Agreement in Mam: person and extraction restrictions

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1 Introduction

There is a puzzle in Mam regarding which heads are responsible for agreement.

Ixtahuacán Mam shows ergative/absolutive agreement on verbs, typical of Mayan languages.

(1) Ixtahuacan Mam (England 1983:58,62)

  a. Ma   **chin**   b'eet-a.
     REC.PST 1SG.ABS walk-LOCAL
     'I walked.'

  b. Ma   **chin**   ok t-tzeeq'an-a.
     REC.PST 1SG.ABS POT 2SG.ERG-hit-LOCAL
     'You hit me.'

  c. Ma   tz'-ok   **n**-tzeeq'an-a.
     REC.PST 2SG.ABS-POT 1SG.ERG-hit-LOCAL
     'I hit you.'

Mayan languages vary as to where the absolutive marker appears in the verbal complex and are often referred to as 'high-abs' and 'low-abs' (Tada 1993).
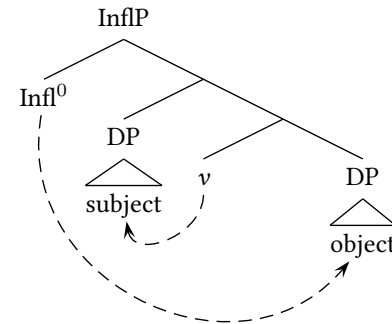
Table 1: Absolutive Parameter

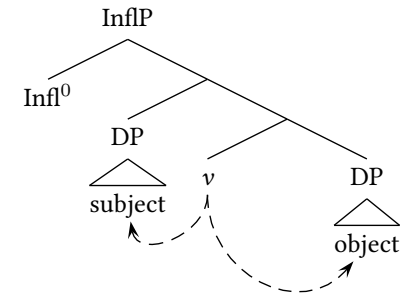|	ASPECT	ABS	ERG	ROOT	(VOICE)	SUFFIX	
HIGH ABS	ASPECT	**ABS**	ERG	ROOT	(VOICE)	SUFFIX	
LOW ABS	ASPECT		ERG	ROOT	(VOICE)	SUFFIX	**ABS**

Coon et al 2014 propose that there is a Mayan Absolutive Parameter to account for the high- versus low-abs languages.

- The Mayan Absolutive Parameter
  - High abs = Abs assigned by $Infl^0$
  - Low abs = Abs assigned by v^0

(2) ABS=NOM 'high'-abs   (3) ABS=DEF 'low'-abs

Facts to be accounted for:

- Ixtahuacan Mam passes the diagnostics that ABS=NOM suggesting that agreement looks like (2) (England 2013, Coon et al 2014).

- There is a person restriction on the subject and object of transitive clauses, akin to the weak PCC. (*3>2/1) (England 1983).

- There is a restriction on extracting the ergative argument (England 1983, 2017).
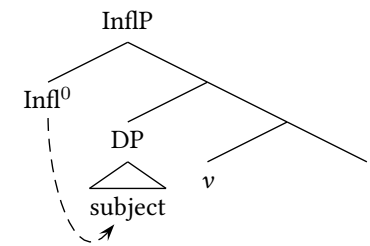
Main claims about Mam:

- The object moves above the subject (Coon et al 2014, 2019).

- $Infl^0$ agrees with both the subject in the object in transitive clauses.
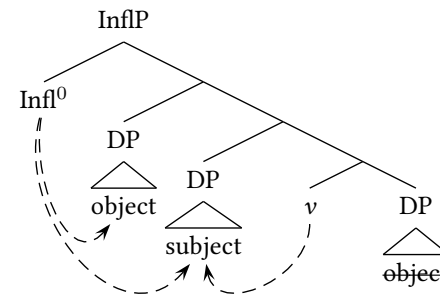
(4) Transitive clause   (5) Intransitive clause

In order to capture the exact nature of the person restriction, the weak-PCC pattern, I'll adopt Deal's (2015) model of Agree.

Agree operation: Interaction and Satisfaction

- Deal (2015) proposes that probes can have interaction and satisfaction conditions:

    - Interaction condition: the features that the probe copies back
    - Satisfaction condition: the features that cause the probe to stop probing

- Deal (2019) uses this model of Agree to account for the weak PCC, and I'll use this model to account for the similar pattern in Mam.

Roadmap:

2   Mam basics

- Word order is strictly VSO (England 1983: 193-194).

- Ergative (Set A) marking indexes transitive subjects on verbs and possessor on nouns, setting aside non-ergative aspects (England 2017:504).

- Absolutive (Set B) marking are clitics that index transitive objects and intransitive subjects.

- A third locus of agreement exists on Mam verbs, a unique trait to Mamean languages: verbs take an enclitic tracking whether the subject is local person (Table 4).

Table 2: Ergative (Set A) prefixes

	SG	PL
1EXCL	n-/w-	q-
1INCL		q-
2	t-	ky-
3	t-	ky-

Table 3: Absolutive (Set B) clitics

	SG	PL
1EXCL	chin	qo
1INCL		qo
2	∅/k-/tz-/tz'-	chi
3	∅/k-/tz-/tz'-	chi

Table 4: Local person suffix

	SG	PL
1EXCL	=a	=a
1INCL		∅
2	=a	=a
3	∅	∅

3   Ixtahuacán puzzle

3.1   High-abs diagnostics and correlations

- If in Ixtahuacán Mam abs is assigned by Infl^0, then absolutive should be consistently unavailable in nonfinite embedded clauses (Legate 2008). This is the case (England 2013):

    - You can express the patient of a non-finite verb in an oblique phrase or unspecified form (presumably incorporated).

    (6)   a. O   chi   e'x xjaal [laq'oo-l t-ee   ]
               ASP 3ABS.PL go people [buy-NF 3ERG.SG-RN]
               'The people went to buy it.'

           b. Ma tz'-ok   n-q'o-'n-a   [tx'eema-l sii'   ]
               ASP 3ABS.SG-DIR 1ERG.SG-give-SD-1SG [cut-NF   wood]
               'I made him cut wood.'

- Coon et al (2014, 2019) show that there is a strong correlation between high-abs languages and a restriction on extracting the ergative argument. This is also the case in Ixtahuacan Mam (England 2017:516).

    (7)   Intransitive ✓subject extraction
           a. Ma   chi b'eet xiinaq.
               PROX B3PL walk man
               'The men walked.'

           b. **Aa   xiinaq** ma   chi b'eet.
               DEM man   PROX B3PL walk
               'It was the men who walked.'

    (8)   Transitive: ✓object extraction
           a. Ma   chi kub' ky-tzyu-'n   xiinaq cheej.
               PROX B3PL DIR A3PL-grab-DS man   horse
               'The men grabbed the horses.'

b. **Aa cheej** ma chi kub' ky-tzyu-'n xiinaq.
DEM horse PROX B3PL DIR A3PL-grab-DS man
'It was the horses that the men grabbed.'

(9) Transitive: *subject extraction

a. ***Aa xiinaq** ma chi kub' ky-tzyu-'n chej.
DEM man PROX B3PL DIR A3PL-grab-DS horse
Intended meaning: It was the men who grabbed the horses.'

b. **Aa xiinaq** ma chi tzyuu-**n** [ky-i'j cheej].
DEM man PROX 3BPL grab-AP [A3PL-RN:PAT horse]
'It was the men who grabbed the horses.'

- So far, things are going great. Ixtahuacán Mam is a typical high-abs language.

  – Abs is marked high

  – Abs is unavailable in non-finite clauses

  – The ergative argument cannot be extracted

3.2 Person restriction

- *But, wait. Here's the catch:* In Ixtahuacan Mam, there is a person restriction on the subject and object of transitive clauses akin to the weak PCC.

  (10) England (1983:62)

  a. ✓ 2sg > 3sg
  ma tz'-ok t-tzeeq'an=a
  PROX B3SG-DIR A2SG-hit=PART
  'You hit him.'

  b. ✓ 1sg > 3sg/2sg
  ma tz'-ok n-tzeeq'an=a
  PROX B3SG-DIR A1SGE-hit=PART
  'I hit him/you.'

  c. ✓ 2sg > 1sg
  ma chin ok t-tzeeq'an=a
  PROX B1SG DIR A2SG-hit=PART
  'I hit him.'[1]

_____

[1]This sentence can also mean 'I hit you.'

d. % 3sg > 1sg
ma chin ok t-tzeeq'an
PROX B1SG DIR A3SG-HIT
'She hit me.'

e. % 3sg > 2sg
ma tz'-ok t-tzeeq'an
PROX B2SG-DIR A3SG-HIT
'She hit you.'

- The pattern is summarized below for singulars:

Table 5: Transitive argument restriction

SUBJ	OBJ	
1	3	OK
1	2	OK
2	1	OK
2	3	OK
3	1	%
3	2	%
3	3	OK

PCC generalizations:

- Syntactic accounts of person restrictions of the two objects of ditransitive (typical PCC patterns) rely on the assumption that **one probe is agreeing with two DPs** (Nevins 2007, Anagnostopoulou 2005, Bejar and Rezac 2003).

- In addition, there is **a double weakness condition** on the PCC- PCC effects can be obviated in some languages by avoiding phonologically weak realizations (agreement/clitics) of either the IO or DO.

I will argue that **that Infl^0 agrees with both DPs**. Infl^0 creates an object absolutive clitic with full ϕ features and a subject enclitic only marking [PARTICIPANT].

- First I'll show how an interaction and satisfaction model of Agree can derive the weak PCC.

- Then, I'll show that object movement in addition to the probe being on Infl derive the Mam agreement facts.

3.3 Deriving the Weak PCC

PCC describes constraints on person combinations in ditransitive constructions.

Table 6: Strong PCC		
IO	DO	
1	3	OK
1	2	*
2	1	*
2	3	OK
3	2	*
3	1	*

Table 7: Weak PCC		
IO	DO	
1	3	OK
1	2	OK
2	1	OK
2	3	OK
3	1	*
3	2	*

3.4 The PCC within an Interaction and Satisfaction framework

Agree as Interaction and Satisfaction (Deal 2015):

- Probes have to slots for specifications:
    - Interaction features: features that probe copies back
    - Satisfaction features: features that cause the probe to stop probing.

- Deal (2015) shows that this theory can account for agreement phenomena like Nez Perce complementizer agreement which agrees with all DPs ϕ features [Int: ϕ] but will stop probing once it reaches second person [Sat: PART].

The starting place for the PCC: Agree builds the necessary relationship for cliticization. (Anagnostopoulou 2003, Béjar and Rezac 2003)

Strong PCC.

- If the probe is placed between the direct and indirect object, and you assume cyclic expansion of probes (Béjar and Rezac 2003), this derives the DO preference.

- If the DO is local [PART], cliticization (and therefore Agree) cannot proceed with the indirect object .

- **[PART] satisfies the probe.**

Weak PCC.

For the Weak PCC, we need to say a bit more. Namely, if the probe encounters a participant first, it can continue to Agree with the higher arguement *only if it is also a participant.* In other words, it must:

1. Continue probing in order to find the subject

2. Only Agree if that subject is local person

Accounting for the weak PCC

- Deal (2019) proposes that a probe's interaction conditions can be updated throughout the course of Agree.

    (13) Dynamic Interaction: A probe satisfied by any ϕ feature must begin with ϕ as its interaction condition, but this condition can be dynamically changed in the course of cycles of Agree.

Srong PCC: The famous case is the that of the Strong PCC in languages like French (Perlmutter 1971, Bonet 1991).

(11) a. Lucille me / te la présentera.
Lucille 1SG / 2SG 3SG.F.ACC will.introduce.
'Lucille will introduce her to me/you.'

b. Lucille la / *me / *te leur présentera.
Lucille 3SG.F.ACC / 1SG / 2SG 3PL.DAT will.introduce.
'Lucille will introduce her/*me/*you to them.'

c. *Lucille me te / te me présentera.
Lucille 1SG 2SG / 2SG 1SG will.introduce.
'Lucille will introduce you to me/me to you.'

d. Lucille te présentera a eux / moi .
Lucille 2sg will.introduce to them / me .
'Lucille will introduce you to them/me.'

Weak PCC In Italian, local on local is grammatical for some speakers (Monachesi, 1998).

(12) a. Martina me lo spedisce.
Martina 1SG 3SG.ACC sends
'Martina sends it to me.'

b. *Martina gli mi/ti presenta.
Martina 3SG.DAT 1SG/2SG introduces.
'Martina introduces me/you to him.'

c. *%pro* mi ti raccomanda.
3SG 1SG 2SG recommended.3sg
'He recommends you to me / me to you.'

- Specifically, a probe can, when copying back features, **copy back features into the interaction condition specification**.

- A probe whose specified interaction feature is [PART$^\uparrow$], will, when copying back [PART] features, copy them into the interaction conditions.

- This prevents any interaction with 3rd persons after first encountering a local person: the weak PCC.

One last piece.

- Insatiable probes: Probes can lack satisfaction conditions altogether [sat: -]. This derives the observation that the probe keeps looking.

With these two notions: insatiable probes and dynamic interaction, we can derive weak PCC patterns straightforwardly.
Summary:

- The best way to account for a weak PCC pattern is for one probe to interact with both arguments.

- An insatiable probe with a dynamic participant interaction condition [PART$^\uparrow$] derives weak PCC patterns.

The question becomes, which head hosts the probe specified: Int: [PART$^\uparrow$] Sat: [-]? I'll argue that this probe is on Infl^0.

4 Deriving Mam agreement

In this section I'll show that Infl^0 is the head that agrees with both arguments, we can straightforwardly account for the following Mam facts:

- Weak PCC-like restriction

- High-abs marking

- Ban on ergative extraction

- Object preference

- ABS lost in non-finite clauses

- Agreement morphology

So far:

- We've seen that simply the specification of a probe can derive the weak PCC pattern.

- Next, I'll show that the object moving above the subject derives both high-abs marking and the ban on ergative extraction.

- Lastly, I'll show that placing the probe on Infl derives the object preference and the observation that absolutive is unavailable in non-finite clauses.

4.1 Object Movement

Following Coon et al (2019), I adopt the premise of the analysis of Mayan syntactic ergativity:

(14) Mayan EEC generalization:
When an interpreted DP object structurally intervenes between the subject and the $\bar{A}$-probe on C^0, the subject is restricted from undergoing $\bar{A}$-extraction.

(15) Subject is trapped in high-abs languages (Coon et al 2019:20)

Subject cannot extract
[$_{CP}$ __ … [$_{vP}$ OBJECT [SUBJECT [$_{VP}$ V ~~OBJECT~~]]]]
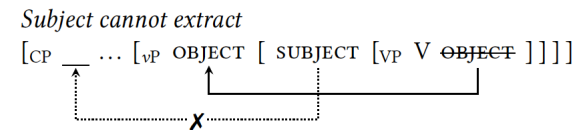
- This neatly account for why high-abs languages have this restriction but low-abs languages don't:

  - Low abs: If the object stays in-situ the subject can extract freely.

- A possible problem for the current formulation of my analysis: the exact mechanism for *why* the object is an intervener assumes Feature Gluttony (Coon & Keine 2018) which is proposed under a different formulation of Agree.

Given the configuration in (15),

- Infl^0 is most straightforwardly the locus of Agree which interacts with both arguments.

- This derives the object preference, as the object is structurally closer to Infl^0.
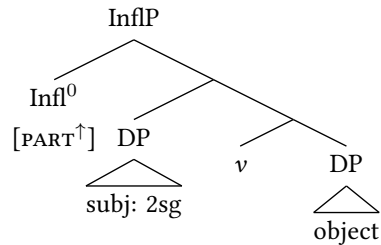
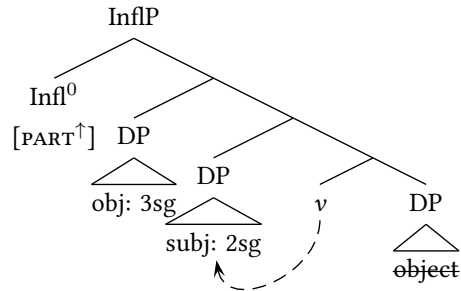# 5 The probe is on Infl

5.1 Deriving grammatical combinations

Local > nonlocal

(16) √2sg > 3sg
ma   tz'-ok   t-tzeeq'an=a
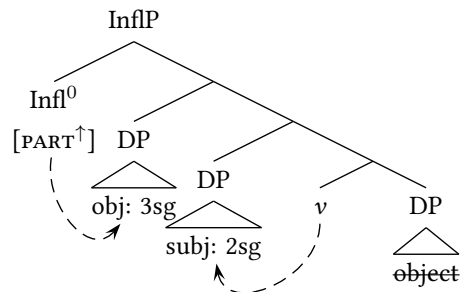PROX B3SG-DIR A2SG-hit=PART
'You hit him.'

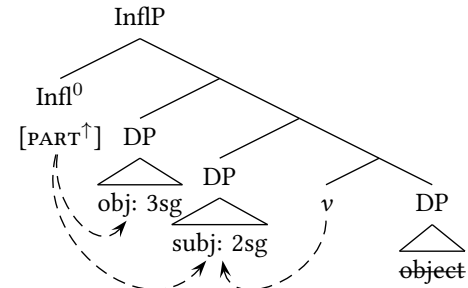(17) Basic structure- probe on Infl is [Int: PART↑, Sat: -]

(18) Object movement; *v* Agreement
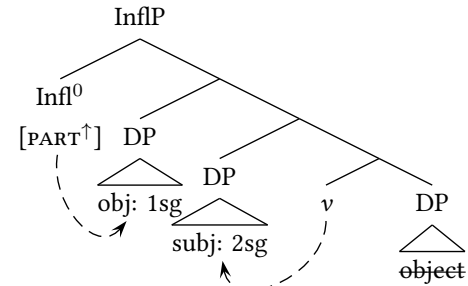

(19) First probing: 3sg clitic *tz'=* is created

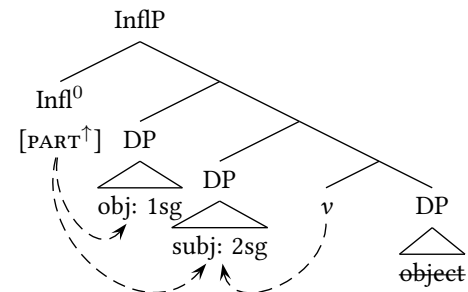(20) Continued probing: [PART] clitic =*a* is created

Local > local

(21) √2sg > 1sg
ma   chin ok t-tzeeq'an=a
PROX B1SG DIR A2SG-hit=PART
'You hit me.'

(22) First probing: 1sg clitic *chin=* is created, **interaction condition is changed to [PART].**

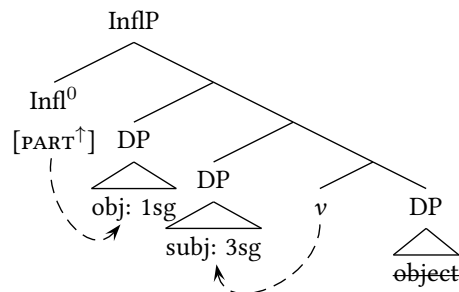(23) Continued probing: [PART] clitic =*a* is created

Discussion

- In this configuration, the first Agree interaction of the probe with object creates an absolutive clitic.

- This interaction also updates the interaction condition of the probe to be only [PART], prohibiting 3rd person subjects.

- The second Agree interaction, with the local subject, creates an enclitic which only reflects [PART]

  - This supports the idea of Dynamic Interaction (Deal 2019) in that the enclitic never expones anything other than participant features. This is expected if the probes interaction conditions are only [PART].

5.2 Ruling out 3>local

(24) % 3sg > 1sg
      ma   chin ok t-tzeeq'an
      PROX B1SG DIR A3SG-HIT
      'She hit me.'

(25) First probing: 1sg clitic *chin=* is created, **interaction condition is changed to [PART]**.

(26) Continued probing: 3sg subj does not have [PART] feature. The probe cannot Agree. A clitic is not created.

5.3 How is ergative realized?

- So far, nothing really rules out 3>2 in the last derivation if we assume that ergative is assigned by *v* alone.

  - However, if [ERG] requires both Infl and *v* Agreement, then the sentence in (24) will never be derived.

- This is similar to the analysis of ergative case assignment in Amahuaca as agreement with multiple heads (Clem to appear).

6   Next directions

1. What about San Juan Atitán Mam? (data collected by me in Oakland, CA).

   - San Juan Atitán Mam differs in two very crucial ways from Ixtahuacán Mam:

   (a) In transitive clauses, absolutive arguments are not marked on the verb with clitics. Verbs only show ergative agreement:

       (27) a. O   tz'ok t-b'yo-n=i   [a qini].
                PROX DIR   A2SF-hurt-n=PART DET 1SG
                'You hit me.'

             b. O   tz'ok **n**-b'yo-n=i   [ay].
                PROX DIR   A1SG-hurt-n=PART 2SG
                'I hit you.'

   (b) There are no PCC effects:

       (28) O   tz'ok **t**-b'yo-n   [ay].
             PROX DIR   A3SG-hurt-n 2SG
             'She hit you.'

2. **How plural and inclusivity interact with the subject/object restriction**

   - **Expected**: *If the subject is 3rd person, you cannot have either a first person singular (1) or plural (1,pl) or second person singular (2) or plural (2,pl).

   - **Unexpected**: ✓But it's grammatical to have 3rd person subject and a first person inclusive (1+2) or (1+2,pl).

Table 8: Plurals

SUBJ	OBJ	
1	2/3	OK
2	1/3	OK
3s	1/2s	%
3s	1/2PL	*
3PL	1/2s	*
3PL	1/2PL	*
3	1PL.INCL	OK
3s	3s	OK
3s	3PL	*
3PL	3s	OK
3PL	3PL	*

Number plays into this hierarchy as well

- 1.pl inclusive is treated as 3rd person (abstracting away from binding facts) in PCC effects

  - *3 >1plexcl (1+3)
  - ✓ 3 >1plincl (1+2)
  - ✓ 3 >3
  - *3 >1/2

- In addition, 1pl inclusive behaves "like" 3rd person in the morphology as well.

	SG	PL
1 EX	=a	=a
1 IN		∅
2	=a	=a
3	∅	∅

  - Noyer (1992) analyzed the =a as the following: when speaker and addressee values are opposites ([+spkr,-addr] or [-spkr,+addr]) you insert the =i.
  - It's an open question as to how we could implement this in the agreement analysis presented here for Ixtahuacán Mam.
  - Is it a just morphological hierarchy? If the object is lower than the subject, it results in ungrammaticality:

$$*\varnothing >= a$$

References

Anagnostopoulou, Elena. 2003. *The syntax of ditransitives: Evidence from clitics.* Walter de Gruyter.

Anagnostopoulou, Elena. 2005. Strong and weak person restrictions: A feature checking analysis. *Clitic and affix combinations: Theoretical perspectives.* 199-235.

Béjar, Susana, and Milan Rezac. 2003. Person licensing and the derivation of PCC effects. In *Romance linguistics: theory and acquisition*, eds. Ana Teresa Pérez-Leroux and Yves Roberge, 49?62. Amsterdam: John Benjamins.

Bonet, Eulalia. 1991. Morphology after syntax: Pronominal clitics in Romance. Doctoral Dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts.

Clem, Emily. to appear. Amahuaca ergative as agreement with multiple heads. *Natural Language and Linguistic Theory.*

Coon, Jessica, Nico Baier, Theodore Levin. 2019. Mayan Agent Focus and the Ergative Extraction Constraint: Facts and Fictions Revisited. lingbuzz/004545

Coon, Jessica and Stefan Keine. 2018. Feature gluttony. Manuscript, McGill and USC. lingbuzz/004224

Coon, Jessica, Pedro, Pedro Mateo, & Preminger, Omer. 2014. The role of case in A-bar extraction asymmetries: Evidence from Mayan. *Linguistic Variation*, 14(2), 179-242.

Deal, Amy Rose. 2015. Interaction and satisfaction in f -agreement. In Proceedings of NELS 45, eds. Thuy Bui and Deniz Ozyildiz, 179?192. Amherst: GLSA.

Deal, Amy Rose. 2019. Interaction, Satisfaction, and the PCC. Talk presented at UC Berkeley Syntax and Semantics Circle.

England, Nora. 1983. A Grammar of Mam, a Mayan language. Austin: University of Texas Press.

England, Nora C. 2013. "Cláusulas con flexión reducida en Mam." In Clases léxicas, posesión y cláusulas complejas en lenguas de Mesoamérica, ed. by Enrique Palancar and Roberto Zavala, 277-303. Mexico: Centro de Investigación y Estudios Superiores en Antropología Social.

England, Nora. 2017. Mam. In Aissen, Judith, Nora C. England, and Roberto ZavalaMaldonado, ed. 2017. *The Mayan languages*. Routledge Language Famliy Series. New York: Routledge.

Legate, J. A. 2008. Morphological and abstract case. *Linguistic Inquiry*, 39(1), 55-101.

Monachesi, Paola. 1998. Decomposing Italian clitics. In *Romance in HPSG*, eds. S Balari and L Dini. CSLI Publications.

Nevins, Andrew. 2007. The representation of third person and its consequences for person-case effects. *Natural Language & Linguistic Theory*, 25(2), 273-313.

Noyer, Rolf. 1992. Features, positions and affixes in autonomous morphological structure. Ph.D. thesis, MIT.

Perlmutter, David. 1971. *Deep and surface structure constraints in syntax.* New York: Holt, Rinehart and Winston.

Tada, Hiroaki. 1993. *A/A-bar partition in derivation.* Ph.D. thesis, Cambridge, MA: MIT.

Appendix

6.1 Does *v* agree with both arguments? Cyclic Agree

Putting the probe on *v* accounts neatly accounts for the object preference.

However, it does not straighfowardly account for the following:

- **Absolutive is unavailable in non-finite clauses**

- Absolutive is marked "high"

- The ergative argument is banned from extracting.

One possible solution:

- Infl *also* agrees with the object, giving it absolutive case and creating the absolutive clitic.

This still does not account for ban on ergative extraction. It also incorrectly predicts which argument will control 2 agreement slots on the verb:

- The subject is marked with ergative (set A) and the enclitic

- The object is only marked with the absolutive (set B) clitic.

- If Infl and *v* agree with the object, we predict the opposite.