Person hierarchy effects from Φ -agreement at the left periphery in Kawahíva

1 Introduction. Person hierarchy effects are generally argued to result from a probe agreeing with multiple goals, typically in the low domain of the clause (Béjar 2003; Béjar & Rezac 2009, a.m.o). However, in the Tupí-Guaraní language Kawahíva, spoken in the Brazilian Amazon, the person hierarchy 1>2>3 manifests only when the verb moves to CP, overtly or covertly. Otherwise, agreement is restricted to the internal argument. Data comes from fieldwork based on two highly endangered dialects of Kawahíva, Juma and Jupaú, with three and 81 speakers, respectively (Author, to appear).

2 Claim. Kawahíva matrix clauses exhibits the structure in (1) (Author, Accepted). I propose there are two Φ -probes along the matrix clause spine in Kawahíva: a [SPKR]-relativized probe high on C and a flat Φ -probe low on v. The latter probe will always agree with any internal argument. In contrast, the higher probe may agree with either the subject or object, depending on which matches the greatest number of features on the probe. However, Φ -features on the higher probe are only visible in contexts where the verb moves to C. At PF, a morphological constraint results in the fact that the Φ -probe on v is concealed in main clauses.

(1) $\begin{bmatrix} CP & C_{[SPKR]} & [MoodP & [TP & [VoiceP & Voice & [vP & v_{[\Phi]} & [vP & IA & v &] &] &] \end{bmatrix} \end{bmatrix}$

This analysis is used to explain i) the lack of person hierarchy effects when the verb does not move to the CP in matrix clauses; this happens either because an extracted element removes the trigger for verb movement to CP, or the CP is not projected, as in dependent clauses, which are truncated. Additionally, this analysis accounts for an asymmetry between subject and object agreement markers under verbal reduplication – object markers, but not subject markers, must be copied into the reduplicant (dos Santos 2023). Importantly, Kawahiva reduplication does not have a phonologically characterizable size or shape. These findings extend other proposals for multiple loci for Φ -agreement in the clausal spine, including Coon's (2013) and Oxford's (2014) proposals for agreement on v, and Compton (2017) for agreement on C in Inuktitut.

3 Agreement in matrix clauses. The Juma and Jupaú dialects exhibit a pattern of head-marking of arguments in matrix clauses, in which matrix verbs obligatorily index either the subject or object; the choice depends on a person hierarchy 1>2>3 (dos Santos 2023). Subject agreement is called Set A (2a), and object agreement, Set B (2b).

(2)	a.	A-hepia	ki	ji	pe	ko.	b.	Ji=repia	ki	pe	ko.
		1.SG.A-see	e PST	1.SC	6 2.PL	REAL		1.SG.B=see	e PST	2.PL	REAL
		'I saw you	(PL.)).'				'You (PL.)	saw 1	ne.'	

4 Verb movement to CP. Following Author (Accepted), I assume that Kawahíva exhibits long-distance verb movement to CP in matrix clauses. This movement follows from a categorial feature [V] on C that matches the same feature on the verb. However, in contexts where C also comes with an A-bar feature, the verb may move covertly or not move at all; the choice depends on whether the extracted element also bears the categorial feature [V]. Thus, extracted non-verbal DPs bear an A-bar feature, but not [V]. Consequently, the DP will not match the [V] on C, and the verb can still move to C to match this feature. In contrast, extracted PPs and discourse particles (e.g., *a'ero* 'then'), headed by postpositions, arguably come with the [V] feature; for instance, they share several properties with verbs (e.g., they appear with adverbial suffixes and bear object agreement). When extracted to CP, PPs match the [V] on C. This leaves the verb unable to move higher to CP.

Importantly, while agreement with either the subject or object is possible in contexts where the verb moves to the CP, and person hierarchy effects arise in matrix clauses, it is restricted to objects in contexts where verb movement is not possible.

An analysis where C comes with a [SPKR]-relativized probe and v comes with a flat Φ -probe will derive the contexts of object-only agreement as the verb only moves through v, but not C. The analysis where the person hierarchy arises from a single probe on v does not explain why the hierarchy disappears if the verb does not move higher. 5 Evidence from dependent clauses. Dependent clauses exhibit several differences from matrix clauses. Notably, verbs in dependent clauses index only the object, neutralizing the person hierarchy observed in matrix clauses. This is evidenced in (3a), which exhibits a local $1\rightarrow 2$ scenario in a complement clause. Other differences between the two clauses include the absence of an internal landing site for extraction, mood particles, and verb fronting (not shown here).

(3) a. O-kwaha ki ga [ji nde=repiak=a]. 3.A-know PST 3.SG.MASC 1.SG 2.SG.B=see=NMLZ 'He knew I saw you.'

In Author (Accepted), I considered these facts to be strong evidence that dependent clauses lack the CP domain. Translated to the proposal where C houses the [SPKR]-relativized probe, we have a straightforward account of these facts: subject agreement and person hierarchy effects disappear from dependent clauses because the higher probe is never merged in these structures.

6 Application to verbal reduplication. One additional advantage of analyzing Φ -agreement in Kawahíva as being the result of two loci agreement probes is that it offers a structural explanation for an asymmetry between the subject and object markers under verbal reduplication. In reduplication, object markers, but not subject markers, can be copied into the reduplicant. (4a) presents an example of object agreement with reduplication. Notably, the object marker is copied into the reduplicant. (4b) underscores the requirement that object markers be copied in reduplication.

(4)	a.	[Arerety]-are=retyk k	ki b). *	*Are=[rety]-retyk	ki		
		[RED]–1.EXCL.B=pull.down H	PST		1.EXCL.B=[RED]-pull.down PST			
		gã ko.			gã ko.			
		3.PL REAL			3.PL REAL			
		'They pulled us all down.'			'They pulled us all down.'			

Unlike the obligatory copying of object markers in reduplication, subject agreement markers do not have a similar requirement. In (5a) and (5b), respectively, the subject agreement marker is not copand, and any attempt to copy it results in unacceptable sentences.

(5)	a.	Anhãnga	b.	*Anhãnga			
		ghost		ghost			
		o-[kutu]-kutu-pam j-urua.		[okutu]-o-kutu-pam j-urua.			
		3.A-[RED]-pierce-completely i-mouth		[RED]-3.A-pierce-completely i-mouth			
		'It was the ghost that pierced his mouth		'It was the ghost that pierced his mouth			
		(the chief's mouth) multiple times'	(the chief's mouth) multiple times'				

7 Summary. Positing two distinct Φ -probes in Kawahíva matrix clauses, one probe relativized to [SPKR] on C and one flat probe on *v*, provides a unified account for a number of disparate phenomena in the language, including person hierarchy effects only when the verb moves to C in matrix clauses, the total lack of subject agreement and the said effects in dependent clauses, and the requirement that reduplication copies object agreement, but not object agreement. As such, this work extends the typology of where the typology of where Φ -probes can occur in the clausal spine.

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