# Person hierarchies trigger syntactic inversion*

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**Abstract:** Chorote (Mataco-Mataguayo, northern Argentina and western Paraguay) exhibits a split intransitive or active-inactive alignment that is, in very broad terms, typical of the Gran Chaco and southern Amazon region. More specifically to Chorote, when the verb is suffixed with the prospective auxiliary *-hayi*, the argument on the resulting complex predicate is always marked in the inactive form, irrespective of the semantics of the lexical verb. In this paper, we argue that this pattern of subject marking in Chorote can be explained most elegantly by means of a structural analysis in which "winning" the competition for the person prefix slot in prospective forms may entail triggering sintactic inversion in lexical verbs. We further discuss the status of pronominal markers in Chorote, and briefly compare the behavior of *-hayi* in Chorote with related morphemes in Nivaclé which display different characteristics.

**Keywords:** person hierarchy, inverse voice, Mataco-Guaykuruan languages, raising predicates

## 1 Introduction

So-called person hierarchy effects are a well-known linguistic phenomenon that may be found in a great number of languages throughout the world. One well-known example is the *me-lui* constraint in Romance languages (Rivero 2008; Ormazábal and Romero 2007), whereby it is impossible to combine a non-third person direct object clitic with a third-person indirect object clitic:

(1) *Me$_{DO}$ le$_{IO}$ recomendaste./*Le$_{IO}$ me$_{DO}$ recomendaste./*Se$_{IO}$ me$_{DO}$ recomendaste.
Intended: You recommended me to him.

Person hierarchy effects may also be found in several languages of the Americas, where person prefixes on transitive verbs may represent the object or the subject, always choosing the non-third-person participant if there is one. This may be observed in the following data from Guaraní:[1]

* The authors wish to thank the audience at WSCLA 18 for many helpful comments, as well as the organizers of the volume. The talk at WSCLA also included a part on Guarani transitivity that is not incorporated here for reasons of space. An earlier version of the present paper was prepared for presentation at the 54th International Congress of Americanists in Vienna. We thank the organizers of the symposium on animacy hierarchies, Jimena Terraza and Katharina Haude, who circulated an extended handout among participants, as well as audiences in Santa Fe, Buenos Aires, OCLU at Ottawa and LASA in San Francisco, who heard previous versions of the talk. We also wish to thank our Chorote consultants, and Alain Fabre for discussion of Nivaclé data. All remaining errors are ours. The data for this paper was collected by Carol in various trips to the field between 2005 and 2011, through elicitation and participant observation unless indicated otherwise. This paper is dedicated to Ana Gerzenstein, *in memoriam*.

[1] The following abbreviations are used: 1, 2, 3 = first, second and third persons; ACT = active case; CL = clitic; DEM = demonstrative; DESID= desiderative; DO = direct object; IMPRS = impersonal; INCT = inactive case; IO = indirect object; O/S = object of transitive or subject of intransitive; P = applicative or adposition; pl/PL = plural; POSS = possessive; PRON = pronominal root; PRSP = prospective; sg = singular.

In Proceedings of the Workshop on Structure and Constituency in the Languages of the Americas 18 & 19, University of British Columbia Working Papers in Linguistics 39,
Natalie Weber and Sihwei Chen (eds.), 2015.

(2) a. che-nupã
1INCT-beat
'he/she/it beats me'

b. ai-nupã
1ACT-beat
'I beat it/him/her'

Silverstein (1976) was the first to observe that there is a universal tendency for a particular hierarchy of noun phrase types to be respected in these cases, one that has commonly come to be called the *person hierarchy*. In the standard definition, the hierarchy goes from most to least "referential" in the order 1 > 2 > 3 > non-pronominal NP. The way in which the hierarchy may be seen acting in the two cases mentioned above is that, in (1), it is impossible to have a DO that is higher in the hierarchy than the IO, and in (2), that the participant which is higher in the hierarchy among subject and object is the one that surfaces as a person prefix in the only available slot.

The exact ordering of elements in the hierarchy has come into question on several occasions, and it seems clear that the ordering 1 > 2 is not universal (see e.g. Junker 2011). This question does not concern us directly here. Rather, the present paper touches on what sort of effect the person hierarchy triggers, whether it is a morphological effect or a syntactic one. While for the Romance languages this is a debate that has been laid out explicitly (see Rivero 2008 for references), and some discussion has occurred regarding the Algonquian languages (Rhodes 1994), there is to our knowledge no previous discussion of syntactic solutions to person hierarchy effects in the languages of the South American lowlands.

As an example of a purely morphological analysis applied to a hierarchy effect such as that exemplified in (2), we cite Nevins & Sandalo (2010). For Nevins & Sandalo, the constraints on co-occurrence of person features are a consequence of morphological operations of feature deletion. As such, they are not expected to interact in any way with other syntactic phenomena.

On the other hand, there exist analyses where hierarchy effects are attributed to syntax. For instance, Béjar & Rezac (2009) explain Algonquian agreement patterns through the mechanics of Agree, a syntactic operation. Effectively, this approach is syntax-driven, in the sense that morphology is sensitive to syntactic domains, but the morphological facts are not directly tied to any specifically syntactic consequence. This seems to be a characteristic of most syntactic approaches to hierarchy effects.

In this paper, we claim that inverse voice is triggered to satisfy the person hierarchy in Chorote, a Mataco-Mataguayan language of northern Argentina and western Paraguay.[2] In particular, we argue that hierarchy-driven agreement facts interact with a raising operation found in the prospective construction in the Iyo'(a)wujwa'/Manjui variety of this language. To our knowledge, such a syntactic effect of the person hierarchy has not been reported elsewhere, though it is contemplated as a possibility in, e.g., Béjar and Rezac (2009).

A broader consequence of our analysis of Chorote regards the analysis of split-ergative systems. A large body of literature attemps to explain splits in alignment by appealing to functional motivations, rooted in discourse and in cognition. Examples of such work are Dixon (1994) and Gildea (2004). In this paper, we endeavor to show that the pattern of participant marking in Chorote

[2] Chorote (ISO codes: crt, crq) is spoken by no more than 3,000 people in Argentina (province of Salta) and Paraguay (Boquerón county). It belongs to the (Mataco-)Mataguayan or Matacoan family, along with Wichí (Argentina, Bolivia), Nivaclé (Paraguay, Argentina) and Maká (Paraguay) languages. There is a major dialectal division between (a) Iyojwa'(a)ja', spoken in Argentina (ISO: crt), and (b) Iyo'(a)wujwa', spoken in Argentina, plus Manjui (or Lumnana, or Wikina Wo) spoken in Paraguay (ISO crq). This paper focuses in the (b) dialect, sometimes called *montaraz* ("from the forest"), by opposition to the (a) *ribereño* (from the riverbank), since its speakers lived mainly in the forests of Paraguayan Chaco until the first half of the XXth century.

unmarked and prospective clauses can be explained most elegantly by means of a structural analysis, an approach that has precedents in the analysis of tense-aspect and person splits within formal syntax (cf., for instance, Coon 2012; Nash 1995).

## 2 Chorote split intransitivity

Chorote exhibits a pattern of split intransitivity that is, in very broad terms, typical of the Gran Chaco and southern Amazon region.

Among intransitive verbs, those whose subjects are agentive in a broad sense display *active* person and number inflection, while those whose subjects are non-agentive display *inactive* person and number inflection:

(3) a. a-lak$^{y}$en
1ACT-play
'I am playing'

b. si-hwɪhl$^{y}$en
1sg.INCT-dream
'I am dreaming'

When a verb is transitive, still only one participant is indexed by person prefixes.[3] In Chorote, the person hierarchy follows a 1 > 2 > impersonal > 3 order. The prefixal inflection on the verb will always correspond to the person and number of the argument that is highest in this hierarchy, irrespective of its grammatical function. For inflection corresponding to the object, the *inactive* series of person prefixes is used, while for that corresponding to the transitive subject, the *active* series is used:

(4) a. a-lan
1ACT-kill
'I killed you/{him/her/it}'

b. si-lan
1sg.INCT-kill
'you/{he/she/it} killed me'

(5) a. hi-lan
2ACT-kill
'you killed him/her/it' (but never 'you killed me')

b. in-lan
2INCT -kill
'he/she/it killed you' (but never 'I killed you')

As can be seen in the previous examples, first person wins over second and second over third and, as the following examples show, first and second person also win over the impersonal prefix *ti-*, even if in this case the impersonal is still realized by a secondary exponent in the suffix *-a(h)*

[3] There are other morphemes beyond the person prefixes that also serve to index participants and are not subject to the person hierarchy discussed here; these include impersonal and plural suffixes. However, only the prefixes encode the full set of person distinctions in the language, and are thus regarded as primary.

not subject to person hierarchy (see footnote 3 and Section 5.1); finally, (6c) shows that the impersonal wins over regular third person:

(6) a. si-lan-a
1INCT-kill-IMPRS
'they (impersonal) killed me'

b. in-lan-a
2INCT-kill-IMPRS
'they (impersonal) killed you'

c. ti-lan-a
IMPRS-play-IMPRS
'they (impersonal) killed it/him/her'

Third person inflection displays some peculiarities. In transitive verbs, when third person acts on third person, the prefix is always *i-* (*y-* before vowels), but in intransitives there are four or five stem classes defined by the prefixes, among which there is also *i-* (*y-*). The active intransitive verbs can belong to three different prefix classes: *ti-* (*t-*), ∅-, and *i-* (*y-*), while the inactives can belong to prefix classes *(i)n-*, (*a-*) in addition to the aforementioned ∅- and *i-* (*y-*). (For simplicity, we only show singular forms of the person prefixes; plural forms are expressed by means of a combination of a singular prefix plus a suffix not subject to person hierarchy, except for the plural of first person inactive, which uses a portmanteau prefix.)

(7) a. Active intransitives (/_C /_V)

| | | |
|---|---|---|
| 1 | a- | ∅- |
| 2 | hi- | hl- |
| IMPRS | ti- | t- |
| 3 | i- | y- |
| | ti- | t- |
| | ∅- | |

b. Inactive intransitives (/_C /_V)

| | | |
|---|---|---|
| 1 | si- | s- |
| 2 | in- | n- |
| 3 | i- | y- |
| | in- | n- |
| | (a-) ∅- | |
| | ∅- | |

Since the third person prefix *i-* occurs in both the active and inactive paradigm, one cannot tell by the prefixes only whether *i-* (*y-*) in transitive verbs marks the A or the O participant. We will assume the first to be the case. Some evidence for this comes from the fact that *i-* (*y-*) coocurs with the reflexive morpheme, cf. *i-wit lan* (3ACT-REFL kill) 'He/she kills himself/herself': if we consider that *wit* occupies the object position, then *i-* must be indexing the subject. This would be the only place where Chorote prefixal person marking displays some sensitivity to grammatical function in simple predicates, indexing subjects rather than objects when all else is equal.

## 3 A split in the marking of subjects

The pattern described above changes in the *montaraz* variety when the verb is suffixed with the prospective auxiliary *-hayi* (usually *-yi* after a vowel; *-(ha)yu* in the Manjui variety of Paraguay).[4] The argument on the (now complex) predicate is always marked in the inactive form, irrespective of the semantics of the lexical verb:[5]

(8) a. si-lak$^{y}$ehnayi'
si-lak$^{y}$an-hayi
1sg.INCT-play-PRSP
'I am going to play'

b. si-hwɪhl$^{y}$ehnayi'
si-hwihl$^{(y)}$an-hayi
1sg.INCT-dream-PRSP
'I am going to dream'

With transitive verbs in the prospective, while the argument that is marked on the complex predicate is that which is highest in the person hierarchy, the form that the prefix takes is always inactive (though see footnote 5), irrespective of whether it represents the object or the subject of the lexical verb. This can be seen clearly in the following comparison between the unmarked and the prospective forms.

| (9) | *Unmarked* | *Prospective* |
|---|---|---|
| a. | a-lan<br>1ACT-kill<br>'I killed you/{him/her/it}.' | si-lahnayi'<br>1sg.INCT -kill.PRSP<br>'I am going to kill you/{him/her/it}.' |
| b. | si-lan<br>1sg.INCT-kill<br>'you/{he/she/it} killed me.' | si-lahnayi'<br>1sg.INCT-kill.PRSP<br>'you are/{he/she/it} is going to kill me.' |

As one can see in these examples, the addition of the prospective results in a neutralization of the information on grammatical function that is expressed in the prefix: it is impossible to distinguish between *active* and *inactive* participants in the prospective. In summary, this is how all the prefixal person combinations in the singular do in the unmarked and in the prospective forms of the verb (we exclude impersonal here):

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[4] In the *ribereño* or *iyojwa'(a)ja'* variety, things are very different: prospective is indicated through an invariable particle *ha* which precedes the verb (which takes irrealis morphology) and the negation morpheme, cf. ***ha*** *ke i-lyaki'n* (**PRSP** NEG 1ACT.IRR-play) 'I am going to play'.

[5] A potential exception is the impersonal, which does not distinguish between active and inactive forms, e.g. ***ti***-*lak$^{y}$en-a-hayi'* (IMPRS-play-IMPRS-PRSP) 'they (impersonal) are going to play'. In fact, impersonal prefixes could be regarded as active ones, since they coocur less frequently with inactive verbs and, with transitive ones, the impersonal prefix can only indicate the subject and never the object, e.g. *ti-lan-a-hayi'* (IMPRS-play-IMPRS-PRSP) 'they (impersonal) killed it/him/her'. In this sense, impersonal 'active' prefixes with prospective could be considered as an exception to the generalization stated in the text.

(10) *1 on 2/3*

a. a-lan
1ACT-kill
'I killed you/{him/her/it}'

b. si-lahnayi'
si-lan-hayi
1sg.ACT-kill-PRSP
'I am going to kill you/{him/her/it}'

(11) *2/3 on 1*

a. si-lan
1sg.INCT-kill
'you/{he/she/it} killed me'

b. si-lahnayi'
si-lan-hayi
1sg.ACT-kill-PRSP
'you are/{he is/she is/it is} going to kill me'

(12) *2 on 3*

a. hi-lan
1ACT-kill
'you killed him/her/it.'

b. in-lahnayi'
in-lan-hayi
2INCT-kill-PRSP
'you are going to kill him/her/it.'

(13) *3 on 2*

a. in-lan
2INCT-kill
'he/she/it killed you'

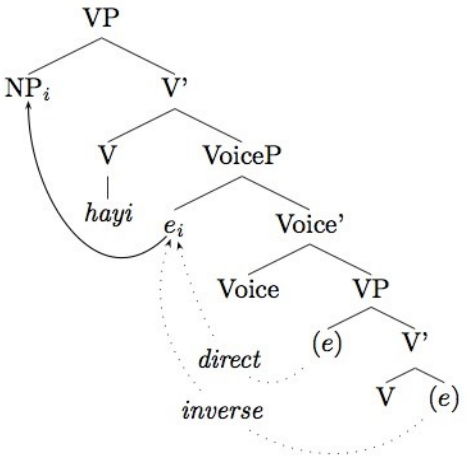
b. in-lahnayi'
in-lan-hayi
2INCT-kill-PRSP
'He is/she is/it is going to kill you'

### 3.1 Synopsis of our analysis

In this paper, we will argue that the prospective marker *-hayi* is a raising verb rather than an inflectional ending, and that the person prefix that surfaces on a predicate in the prospective corresponds to an argument that is raised, in the sense of Postal (1974), from the lexical verb's argument grid. Raising typically targets the subject of an embedded predicate, and hence our analysis implies that when the patient argument of a transitive verb is indexed in a prospective

construction, syntactic inversion has to have taken place in the embedded lexical verb, even if this is not revealed directly by inverse voice morphology. We may synopsize our analysis by means of the following tree, where the raising verb *-hayi* is lexically specified to assign inactive case to its specifier, whereas the lexical verb is stripped of the ability to assign any case.

(14) *-hayi* as a raising verb




Before we proceed to the central tenets of our analysis, we focus on a related point in our exploration: whether the person prefixes should be considered pronouns or agreement. Establishing this will allow us to fill in some of the technical details of our analysis, namely whether raising targets an actual pronominal prefix or a normally empty noun phrase, with which the predicate later agrees. Whether the person prefixes are pronouns manipulated by the syntax or agreement markers is not crucial to our analysis, but for the sake of concreteness we favor the idea that they are indeed pronouns.

## 4 Person prefixes as pronouns

The idea that person affixes may in certain languages be pronouns acting as arguments rather than agreement marks is first introduced to formal syntax by Jelinek (1984) as the "pronominal argument hypothesis", but the intuition is possibly much older. In this section, we give some evidence that person affixes in Chorote are pronominal. The evidence, though suggestive, is not conclusive. For this reason, when we present the raising analysis in Section 5, we discuss briefly how the analysis would have to be adapted were we to conclude that the prefixes are not pronominal.

Chorote is a strongly head-marking language where noun phrases and free pronominal forms are normally omitted, and clauses typically consist of only the predicate with its bound pronominal indices.

(15) (Y-em) a-'wen ('-am)
(1sg.POSS-PRON)[=I] 1ACT-see (2POSS-PRON)[=you]
'I see/saw you.'

What could be called free pronouns in the language are normal nouns. These free pronouns have internal structure, sharing a "pronominal root" *-am-* to which the various possessive personal indices and number markers are affixed:

(16) a. y-em
1sg.POSS-PRON
'I'

b. '-am
2POSS-PRON
'you'

c. hl-am
3POSS-PRON
'he/she/it'

Plural pronouns are marked with the plural suffixes that are used to pluralize possessors, rather than the nouns themselves: compare (17) and (18) to (19), where e.g. the suffix *-is* (the one that appears in (17c) *hl-am-is* 'they') indicates plurality of the possessor and not of the possessed noun. Nominal plurals usually have distinct suffixes, as *-l* in (19) illustrates, and the possessor plural is always on the outside of the nominal plural:

(17) a. **s**-am
1pl.POSS-PRON
'we'

b. **'**-am-**eɬ**
2POSS-PRON-2pl
'you (pl)'

c. **hl**-am-**is**
3POSS-PRON-PL
'they'

(18) a. **si**-'wet
1pl.POSS-place
'our place/home'

b. **'a**-'wet-**eɬ**
2POSS-place-2pl
'your (pl) place'

c. **hi**-'wet-**is**
3POSS-place-PL
'their place/home'

(19) **hi**-ts'e-l-**is**
3POSS-belly-PL-PL
'their bellies' (Gerzenstein 1983:98)

Pending a better understanding of the information structure status of independent pronouns in Chorote, we could compare the distribution of pronouns in this language to that of other pronominal argument languages, or even to the so-called *pro*-drop Romance languages (Jaeggli and Safir 1989) or Turkish (Kornfilt 1984).

Admittedly, this falls somewhat short of establishing that person indices on the predicate are in complementary distribution with full noun phrases or free forms of pronouns, which is the hallmark of a pronominal argument language. However, there are some hints that go in this direction. Complementary distribution between an NP (*tewak* 'river' in (20a)) and a pronominal marker (-*'a*- '2' in (20b)) does in fact obtain with applied/adpositional arguments:

(20) a. a-tahl-e **tewak-ih**.
1ACT-come.out-P **river-P**
'I obtained it from the river.'

b. a-tahl-e-**'a-yh**.
1ACT-come.out-P-**2-P**
'I obtained it from you.'

## 5 -*hayi* as a raising predicate

The -*hayi* seen in examples (9) et ss. above, repeated here as (21), encodes a meaning that might be translated as an imminent future, or, as we have put in the glosses, *prospective*.

| (21) | *Unmarked* | *Prospective* |
|---|---|---|
| a. | a-lan | si-lahnayi' |
| | 1ACT-kill | 1sg.INCT-kill.PRSP |
| | 'I killed you/{him/her/it}.' | 'I am going to kill you/{him/her/it}.' |
| b. | si-lan | si-lahnayi' |
| | 1sg.INCT-kill | 1sg.INCT-kill.PRSP |
| | 'you/{he/she/it} killed me.' | '{you are/he is/she is/it is} going to kill me.' |

Prospective -*hayi* may act as a desiderative or intentional in Chorote and in sister languages. This can be seen clearly in the following data from Nivaclé (data from Seelwische 1975:190) and Maká (data from Gerzenstein 1994:110):

(22) a. ts'-iyαx-xayu
1INCT-drink-DESID
'I'm thirsty', i.e. 'I want to drink'. (Nivaclé)

b. ni-wapi-hiyu
3INCT-rest-DESID
'He/she wants to have a rest.' (Maká)

In Chorote, examples such as those in (8), repeated here as (23), admit desiderative readings side-by-side with the prospective given in the earlier glosses.[6]

(23) a. si-lak$^{y}$ehnayi'
si-lak$^{y}$an-hayi
1sg.INCT-play-PRSP
'I am going to play'
'I intend to play' (Chorote)

b. si-hwɪhl$^{y}$ehnayi'
si-hwihl$^{(y)}$an-hayi
1sg.INCT-dream-PRSP
'I am going to dream'
'I intend to dream' (Chorote)

However, there are also clear examples to show that *-hayi* cannot be only a desiderative in Chorote. In the following example *-hayi* occurs with a verb whose subject cannot be the experiencers of a desire: [7]

(24) In-tapo-yi-we
3INCT-be.full-PRSP-P
'It will be full' (e.g., a pail). (Chorote)

In fact, the contrast between the desiderative and the prospective meanings is accompanied in Nivaclé, though not in Chorote, by a difference in their morphosyntax, suggesting that we might be dealing with two homophonous but distinct markers. Consider the following data from Nivaclé:

(25) a. k'a-yαα
1ACT-drink
'I drink' (Nivaclé)

b. k'a-yαα xayu
1ACT-drink PRSP
'I am going to drink.' (Nivaclé)

If one compares (22a) with (25b), one sees that the case of the person prefix is the same as that which is selected by the lexical verb in the latter, but is always inactive in the former. Chorote, on the contrary, has generalized the inactive morphology to all constructions involving *-hayi*, whether they are desiderative or prospective.

[6] True "want to" constructions exist in Chorote, and they consist of a *want* verb taking a finite complement. The discussion about the exact meaning of the morpheme *-hayi* is only relevant to our argumentation insofar as it allows us to establish whether *-hayi* takes or not a volitional (e.g., thematic) subject.

[7] More subtly, one could think that any sentence where the person prefix in the construction corresponds to the object of the lexical verb, as in (10b) and (12b), would also pose difficulties to thinking of *-hayi* as always being desiderative.

### 5.1 The analysis

Our starting premise for analyzing the facts of the prospective/desiderative *-hayi* in Chorote is that a verb containing *-hayi* is a complex predicate. The suffix *-hayi* is difficult to classify as inflectional for at least two reasons: (a) Chorote lacks a tense paradigm to which *-hayi* could belong; while various other morphemes affect temporal, modal or aspectual interpretation, these seem to be enclitics to the verbal complex, rather than being in paradigmatic opposition with *-hayi*, which appears closer to the verb stem, before the applicative clitics and number markers; (b) *-hayi* seems semi-lexical insofar as it encodes both a temporal-aspectual sense and a desiderative. On the other hand, it is also implausible to classify *-hayi* as a derivational affix, as it comes outside at least one plausibly inflectional affix, i.e., the *-a(h)* exponent of the impersonal/first person plural, seen in (6), and follows any causative and antipassive suffixes. For these reasons, we suggest that *-hayi* is a secondary verbal stem that merges morphologically with the lexical verb.

The fact that predicates with *-hayi* take the *in-*/*n-* third person inactive intransitive prefix (see (7b)) suggests that the construction is intransitive. However, a second argument of the lexical verb may still be expressed by a non-prefixal exponent, as the impersonal suffix *-a* (not subject to person hierarchy) in the following example shows. Such a combination of a personal prefix and an impersonal suffix is impossible with simplex intransitive predicates.

(26) a. in-'wen-**a**-hayi'
2INCT-see-IMPRS-PRSP
'they (IMPRS) will see you.'

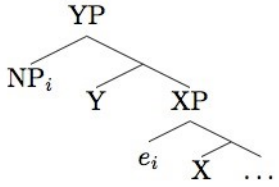
b. *hi-lak$^{y}$en-a
2ACT-play-IMPRS

The only plausible way to resolve this apparent paradox is by accepting that the construction is complex, consisting of a transitive lexical verb plus an intransitive prospective. In this complex predicate, arguments are "shared" between the prospective/desiderative and the lexical verb, much as they are in clauses with verbs that take infinitival complements in more familiar languages, where the subject argument is only expressed in the finite matrix clause:

(27) a. I want to eat.
b. Je veux partir.

Schematically, we may express this situation by means of the following structure:

(28) Complex predicate



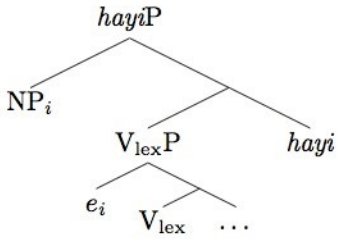

The elements X and Y represent the two parts of the complex predicate. In the case at hand, X would correspond to the lexical verb, while Y corresponds to the prospective/desiderative. The subject argument is represented by the empty position with the index *i*, while the other arguments

of the verb are left out (indicated as …). "Sharing" the subject here is interpreted as having one of the subjects be empty (*e*), but coindexed with the expressed subject NP. Whether the subject that is pronounced is the one corresponding to the lower or the higher predicate is an empirical question that might be answered differently in each particular case (e.g., much as there exists "backward control", as in Polinsky and Potsdam 2002, we could expect to find "un-raising" constructions where the higher predicate fails to attract the shared argument).

In languages that are verb-medial, it is easy to see that the expressed subject in complex constructions such as (27a) and (27b) belongs to the finite verb in the matrix clause. In addition to the position of the subject in the clause, one sees this in the agreement displayed by the verbal forms, and in the nominative case that the subject takes, which, in English and French, is associated with subjects of finite verbs.

In a language such as Chorote, where complex predicates follow a head-final order and the person markers are prefixes, the order of the elements in the complex predicate will not by itself tell us much about which predicate the overt person prefix is associated with. However, we observed above that the prospective/desiderative is associated with inactive person markers. We can extend the reasoning about nominative being associated with finite verbs in English and French to argue that the invariably inactive person prefix that is expressed in the complex predicate is associated with the higher part, i.e. the prospective. Summing this up, we have the following structure, with -*hayi* being its own predicate, and the clause headed by the lexical verb being the complement of -*hayi*:

(29) -*hayi* and the lexical verb as a complex predicate



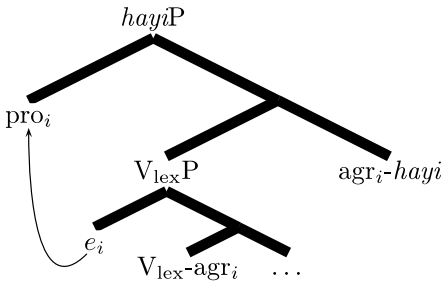

More specifically, we believe that the Chorote prospective is what Postal (1974) calls a raising construction.

If this analysis is right, there follows an important consequence for how we conceive person inflection in Chorote and in other languages where it is determined by the person hierarchy. While in raising constructions in languages such as English and French it is always the subject that raises, in Chorote, in light of data such as (11b) and (13b), it is the argument that is highest in the person hierarchy that will raise. We believe that this can only happen if inversion is triggered in the lexical verb whenever the arrangements of arguments in the direct voice is such that the object is higher in the person hierarchy than the subject. In other words, what argument is expressed as a person prefix in the Chorote verb is not simply an artifact of morphology. Chorote person prefixes always correspond to *grammatical subjects*. When the prefix corresponds to an object of a transitive verb, it is because the verb has undergone inversion. This inversion is not indicated in the morphology in Chorote, but may be seen in the fact that it is always the argument that is indexed on the verb that will raise to the subject position of a higher predicate.

In Section 4 we promised the reader an alternative account in case we were forced to consider the person prefixes of Chorote to be agreement rather than referential (pronominal) elements. There are two alternatives to deal with this, but that which is closest to the analysis that we sketch above

is one where one simply considers overt noun phrases and pronouns to be argumental. When they are present, it is they that are raised. When absent, what is raised is a phonologically empty argument. Predicates agree locally, as expected, therefore a complex predicate with *-hayi* will agree in person with the noun phrase that has raised, whereas the lexical verb may agree in number (plus the impersonal suffix). This is essentially Baker's (1996) revision to Jelinek's pronominal argument hypothesis. The following structure represents the case where there is no overt noun phrase:

(30)




This does not exhaust the possibilities, but we consider any further discussion along these lines to be beside the point, as whatever analysis is chosen will have to deal with similar locality issues with agreement, which we may summarize as follows: (a) *-hayi* is the main agreeing element; we know this because it determines that agreement has to be *inactive*; (b) agreement is with whichever of the two arguments of the lexical verb wins in the person hierarchy. Therefore, any formal analysis of the phenomenon will have to include a device to make the winning argument more local to *-hayi*. The device that we have chosen is raising plus inverse voice where required. The raising part may be substituted by an equivalent operation that does not require movement (i.e., downard Agree, as described in Chomsky 1998). The part about inverse voice, however, is an inescapable component of any analysis.

In a purely morphological approach, the syntactic pivot in a clause such as (31) would still be 2sg. The fact that the verb agrees with the object because of the person hierarchy is simply a consequence of a superficial operation of person feature deletion.[8]

(31) ('-am) si-'wen
(2POSS-PRON) 1INCT-see
'you see/saw me'

If this is so, one would expect that in a raising construction the second person pivot would raise to become the syntactic subject of the higher predicate. As we discussed above, this is not what happens in Chorote:[9]

[8] As an example of such an approach, we quote the following from Nevins and Sandalo (2010:361): "We assume that 1st person agreement nodes are created in the syntax, but disappear in the specific context of co-occurring within the same complex morphological word as a 2nd person. Thus, the absence of 1st person prefixes in the presence of 2nd person prefixes must be determined *postsyntactically*, within a local domain."

[9] However, forms such as *in-'wehnayi sa'am* (3INCT-see.PRSP 1pl.POSS-PRON) meaning '(S)he intends/is going to see us' were sporadically documented in elicitation sessions with a young speaker from Misión La Paz.

(32) in-'wehnayi'
in-'wen-hayi
2INCT-see-PRSP
# 'you are going to see me', #'I am going to see you';
OK as 'he is going to see you', 'you are going to see him'

This is our main reason to claim that a syntactic approach is preferable for Chorote. Ideally, we should be able to find other syntactic behavior where there is evidence that the element with which the verb agrees has become the syntactic pivot. Such evidence in independent clauses is in fact hard to come by, and so far inconclusive. Referent tracking in clause coordination, for instance, seems not to be subject to syntactic constraints in Chorote. Thus, a sentence such as (33) is ambiguous:

(33) *Juan*y-eh na *Pedro*, y-em.
Juan 3ACT-beat DEM Pedro 3ACT-go.away
'Juan beat Pedro and (Juan/Pedro) left.'

Thus this diagnostic tells us little regarding what participant is the syntactic pivot. Furthermore, if a first or second person participant is present (i.e., in any interesting example as far as the person hierarchy is concerned), the indices on the predicates will do the participant tracking. Something similar occurs with control of subjects of adjunct clauses. All adjunct clauses are finite, and therefore person marks will be present, precluding any potential ambiguities.

## 6 Conclusions

In this paper, we have argued for a structural analysis of person marking facts in the prospective construction of Chorote. We claim that an explanation to these facts, and in particular the inactive marking of both participants in the prospective, can easily be found if we consider the prospective marker *-hayi* to be a raising verb. This analysis contraposes itself to a strictly morphological one, in that it requires syntactic inversion to take place in the lexical verb, and leads us to expect other syntactic correlates to the agreement pattern. Though evidence for these correlates is still inconclusive, an argument may be made for the syntactic nature of the agreement facts from the prospective construction itself, as compared to similar constructions in other languages.

More broadly, we hope that this paper shows the value of structural analysis to unveil the motivations behind patterns of argument tracking, as opposed to functionally-motivated generalizations. Though not explicitly discussed in the paper for reasons of space, the phenomenon presented exhibits a pattern of "split" person marking that lies beyond the most well-known functional discussions of split-S, and that would require some gymnastics to explain in such a framework.

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