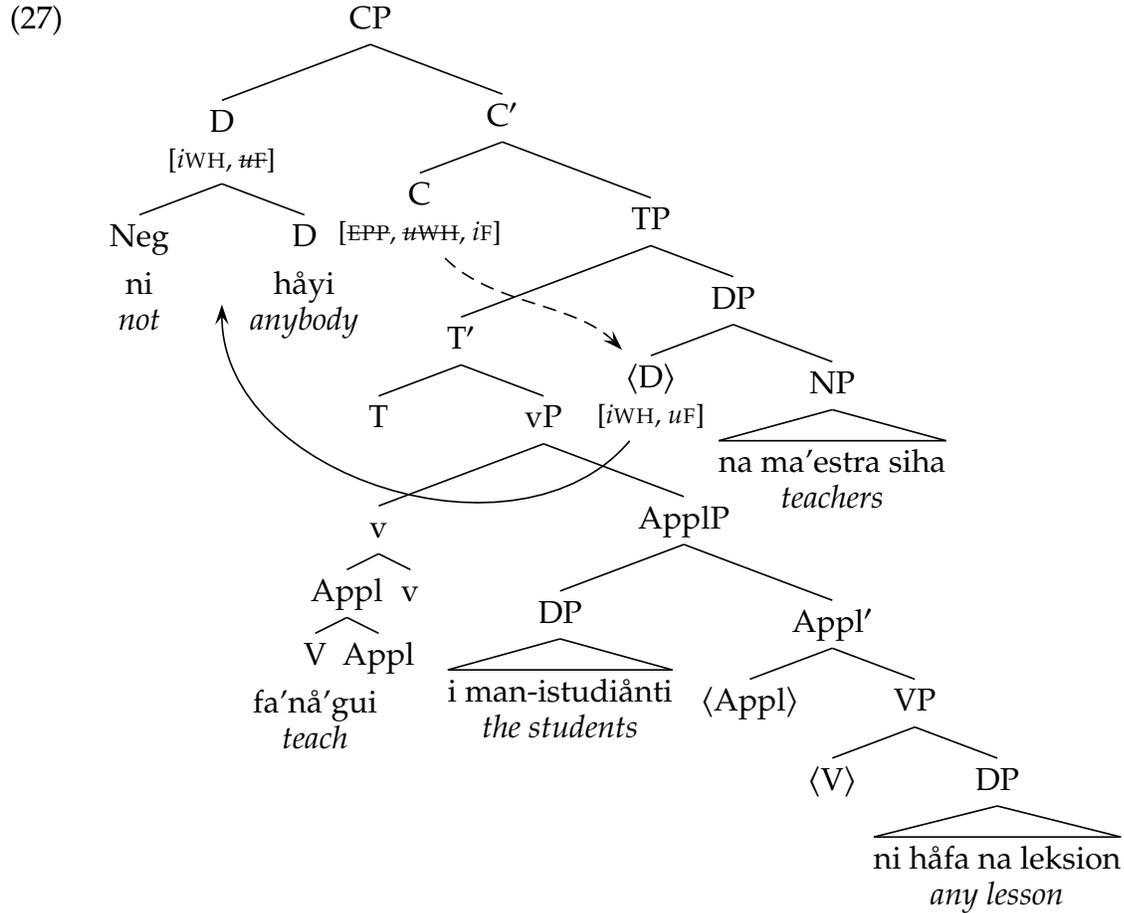
4 Alternative analyses

4.1 Grosu 2012

- Three analyses proposed for IHRCs cross-linguistically, two of which are relevant for the current purposes:

  ▷ Long-distance binding by an operator merged directly into Spec, CP (my interpretation of his proposal)

  ∗ No island effects in IHRCs of languages for which this analysis is proposed

  ▷ Mandatory raising with spell-out of the lower copy

∗ Could work, but less explanatory... we need a theory of when something is spelled out where

∗ What about split questions and split focus sentences? Different parts of the DP are spelled out in different positions?

4.2 Aldridge 2004

- Porting her analysis for Tagalog to Chamorro:

  ▷ Some constituent from the RC is scrambled (to a position between CP and TP)

  ▷ IH base-generated in the RC is raised to Spec, CP

  ▷ Remnant TP raises to Spec, DP, producing characteristic word order

4.3 Aldridge 2017

- Due to objections in Law (2016), Aldridge adopts a different analysis:

  ▷ The linker particle *na* signals an "unsaturated" (Scontras and Nicolae 2014) noun phrase (there is no DP—head NP is really just N or NP)

  ▷ Immediately post-verbal IHs involve incorporation into the verb

  ▷ Non-immediately post-verbal, but still RC-internal head NPs are bare NPs and simply remain in situ

  ▷ In any case, the RC meaning is generated by "complex predicate formation"— possibly something like Restrict (Chung and Ladusaw 2004)

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