Optional inverse agreement in Guarani ditransitives*

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Abstract: In this paper I introduce novel data relating to the direct/inverse agreement pattern in Guarani (Payne 1994; Woolford 2016; Zubizarreta and Pancheva 2017). The basic pattern is that the verb must agree with the highest ranking argument in a clause—failure to agree with an outranking object, and instead with the subject, is ungrammatical. For example in both 1>3 and 3>1 configurations the 1st person controls agreement. The novel data demonstrates that this requirement disappears in ditransitives where, instead, inverse agreement is optional (under the right conditions). I adopt McGinnis (2001) and Citko (2014)'s claim that ApplP is a phase to explain when the outranking Direct Object does *not* control agreement. Scrambling of the DO above the Appl head is what feeds inverse agreement when the out-ranking DO *does* control agreement. I argue that this data favors an analysis which does not rely on nominal licensing.

Keywords: Guarani, inverse, ditransitives, syntax, Agree

1 Introduction

In Guarani, the verb always agrees with the highest ranking argument along the Person Hierarchy (PH: 1>2>3) (Gregores and Suarez 1967; Payne 1994; Velázquez-Castillo 1991; Woolford 2016; Zubizarreta and Pancheva 2017). Setting a few complications aside to be addressed later, the difference between a 1>3 and 3>1 sentence is shown in (1).[1] In both cases, the verb agrees with the 1st person either spelling out as the subject agreement marker *a* (1a) or the object agreement marker *che* (1b).[2]

(1) a. che **ai**-pytyvõ { Romi-pe / ichupe / ha'e-kuera-pe }
I **1.sg.subj**-help { Romi-dom / her / s/he-pl-dom }
'I helped Romi / her / them.' (1>3/3pl: agreement with subject)

b. { Romi / ha'e / nde } **chei**-pytyvõ (chéve)
{ Romi / s/he / you } **1.sg.obj**-help (me)
'Romi / s/he / you helped me.' (3/2>1: agreement with object)

Agreeing with an object is required when it outranks the subject on the PH. Agreeing, instead, with the lower-ranking subject is ungrammatical (2). In (2a) the verb has incorrectly agreed with the lower ranking 3rd person subject. Similarly in (2b) the verb has incorrectly agreed with the lower ranking 2nd person subject.

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[1] All data, unless explicitly noted, is from original fieldwork and largely the result of an in-situ fieldwork trip to Coronel Oviedo, Paraguay in July and August 2022.

[2] **Abbreviations:** dom = Differential Object Marking, obj = object, pl =plural, sg singular, subj = subject, 1 = 1st person, 2 = 2nd person, 3 = 3rd person.

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(2) a. *ha'e **oi**-pytyvõ (chéve)
s/he 3-help (me)
Intended: 'S/he helped me.' (3>1: *agreement with subject)

b. *nde **rei**-pytyvõ (chéve)
you 2.sg.subj-help (me)
Intended: 'You helped me.' (2>1: *agreement with subject)

The same cannot be said for ditransitives, however, because agreement with the highest ranking Direct Object (DO) is *optional*.[3] In other words, the verb may either agree with the higher ranking DO (3a) or the lower-ranking subject (3b). Structurally speaking ditransitive verbs differ from monotransitives in that they contain an ApplP which introduces the Indirect Object (IO) (Pylkkänen 2008: and the references therein). A natural intuition is that the structural difference may be the source of optionality or at least the absence of required inverse agreement in ditransitives.

(3) a. ha'e **che**-mẽ'ẽ Laure-pe (chéve)
3 **1.obj**-give Laure-dom (me)
'S/he gave me to Laure' (3>3>1: agreement with DO)

b. ha'e **o**-mẽ'ẽ Laure-pe chéve
3 **3.subj**-give Laure-dom me
'S/he gave me to Laure' (3>3>1: agreement with subject)

In this brief paper, I propose that the optionality of inverse agreement in Guarani ditransitives is the result of two facts: i) ApplP is a phase (Citko 2014; McGinnis 2001) and ii) the DO may escape the ApplP via scrambling (a wide spread phenomenon in the language). The phasehood of ApplP is what prevents the verb from agreeing with the DO in a sentence like (3b) meanwhile scrambling of the DO above the ApplP is what allows the verb to agree with the it in something like (3a). I argue that this type of data in which inverse agreement is optional only in particular contexts poses unique challenges to nominal licensing accounts of hierarchy effects. The remainder of this paper is organized as follows: in Section 2, I introduce the basic agreement pattern in intransitives, monotransitives, and ditransitives. In Section 3, I outline a potential analysis of such facts assuming that ApplP is a phase and scrambling is available. In Section 4, I briefly discuss what an analysis might look like under nominal licensing. Section 5 concludes.

2 Guarani inverse/direct agreement[4]

2.1 The direct pattern

Before describing the agreement pattern in transitive clauses with multiple arguments, it is worthwhile walking through the agreement pattern of intransitives. Direct agreement markers are present in intransitive clauses.[5] The verb agrees with the sole argument in person and number (4). The 1st

[3] This pattern holds across various speakers in Coronel Oviedo, Paraguay. Dialectal differences may exist.
[4] The Guarani inverse has been reported in descriptive (Estigarribia 2020; Gregores and Suarez 1967) and theoretical work (Payne 1994; Velázquez-Castillo 1991; Woolford 2016; Zubizarreta and Pancheva 2017).
[5] Guarani also has an *active/stative* split in intransitives (Gregores and Suarez 1967; Payne 1994; Velázquez-Castillo 1991, 2002) in which some intransitives bear inverse agreement. In this paper, I focus solely on the

person subject marker is *a* (4a), the 2nd person singular agreement surfaces as *re* (4b), and the 3rd person subject marker is *o* as in (4c)

(4) a. che **a**-karu
I **1.sg.subj**-eat
'I ate.'

b. nde **re**-ñañi
you **2.sg.subj**-run
'You ran.'

c. ha'e **o**-ke
s/he **3.subj**-sleeps
'S/he sleeps.'

Moving on to transitives, first consider direct configurations in which the subject is at least as high as the object on the PH. In these cases, subject agreement surfaces—just as in intransitives. Consider a transitive clause with a 1st person subject and a 3rd person object (5).[6] In (5), the 1st person subject controls agreement on the verb for person and number regardless of whether the object is a 3rd person DP as in *Romi*, a 3rd person object pronoun *ichupe*, or a 3rd person plural pronoun *he'ekuera*.

(5) che **ai**-pytyvõ { Romi-pe / ichupe / ha'e-kuera-pe }
I **1.sg.subj**-help { Romi-dom / her / s/he-pl-dom }
'I helped Romi / her / them.' (1>3/3pl: agreement with subject)

The story is similar for direct configurations with 2nd person subjects (i.e. 2>3). Regardless of the number of the 3rd person object, so long as the subject is 2nd person (6), the verb will agree with it in both person and number, surfacing as *re*. Just as in clauses with 1st person subject, the 3rd person object never controls person or number agreement.

(6) nde **rei**-pytyvõ { Juam-pe / ichupe / ha'e-kuera-pe }
you **2.sg.subj**-help { Juan-dom / her / s/he-pl-dom }
'You helped Juan / her / them.' (2>3/3pl: agreement with subject)

The only context in which 3rd person subject agreement is observed is in a clause where both arguments are 3rd persons (i.e. 3>3). However, 3rd persons never control number agreement in Guarani, as opposed to 1st and 2nd persons. Regardless of the number of the subject, the verb will always surface with the 3rd person subject marker *o* (7).[7]

(7) { Romi / ha'e / ha'e-kuera } **oi**-pytyvõ { Juam-pe / ichupe / ha'e-kuera-pe }
{ Romi / s/he / s/he-pl } **3.subj**-help { Juan-dom / her / s/he-pl-dom }
'Romi / s/he / they helped Juan/her/them.' (3/3pl>3pl: agreement with subject)

agreement in transitive clauses.

[6] The underlying form of the 1st person subject agreement is *a*. Diphthongization of *a* to *ai* occurs when the marker resides in the domain of regressive nasal harmony (with a few exceptions). The final stressed vowel of the verb *pytyvõ* 'help' causes all of the vowels in the word to becoming nasalized and also triggers some consonant alternations.

[7] I have left out 1>2 local direct scenarios and plural forms. In 1>2, a portmanteau surfaces which references the features of both the subject and object. The plural forms behave almost identically to their singular counterparts. I choose to leave this data out because the focus of this paper is the optionality of the inverse in ditransitives. For a more thorough account of the agreement itself, see Johnson (2023).

2.2 Inverse agreement

Inverse configurations, unlike direct configurations, are ones in which the object outranks the subject. In these cases, the object controls agreement on the verb. In a clause with a 3rd or 2nd person subject and a 1st person object, 1st person object agreement is present (8). The pronunciation of the 1st person object pronoun *chéve* is always optional so long as there is overt 1st person object agreement (*che*) on the verb (8).

(8) { Romi / ha'e / nde } **chei**-pytyvõ (chéve)
{ Romi / s/he / you } **1.sg.obj**-help (me)
'Romi / s/he / you helped me.' (3/2>1: agreement with object)

Inverse configurations with 2nd person objects (i.e. 3>2) also give rise to object agreement with the 2nd person object (9). The only inverse configuration in which 2nd person object agreement surfaces is 3>2, unlike 1st person inverse configurations.

(9) { Romi / ha'e / ha'e-kuera } **ndei**-pytyvõ (ndéve)
{ Romi / she / s/he-pl } **2.sg.obj**-help (you)
'Romi / s/he / they helped you.' (3/3pl>2: agreement with object)

Inverse agreement is required in inverse configurations. Failure to agree with the higher ranking object, and instead agreeing with the subject, results in ungrammaticality (2).

(10) a. *ha'e **oi**-pytyvõ (chéve)
s/he 3-help (me)
Intended: 'S/he helped me.' (3>1: *agreement with subject)

b. *nde **rei**-pytyvõ (chéve)
you 2.sg.subj-help (me)
Intended: 'You helped me.' (2>1: *agreement with subject)

c. *ha'e **oi**-pytyvõ (ndéve)
s/he 3-help (you)
Intended: 'S/he helped you.' (3>2: *agreement with subject)

2.3 Agreement in ditransitives

Ditransitive sentences contain three arguments, unlike intransitives which contain only one and monotransitives which contain two. The arguments are the Subject or External Argument (EA), the Indirect Object (IO), and the Direct Object (DO). Similar to transitives, ditransitve verbs in Guarani either track the EA or the DO (11) depending on which one is ranked higher along the PH (1>2>3). As mentioned in the introduction, the verb may agree with either, unlike in a monotransitive. Failure to agree with a higher ranking DO does not result in grammaticality.[8]

[8] These examples were elicited in the context of a "boyfriend auction" in which women in the audience bid on men on the stage. This is a non-violent ditransitive context for which a verb like *sell/give* can be used with human beings.

(11) a. ha'e **nde**-me'ẽ chéve (ndéve)
3 **2.obj**-give me (you)
'He gave you to me' (3>1>2: agreement with DO)

b. ha'e **o**-me'ẽ chéve ndéve
3 **3.subj**-give me you
'He gave you to me' (3>1>2: agreement with subject)

c. ha'e **che**-mẽ'ẽ Laure-pe (chéve)
3 **1.obj**-give Laure-dom (me)
'S/he gave me to Laure' (3>3>1: agreement with DO)

d. ha'e **o**-mẽ'ẽ Laure-pe chéve
3 **3.subj**-give Laure-dom me
'S/he gave me to Laure' (3>3>1: agreement with subject)

Agreement with the indirect object is always impossible as demonstrated in (12).

(12) a. Laure o-me'ẽ chéve Isa-pe
Laure 3.subj-give me Isa-dom
'Laure gave Isa to me.'

b. *Laure che-me'ẽ Isa-pe
Laure 1.obj-give Isa-dom
Intended: 'Laure gave Isa to me.'

3 Analysis

Based on the data presented in Section 2, agreement with an out-ranking object is required in transitive sentences but optional in ditransitives. The source of this optionality, I propose, is the result of a structural difference between transitive and ditransitive verbs. Namely, the presence of an ApplP which introduces the Indirect Object. McGinnis (2001) and Citko (2014) both propose that ApplP is a phase and provide strong independent evidence. In addition, via scrambling which is pervasive in the language, the DO may escape the ApplP. This movement step feeds inverse agreement if the DO lands above the Appl head (and below the EA) because the DO will now be accessible for agreement with the higher probe. These two facts (explored in more detail below) combined explain the pattern of optionality in inverse agreement in ditransitives. In this paper I remain relatively agnostic to the model of Agree assumed. I adopt a schematized version of a *Cyclic Agree* analysis (Béjar 2003; Béjar and Rezac 2009) from Johnson (2023) (described in more detail below).

3.1 Agree

Many models of Agree are capable of capturing the pattern in Guarani. However, because the focus of this brief paper is the optionality in ditransitives and the phasehood of ApplP, I abstract away from the details of the model of Agree. I adopt a schematized version of a *Cyclic Agree* analysis (Béjar 2003; Béjar and Rezac 2009) of the direct/inverse pattern in Guarani proposed in Johnson (2023). The crucial syntactic distinction between the direct and inverse, following Béjar (2003); Béjar and

Rezac (2009), is how many arguments a probe Agrees with. Johnson (2023) shows that single Agree in Guarani gives rise to direct morphology and double Agree gives rise to inverse morphology. Whether a probe Agrees with a single DP or more than one is determined by two factors: i) the structural relationship between two DPs (c-command) and ii) the relative height of each argument on the PH (hierarchical). If a higher-ranking DP c-commands a lower-ranking DP (i.e. in direct configurations), the probe will only Agree with the structurally higher one. If a lower-ranking DP c-commands a higher-ranking DP, then the probe will Agree with both. This is a standard assumption following many segmental-based probing analyses of Agree (Béjar 2003; Béjar and Rezac 2009; Coon and Keine 2021: and many others).

(13) [Probe [. . . DP1 [. . . DP2]]] ⟶ single Agree, direct morphology

(14) [Probe [. . . DP1 [. . . DP2]]] ⟶ double Agree, inverse morphology

Crucially, the probe must be able to access the lower argument in order for inverse agreement (which references the features of the object) to surface on the verb. Therefore, if a barrier were to be present between a probe and a goal, i.e. a phase (Chomsky 2000, 2001), then the probe would not be able to Agree with that argument. This is demonstrated in (15) in which an impenetrable barrier prevents the probe from accessing the lower DP. This type of failure to Agree does not, in and of itself, give rise to ungrammaticality following an *obligatory operations model* (Preminger 2014). But rather, may simply lead to the lack of or default agreement morphology on the verb.

(15) [Probe [. . . DP1 . . . (. . . [. . . DP2]]] ⟶ Agree with DP2 blocked by phase

✗

Of course, if an argument were to move outside of the barrier, the relevant probe would be able to Agree with it, as shown in (16). This is precisely what I propose occurs in Guarani ditransitives when the verb agrees with the DO. Movement (via scrambling) of the DO out of the ApplP feeds inverse agreement with the outranking object. Failure to object shift blocks agreement with the object.

(16) [Probe [. . . DP1 . . . DP2 . . . (. . . [. . . ~~DP2~~]]] ⟶ Move feeds Agree with DP2

✓

3.2 ApplP as a phase and scrambling

McGinnis (2001) first introduced the idea that ApplPs, which introduce the Indirect Object, are phases. The particular arguments for ApplP's phasehood are reiterated and fortified with more evidence in Citko (2014). McGinnis (2001) specifically proposes that *high* applicatives are phases, and *low* applicatives are not. The difference between high/low applicatives lies in how high the IO is introduced relative to the VP. In high applicatives, it is introduced above the VP. Meanwhile in low applicatives it is introduced below the VP. Both types of applicatives (high and low) may be available in the same language (McGinnis 2001; Pylkkänen 2008: amongst many others).

The relevant diagnostics for Guarani for high/low applicatives, and in particular the verb *me'ẽ* 'to give' used in these examples, have yet to be performed. Assuming that *me'ẽ* 'to give' is a phase and serves as the barrier of Agree between a probe and the DO, this may suggest one of two things: i) *me'ẽ* 'to give' is a high-applicative verb or ii) low applicatives may also be phases in some languages. These diagnostics are often challenging to perform with regard to inverse agreement because the DO must be a 1st or 2nd person. Often intransitive verbs like *bake*, *eat*, *run* are used to diagnose whether a verb is high/low applicative and these verbs do not easily take a human direct object regardless of their argument structure.

The other core ingredient of this analysis is scrambling which I propose allows a DO to escape the ApplP phase. Guarani allows for extremely liberal word order (17). No matter the order of arguments, the interpretation of the sentence remains constant. Assuming that scrambling is genuine syntactic movement then, an argument will be able to move to any position in the structure, including outside of the ApplP. The optionality of the inverse may be derived by having the DO scramble out of the ApplP to a position below the Subject. So long as it the landing site is below the subject and outside of the ApplP phase, it may be Agreed with.

(17) a. che ai-pytyvõ Juan-pe
I 1.subj-help Juan-dom
'I help Juan.' SVO

b. che Juan-pe ai-pytyvõ
I Juan-dom 1.subj-help SOV

c. Juan-pe che ai-pytyvõ
Juan-dom I 1.subj-help OSV

d. ai-pytyvõ che Juan-pe
1.subj-help I Juan-dom VSO

e. ai-pytyvõ Juan-pe che
1.subj-help Juan-dom I VOS

f. Juan-pe ai-pytyvõ che
Juan-dom 1.subj-help I OVS

In addition to monotransitives, liberal word order is also allowed in ditransitives (18) (more orders are available than presented). Crucially, optionality is available in the basic S V IO DO order (see above), as well as the S V DO IO order. Agreeing with a lower ranking subject is possible (18b) or with a higher-ranking object (18c). Optionality of inverse in both S V IO DO and S V DO IO orders will be derived below.

(18) a. karai o-mẽ'ẽ Laure-pe chéve
man 3.subj-give Laure-dom me
'The man gave me to Laure.' S V IO DO

b. karai o-mẽ'ẽ chéve Laure-pe
man 3.subj-give me Laure-dom S V DO IO

c. karai che-mẽ'ẽ chéve Laure-pe
man 1.obj-give me Laure-dom S V DO IO

3.3 Derivations

The two core ingredients used to derive the pattern in this paper are: i) the phasehood of ApplP and ii) scrambling. We may now consider derivations of the two different ditransitive sentences: one in which the lower-ranking subject controls agreement and another when the out-ranking DO controls agreement. When a lower-ranking subject controls agreement in a sentence like (19), the DO remains low within the ApplP. Remaining low in the ApplP means that the probe will be unable to Agree with it as it is below a phase boundary (20). Therefore, the verb will only Agree with the 3rd person subject, spelling out as 3rd person subject agreement *o*.

(19) ha'e **o**-mẽ'ẽ Laure-pe chéve
3 **3.subj**-give Laure-dom me
'S/he gave me to Laure' (3>3>1: agreement with subject)

(20) [Probe [$_{vP}$ 3sg *v* [$_{ApplP}$ 3sg Appl ([$_{VP}$ V 1sg]]]] ⟶ DO remains low

If the higher-ranking DO *does* control agreement as in (21), the derivation plays out differently. The first step is for the DO to scramble *above* the Appl head, but below the EA (22). This puts the DO in the domain of the probe, making it accessible, while still being in the proper structural relationship to the EA to derive inverse agreement. Recall that what two factors are responsible for double Agree: structural (c-command) and hierarchical (relative position on Person Hierarchy). If the DO moves below the EA and above the Appl head as in (22), it maintains the same c-command relationship with the EA as it did in its base position. If the DO were to theoretically scramble *above* the EA, one prediction is that it will control 1st person subject agreement.

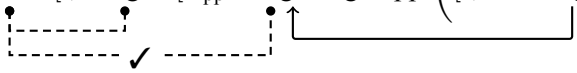
(21) ha'e **che**-mẽ'ẽ Laure-pe (chéve)
3 **1.obj**-give Laure-dom (me)
'S/he gave me to Laure' (3>3>1: agreement with object)

(22) [Probe [$_{vP}$ 3sg *v* [$_{ApplP}$ 3sg 1sg Appl ([$_{VP}$ V 1sg]]]] ⟶ DO moves, feeds Agree
✓

One prediction this analysis makes is that a S V DO IO order must give rise to inverse agreement because the DO will have scrambled above the IO which resides outside of the ApplP phase. As described above, however, inverse agreement is still optional in a S V DO IO order. I propose that there are two methods of deriving the S V DO IO order in Guarani. The first, which may give rise to inverse agreement, is to scramble the DO above the IO, in a similar fashion to in (22). This is schematized in (24) and corresponds to the sentence in (23).

(23) karai che-mẽ'ẽ chéve Laure-pe
man 1.obj-give to.me Laure-dom
'The mand gave me to Laure.' (S V DO IO: agreement with DO)

(24) [Probe [$_{vP}$ 3sg *v* [$_{ApplP}$ 1sg 3sg Appl ([$_{VP}$ V 1sg]]]] ⟶ DO moves, feeds Agree



The other method of deriving S V DO IO order is to extrapose the IO to the right of the VP/ApplP as demonstrated in (26). This cannot give rise to inverse agreement because the DO, even if it our-ranks the subject, cannot be Agreed with because it remains inside of the ApplP phase. This derivation corresponds to a sentence like (25).

(25) karai o-mẽ'ẽ chéve Laure-pe
man 3.subj-give me Laure-dom
'The man gave me to Laure.' (S V DO IO: agreement with subject)

(26) [Probe [$_{vP}$ 3sg *v* [[$_{ApplP}$ ~~3sg~~ Appl ([$_{VP}$ V 1sg]] 3sg]]] ⟶ IO extraposed, DO is low

4 Discussion

An alternative analysis to the one presented here is *nominal licensing*. Under such accounts, particular features on DPs require *licensing* and licensing happens through Agree. Failure to license an argument's feature by Agreeing with it leads to a crash in the derivation. Because of this, a nominal licensing account struggles with optionality: how can licensing/Agree be required in monotransitives, but optional in ditransitives? A potential answer is to propose that Appl itself is an optional licenser, Agreeing with the DO in cases where the higher agreement probe will not Agree with the DO. In Guarani, there would be two Appl heads. One Appl head would be a licenser that vacuously Agrees with the DO, but only if the higher probe will not license its features. The other Appl head would not be a licenser and in these cases the higher probe will license the features of the DO.

The alternative nominal licensing analysis successfully avoids the assumption that ApplP is a phase. However, there is no independent motivation for Appl being an optional licenser or a licenser at all. The account I presented makes no additional assumptions for Guarani that are not independently motivated like the pahsehood of ApplP and scrambling. This is not to say that the present analysis is without flaw or that a nominal licensing account is incapable of accounting for such optionality, but one needs to make more unmotivated assumptions in order to account for this pattern with nominal licensing. Therefore, the data favors an analysis of hierarchy effects that does not make reference to nominal licensing.

5 Conclusion

In this brief paper, I have introduced data from original fieldwork on Guarani that demonstrates an optionality of inverse agreement in ditransitive structures. This data receives a principled explanation if ApplP is a phase, following independent evidence from **?** and Citko (2014), and blocks agreement with a DO if the DO remains below the phase boundary. However, because the language allows for liberal constituent order, if the DO moves above the phase boundary, it may feed agreement with a higher probe. I further argued that theories which assign the source of hierarchy effects (like inverse agreement) to a particular feature's need to be licensed struggle to find a principled

analysis of optionality. That is not to say these types of analyses are incapable of capturing the facts but rather that they are required to make more assumptions which are not independently motivated.

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