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Hixkaryana: The Derivation of Object Verb Subject Word Order

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Laura Mennen Kalin

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The thesis of Laura Mennen Kalin is approved.

Hilda Koopman

Carson Schütze

Anoop Mahajan, Committee Chair

University of California, Los Angeles

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ABSTRACT OF THE THESIS

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Laura Mennen Kalin

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Professor Anoop Mahajan, Chair

In this thesis I propose and motivate a syntactic analysis of Hixkaryana (a Carib language spoken in the Amazon in Brazil), drawing on the extensive, linguistically-informed fieldwork of Desmond C. Derbyshire (1979, 1985, *inter alia*). Hixkaryana displays basic/unmarked Object Verb Subject (OVS) word order, which is found in very few languages of the world (Dryer 2008). There are three main components to the proposal presented here. I argue that the syntax of Hixkaryana involves (i) a marked hierarchy of agreement projections, AGR_O over AGR_S; (ii) movement of the subject to a high topic position; and (iii) fronting of the rest of the clause over the subject. This analysis accounts for a constellation of properties in Hixkaryana, including the surface order of constituents (OVSX, where X is an adjunct PP or AP), surface constituency (the object and verb form a constituent exclusive of the subject), verbal morphology (agreement is a prefix while all other inflectional affixes are suffixes), structural relations (the subject c-commands the object and obliques/adjuncts), the position of

particles (which are either in second position or invariantly post-verbal), and exceptional OSV word order (triggered by the first person exclusive pronoun *amna*). The paper concludes with a brief look at the morphological ordering predictions made by the hierarchy AGR_O over AGR_S and shows that data from all known OVS languages are consistent with this hierarchy. OVS languages, like Hixkaryana, are important for syntactic theory because they likely have special insights to contribute, given how rare they are; however, OVS languages receive very little attention in the literature. This thesis aims to call attention to OVS word order as a real linguistic phenomenon that must be accounted for in mainstream linguistic theory.

1 Introduction

In this thesis I propose and motivate an analysis of Object Verb Subject (OVS) word order in Hixkaryana, a Carib language spoken by around 600 people in the Amazon in Brazil (Lewis 2009). OVS languages are incredibly rare – the World Atlas of Language Structures (WALS; Dryer (2008)) documents only eleven OVS languages (out of 1,377 languages sampled), which are spoken in South America, the Sudan, Australia, and Polynesia. Derbyshire (1987) and Derbyshire and Pullum (1981) cite six more OVS languages, all of which are spoken in South America, bringing the count up to seventeen languages total.[1] This number, however, is very generous; for most of these languages, OVS coexists with other frequent word orders, and there is not enough data available to determine which word order (if any) is the most basic.

Hixkaryana is unique among OVS languages in that it has been amply shown to have OVS as its basic word order, following extensive and linguistically-informed fieldwork by Desmond C. Derbyshire (1979, 1985, *inter alia*). A canonical OVS sentence in Hixkaryana is given in (1):[2]

(1) kana y-anɨm-no bɨryekomo
fish 3S.3O-catch-IMMEDPST boy
'The boy caught a fish.' (Derbyshire and Pullum 1981:p. 194)

[1] See Appendix A for a complete list of OVS languages and their agreement types, with examples.

[2] I will use the following abbreviations: 1 = first person, 1+2 = first person inclusive, 1+3 = first person exclusive, 2 = second person, 3 = third person, A = adjective/adverb, ADVZR = adverbializer, AGR = agreement, ALT = alternative, ASP = aspect, COLL = collective, COMPL = completive, CONT = continuative, CONTR = contrastive, DENOM = denominalizer, DEVAL = devalued, DIMIN = diminutive, DISTPST = distant past, HSY = hearsay, EMPH = emphasis, EXT = extended, IMMPST = immediate past, IMP = imperative, INCOMPL = incompletive, INTENS = intensifier, MISF = misfortunate, MOD = modifier, MOOD = mood, MOT = motion paradigm, N = noun, NEG = negation, NOMZR = nominalizer, NONMOT = nonmotion paradigm, NONPST = nonpast, O = object, P = postposition, PERIOD = period, POSSD = possessed noun, PRT = particle, RECPST = recent past, REFL = reflexive, S = subject, SAME = same referent, SEQ = sequential, TNS = tense, UNCRT = uncertain, V = verb.

The object, *kana*, precedes the verb, *yanɨmno*, which precedes the subject, *bɨryekomo*. That OVS word order in Hixkaryana is basic and unmarked is evidenced by the fact that O, V, and S together form a single intonational phrase and, when both S and O are overt, OVS order is preferred by speakers, both statistically (from texts and recordings) and based on speakers' intuitions (Derbyshire 1985:p. 97-99).

This thesis analyzes Hixkaryana's syntax via the surface order of constituents (OVSX, where X is an adjunct PP or AP), surface constituency (the object and verb form a constituent exclusive of the subject), verbal morphology (agreement is a prefix while all other inflectional affixes are suffixes), structural relations (the subject c-commands the object and obliques/adjuncts), the position of particles (which are either in second position or invariantly post-verbal), and exceptional OSV word order (triggered by the first person exclusive pronoun *amna*). It is proposed that the key feature of Hixkaryana's syntax is a non-standard ordering of the AGR projections: AGR_O above AGR_S. This clause structure is marked compared to the reverse ordering, AGR_S above AGR_O, which is generally assumed to be the default underlying order, following Chomsky (1991), based on the predominant position/behavior of object agreement crosslinguistically. I suggest that the hierarchy AGR_O above AGR_S is shared across at least some OVS languages and may account (in part) for the rarity of OVS word order.

The paper is laid out as follows. Section 2 introduces the aspects of Hixkaryana syntax that are relevant for the present analysis. Section 3 addresses two previous syntactic analyses of Hixkaryana – namely, those of Cline (1986) and Mahajan (2007) – and presents empirical arguments against both. Section 4 proposes and defends a new analysis involving the non-standard ordering of AGR projections ($\text{AGR}_\text{O} > \text{AGR}_\text{S}$) and the raising of AGR_OP (later to be re-labeled PRED_OP) over the subject, which occupies a topic position. Section 5 looks at the morphological predictions made by

having AGR_O above AGR_S and shows that these predictions are indeed borne out in all OVS languages that have both subject and object agreement. Section 6 concludes and relates this proposal to other analyses in the literature.

2 Basic Syntax of Hixkaryana

This section covers basic syntactic phenomena in Hixkaryana. The crucial observations from this section that will carry over into the analysis are: basic OVSX word order, the *portmanteau* agreement prefix and inflectional suffix, possible OSV word order in special cases, and the position of particles. (Page numbers cited in this and following sections are taken from Derbyshire (1985) unless otherwise noted.)

2.1 Syntactic categories

There are five basic lexical categories in Hixkaryana: nouns (N), adjectives/adverbs (A), postpositions (P), verbs (V), and particles (Prt). Non-derived[3] nouns, postpositions, and adverbs may be completely bare of inflectional morphology, while verbs, on the other hand, are never bare. Particles are in a class all their own: they introduce discourse properties and (usually) appear in second position; particles are discussed in section 2.3.

2.1.1 Nouns, Adverbs, and Postpositions

Nouns are completely bare – they take no case marking, no definiteness or specificity marking, and no pure number marking. Nouns may be marked as 'collective', in which

[3]In this paper I will only be looking at non-derived forms. Derived verbs, nouns, postpositions, and adverbs distribute exactly the way that non-derived ones do, but add further complications that would distract from the point at hand.

case they appear with *komo*; the bare noun in (2a) is accompanied by a collective particle in (2b), indicating that the noun phrase is acting (or being acted upon) as a collective group:

(2) a. kamara-yana[4] (p. 22)
jaguar-person
'a/the jaguar-person'

b. kamara-yana komo (p. 22)
jaguar-person COLL
'the (collective) jaguar-people'

Collectivity-marking shows up when it is pragmatically important to stress collectiveness; nouns without collective marking may still involve multiple participants. Other elements that may appear in NP are numerals and possessors, which precede N.

Adjectives and adverbs in Hixkaryana are indistinguishable from one another: there is a small set of simplex modificational elements that can appear as the modifier of vP/VP/clause (i.e., adverbially) or can be the complement of the copula (predicating of the subject, i.e., adjectivally); see section 2.2. Common A elements include *ohxe* 'good', *karye* 'high', *tano* 'here', and *amnyerma* 'now/today' (p. 10-11). Notably, these elements cannot appear within a noun phrase, as a direct nominal modifier. Thus, for the remainder of this paper, adjectives and adverbs will be subsumed under the category A, following Derbyshire (1985).

Adpositions in Hixkaryana follow their objects – hence, Hixkaryana is a postpositional language. For example:

(3) watma ke (p. 19)
club with
'with a club'

[4]The 'jaguar people' are recurrent in Derbyshire's examples – they seem to be an enemy tribe in Hixkaryana mythology.

Ps are usually be bare, but when the object of a P is dropped (as is obligatory for objects that are first person, first person inclusive, and second person, but impossible for first person exclusive) the P must be marked for the person of its object, (4).

(4) ro- hona (p. 16)
1 to
'to me'

One widely used P is *wya*, which can mark an indirect object, addressee, causee, or transitive embedded subject (p. 17); this will be seen in the following sections. There are many other Ps as well, including *yakoro* 'with', and *wyaro* 'like' (p. 18-19).

2.1.2 Verbs

Unlike N, A, and P, verb roots are never bare – they must appear with both person inflection (paradigms in (5) and (6)) and tense/aspect/mood inflection (paradigm in (7)). Agreement/person-marking in Hixkaryana co-occurs with overt pronouns and full DPs, even when these DPs are not in canonical position (e.g., due to focus).

The set of agreement prefixes (which encode person but not number or gender) that shows up on intransitive verbs is given in (5).

(5) Intransitive person-marking prefixes (slightly modified from p. 188)

SUBJECT	
1	ki-
2	mi-/o-
1+2	ti-
3	ni-
1+3	ni-

The allomorphy in second person intransitive subjects reveals a split-S pattern: *mi-*

occurs with (i) verbs of motion and (ii) transitive verbs that have been 'detransitivized' (i.e., reflexive, reciprocal, or passive, which all feature the same 'detransitivizing' prefix on the verb, *e-*, or one of its allomorphs); *o-* appears elsewhere. This looks like an unaccusative/unergative split, with *mi-* marking intransitive subject agreement in unaccusatives, and *o-* marking intransitive subject agreement in unergatives. Curiously, there is no split-S in any other person except second. Further, the direction of the morpheme split in second person is unexpected, with the opposite functions being predicted for those forms; this is discussed in Appendix B along with a more detailed analysis of the person agreement paradigms.

The set of agreement prefixes (again encoding person, but not number or gender) that shows up on transitive verbs is given in (6). (A detailed look at the syncretisms in (5), as well as a comparison of (4) and (5), is given in Appendix B.)

(6) Transitive person-marking prefixes (slightly modified from p. 188)[5]

SUBJECT ↓ / OBJECT →	1	1+2	2	3
1			ki-	i-
2	mi-			mi-
1+2				ti-
3	ro-	ki-	o-	y- (+OBJ) ni- (−OBJ)
1+3			o-	ni-

[5]There are two important notes about this table. First, empty boxes are due to an overlap of persons, i.e., reflexivity or reciprocity. In these cases the verb appears with a 'detransitivizing' prefix and intransitive subject agreement. Note that the emptiness of these boxes can be seen as arising from the avoidance of Condition B/C violations. For example, a second person subject cannot be paired with a first+second person object, because this would incur a binding condition violation. The second important note is that there is no column for a 1+3 object because "the only way in which 1+3 is signalled as an object is by the free form pronoun *amna*" (p. 190). I think this means that *amna* as an object does not trigger agreement at all (i.e., intransitive subject agreement is used). Unfortunately, Derbyshire does not give relevant examples which bear on this issue.

In the only doubly-filled cell above (third person subject with third person object) the allomorph *y-* is used when the third person object is overt (+OBJ), whereas the allomorph *ni-* is used when the third person object is null (–OBJ),[6] or when the complement of the verb/copula is an AP/PP. There is also phonological allomorphy for nearly all of these morphemes, usually involving one of the following phenomena: (i) vowel harmony with the stem, (ii) vowel deletion to avoid hiatus, or (iii) glide insertion as another repair for hiatus. One alternation (not involving these processes) is that both *y-* and *ni-* are realized as ∅ before consonant-initial verb roots (p. 189).[7]

The third set of inflectional morphemes is the suffix paradigm, (7). Note that for any given combination of tense, aspect, and mood (the latter two of which are mutually exclusive), there is both an individual form and collective form of the morpheme.

(7) Tense, aspect, mood, and collectivity suffixes (p. 196)

TENSE	ASPECT OR MOOD	INDIVIDUAL	COLLECTIVE
nonpast	(none)	*-yaha*	*-yatxhe*
nonpast	uncertain	*-yano*	*-yatxowi*
immediate past	(none)	*-no*	*-txowi*
recent past	completive	*-yako*	*-yatxoko*
recent past	continuative	*-yaknano*	*-yatxkenano*
distant past	completive	*-ye*	*-txowni*
distant past	continuative	*-yakoni*	*-yatxkoni*

[6]Saying that *ni-* appears with a transitive verb (whose object is null) is distinct from just saying that *ni-* appears on intransitive verbs whose subjects are third person. This difference comes out when one considers that *ni-* can show up on any verb; if *ni-* showed up only on intransitives, it would have to be posited that there is an intransitive counterpart to every single transitive verb in the language. Further, in intransitives, it is possible to have no implied object whatsoever; for transitive verbs with *ni-*, there is still a contextually-supplied value for the object.

[7]For *ni-*, Derbyshire states that this realization as ∅ occurs "in (phonological) phrase-initial position" (p. 189), but he never explicitly defines what he considers to be a phonological phrase.

It is not important for this paper how much of the suffixal *portmanteau* morphemes can be broken down. The one morpheme that can be most clearly pulled out of this *portmanteau* is *tx* ('collective'). This morpheme is either the first element in the *portmanteau* (e.g., immediate past collective -*txowɨ*), or it is the second element, following -*ya* in all morphemes that have -*ya*. (There is likely some null counterpart of -*ya* in the former cases, though the function of this morpheme is unclear.)

The inflectional structure of a verb (which draws on the above prefixes and suffixes) is schematized in (8) and exemplified in (9), with the verb roots bolded. Hixkaryana has frequent (discourse-licensed) subject- and object-drop, so these verbs on their own could constitute a whole sentence whose arguments are null, as indicated by the translations.

(8) SUBJ/OBJAGREEMENT-**V**-COLLECTIVITY.MOOD.TENSE.ASPECT

(9) a. nɨ- **nɨkɨ** -yako (p. 196)
3S go.to.sleep RECPST.COMPL
'He went to sleep.'

b. mɨ- **ka** -no (p. 191)
2S.3O say IMMPST
'You said it.'

c. ɨ- **homo** -yano (p. 197)
1S.3O plant NONPST.UNCRT
'I may plant it.'

d. oy- **owakrye** -yatxkonɨ (p. 197)
3S.2O make.happy COLL.DISTPST.CONT
'They made you happy.'

The verb root is prefixed with a *portmanteau* morpheme encoding subject agreement (for intransitive verbs, as in (9a)) or both subject and object agreement (for transitive verbs, as in (9b-d)). The suffix encodes tense, aspect, and mood. The examples in

(9) also show that the position of the verb on the syntactic spine is consistent with the person hierarchy (along the lines of (Rezac 2011)): the verb is below argument person features (prefixal) and above number features (suffixal, *-tx*).

2.2 Main clauses

Hixkaryana's basic (unmarked) word order is OVS[8] (Derbyshire 1977), as schematized with different sentence types in (10) and exemplified in (11):

(10) Unmarked constituent order

a. Intransitive V: V S

b. Transitive V: NP V S

c. Copula clause: AP/PP COP S

d. Directional: PP V S

(11) a. n-eweh-yatxhe wor**i**skomo komo (p. 31)
3S-bathe-COLL.NONPST woman COLL
'The women are taking a bath.'

b. kuraha y-onyhorye-no b**i**ryekomo (p. 31)
bow 3S.3O-make-IMMPST boy
'The boy made a bow.'

c. ohxe rmahaxa n-∅-aha woto (p. 31)
good very 3S-be-NONPST meat
'The meat is very good.'

d. Kasawa hona **i**-te-ko (p. 47)
Kasawa to 1S-go-RECPST.COMPL
'I went to Kasawa.'

[8]The preverbal 'O' here is a cover term for the complement of the verb or copula, whether the complement is an NP (for all verbs except the copula), AP or PP (for the copula), or PP (for directionals). I do this to capture the fact that all three of these phrase-types, when they are the complement of the verb/copula, behave alike. The one exception to this is agreement morphology: APs and PPs do not trigger agreement on the verb/copula.

The matrix verb follows its complement (whether the complement is an NP, AP, or PP) and precedes the subject.

There is one instance of OSV word order found in Hixkaryana, which is triggered by the presence of a subject 1+3 (first person exclusive) pronoun *amna*. *Amna*, as a subject, obligatorily appears left-adjacent to the verb, giving rise to (O)SV word order,[9] as in (12):

(12) a. amna n-omok-no (p. 9)
1+3 3S-come-IMMPST
'We came.'

b. kanawa amna n-a-no (p. 10)
canoe 1+3 3S-take-IMMPST
'We took the canoe.'

OSV word order occurs virtually nowhere else in Hixkaryana. *Amna* is also unique among other pronouns in that (i) it cannot be dropped, and (ii) it behaves (for agreement purposes) as though it were third person. This latter property may be attributable to the decomposition of 'we exclusive' into its component parts first and third person. Third person agreement, then, is a single conjunct agreement effect. *Amna* will be discussed more fully in section 4.10.2.

All adjuncts/modifiers and obliques take the form of APs or PPs and uniformly appear at the end of the clause, after the subject, giving rise to the word order OVSX (where X is an adjunct and may iterate), as shown in (13), with adjuncts bracketed (Derbyshire 1979):

[9]Except in quotatives, where *amna* appears in regular subject position, right-adjacent to the verb (p. 10). Quotatives are not discussed in this paper.

(13) bɨryekomo komo y-on-yetxkonɨ kamara [txetxa wawo]
child COLL 3S.3O-eat-COLL.DISTPST.CONT jaguar forest in
[amnyehra] (p. 60)
long.ago
'The jaguar used to eat children in the forest long ago.'

The first adjunct, *txetxa wawo*, is a PP, while the second, *amnyehra*, is an AP.

Indirect objects behave just like adjuncts/modifiers do (p. 35). Indirect objects appear after the subject, in a PP headed by *wya* ('by', 'to'), as shown in (14), bracketed.[10]

(14) Ø-ka-no wosɨ [t-hok-ru wya] (p. 35)
3S.3O-say-IMMPST woman 3REFL-child-POSSD to
'The woman said it to her child.'

Derbyshire notes a general aversion to multiple post-subject APs/PPs in the language, with either prosodic right-dislocation or focus movement to the front of the clause (discussed in section 2.4) as the repair.

The maximal template that arises for main clauses with a transitive verb, intransitive verb, or copula is given in (15), where * indicates iterativity:

(15) (**O**) SUBJ/OBJAGR-**V**-COLLECTIVITY.TENSE.ASPECT.MOOD **S** **XP***

Hixkaryana is solidly an OVS language.

2.3 Particles

There is one basic element in Hixkaryana that has not yet been addressed: particles. Hixkaryana is rich in particles, which come in three flavors: 'modifying,' 'discourse,'

[10]Derbyshire does not say whether an indirect object PP must be the first in a series of adjuncts, and there are no examples bearing on this question.

and 'verification' particles.[11] Particles generally appear in clausal second position[12] (after the first XP of the clause they are a part of) and are phonologically dependent on the word to their left, though they are morphologically independent (i.e., do not undergo the phonological processes that occur at morpheme boundaries) and can bear stress (p. 21). The three types of particles are defined and exemplified as follows:

(16) Modifying particles: restrict some noun in the clause

a. kana **txko** (p. 246)
fish DIMIN
'the small fish'

b. uro **tho** (p. 245)
1 DEVAL
'poor me'

(17) Discourse particles: relate an element of the clause to the discourse

a. ɨ-te-he **kahpa** (p. 248)
1S-go-NONPST PERIOD
'I'm going for now.'

b. ɨto-ko **rha** (p. 250)
go-2IMP SEQL
'Go again.'

(18) Verification particles: express speaker attitude toward the utterance

a. n-omok-yan **hatɨ** (p. 255)
3S-come-NONPST.UNCRT HSY
'He is coming, they say.'

---

[11]For all particles, I adopt Derbyshire's glosses and explanations of these particles, though sometimes these terms may not be very informative. I do not mean to ascribe any theoretical meaning to this choice.

[12]It may be that 'second position' more accurately refers to second position in whatever phrase the particle appears in (e.g., PP, AP, NP, clause); here I only look at matrix clause particles. There is one notable exception to the clause level second position generalization that involves the particle *ha*, discussed later in this paper (see section 4.9).

b. n-omok-no **hana** (p. 71)
3S-come-IMMPST UNCRT
'He may have come.'

As can be seen, particles have a wide variety of meanings/functions. Roughly, it seems that 'modifying' particles have an adjective-like function, 'discourse' particles have an adverb-like function, and 'verification' particles have an evidential-like function.

Main clause particles generally appear in second position of the clause, following the first major clause constituent. Thus, particles are often post-verbal (O V PRT S), as the phrase containing the object and the verb is the first XP in clauses with no focused or *wh* elements:

(19) wewe y-am-etxow **hatɨ** hawana komo (p. 33)
tree 3S.3O-fell-COLL.NONPST.UNCERT HSY visitor COLL
'The visitors will fell the trees (it is said).'

In fact, particles provide one of only two reliable constituency tests in Hixkaryana (the other being focus movement), since there is no straightforward clefting or coordination in the language.[13] (See section 2.4 for how particles interact with focus movement and section 3.1 for more on the constituency of O and V.)

Particles may also occur in sequences of two or more. Both modifying and discourse particles can iterate and have a very flexible ordering with respect to each other, but there can only ever be one verification particle, and it must be sequence-final, as seen in (20):[14]

---

[13]This assumes that particles have a fixed syntactic position, which (at least for 'discourse' and 'verification' particles) is consistent with their invariant high scope.

[14]There is a preference for omitting or right-dislocating the subject when there are sequences of particles after the VP; hence, *kamarayana komo* ('the jaguar people') appears prosodically dislocated to the right (dislocation indicated with the comma). This seems to be part of a general tendency in the language to keep sentences short/non-complex.

(20) n-amryek-yatxkon **heno komo rma** **hatɨ**, kamara-yana
3S-hunt-COLL.DISTPST.CONT dead COLL SAME HSY jaguar-person
komo (p. 22)
COLL
'Those jaguar people, now dead, used to still go hunting.'

In (20), *hatɨ* is the only verification particle, and it is the last particle in the sequence; its position is completely rigid. The particles *heno* ('dead') and *komo* ('collective') are modifying particles, while *rma* ('same referent') is a discourse particle. These three particles can be freely re-ordered (p. 22). Note also that the modifying particles *heno* ('dead) and *komo* ('collective') appear along with the other particles, yet semantically they modify the subject noun phrase; this is a general property of modifying particles: they target an NP. The particle *komo* even appears twice – once with the overt, prosodically right-dislocated subject, once in the main part of the clause.

The single big exception to the 'second position' generalization involves the particle *ha* ('intensifier') and certain particles composed with *ha*, e.g., *hamɨ* ('deduction'). Even when the constituent containing the object and verb is not the first constituent in the clause, the particle *ha* stays after the verb/inflectional suffixes. This is discussed further in section 2.4.

2.4 Focus movement

The basic OVS word order of Hixkaryana can be altered by movement for focus or contrastive topic purposes.[15] Focus/contrastive topic in Hixkaryana involves movement to a clause-initial position. There is only one pre-object position for a (non-prosodically-dislocated) fronted constituent (p. 75), so only one thing can be focused

[15]Two processes that change word order but are not discussed here include prosodic dislocation and parataxis. These processes are quite frequent in Hixkaryana but are not relevant to the present discussion since both involve dislocation from the main clause intonation phrase, which may indicate that they are parenthetical in nature.

at a given time. In (21), a PP oblique (canonically post-subject) is focused; Ps cannot be stranded by movement, so only a whole PP can front.

(21) [o-he-txe wya] woto w-ɨm-no enmahrɨro (p. 75)
2-wife-POSSD to meat 1S.3O-give-IMMEDPST early.in.the.day
'It was to your wife that I gave meat early in the day.'

Focusing results in a cleft-like reading of the sentence (as reflected in the loose translation). Note that there is another adjunct in the clause, *enmahrɨro*, but it follows the verb and could not front in (21); the unique clause-initial position is already filled.

Most particles appear after the focused constituent when there is one, (22):

(22) [kurum me] xah tɨ ∅-to-txownɨ ha (p. 252)
king.vulture P MISF HSY 3S-go-COLL.IMMEDPST INTENS
'It was in the form of vultures that they went (they were men before).'

The canonically post-subject PP oblique *kurum me* is fronted for focus. Both *xah* (discourse particle) and *tɨ* (verification particle) appear after the fronted constituent instead of after the verb, where particles show up in regular (O)VS clauses, cf. (19) and (20). Most particles fit within this 'second position' generalization: particles appear after OV when there is no focused constituent and after the focused constituent when there is one.

There is one notable counterexample to the second-position generalization, seen in (22): even when all other particles appear in strict second position, the particle *ha* remains after the verb. Derbyshire glosses *ha* as an 'intensifier' but it is somewhat unclear what it actually means/does. Derbyshire (1985) notes: "There is one particle that has proved particularly difficult to analyze: *ha*" (p. 160). This particle frequently occurs morphologically attached to other particles, e.g., *hatɨ* ('hearsay') and *haka* ('right now'), in OVS clauses with no focused constituent, as in (23a). Crucially, compare (23a) to (23b).

(23) a. n-omok-ye **hatɨ**, otwo hona (p. 79)
3S-come-DISTPST.COMPL HSY village to
'He came to the village (it is said).'

b. [owto hona] **tɨ** n-omok-ye **ha** (p. 79)
village to HSY 3S-come-DISTPST.COMPL INTENS
'It is to the village that he came (it is said).'

When there is a fronted constituent, as in (23b), the two components of *hatɨ*[16] are forced apart from their unified form in (23a); it seems that while *tɨ* is in strict second position, *ha* strictly follows the verb.[17] This decomposition occurs for many but not all particles containing *ha*; for example, *hamɨ* ('deduction') always appears after the verb, regardless of second position (p. 79).

Wh-interrogatives make use of the same fronted position for *wh*-phrases as for focused phrases. In (24), the subject (bracketed in (24)) is questioned, appearing in clause-initial position:

(24) [onokɨ] bɨryekomo komo y-on-yetxkonɨ (p. 60)
who child COLL 3S.3O-eat-COLL.DISTPST.CONT
'Who used to eat children?'

In accordance with the prohibition on having more than one phrase focused, only one phrase can ever be *wh*-moved or focused at a time.

2.5 Interim summary: a descriptive checklist

This section provided a brief overview of the core syntactic and morphological properties of Hixkaryana. More detailed analyses of some of these components are given in the appendices: Appendix B looks more closely at the agreement morphology, Ap-

[16]Following the glosses of Derbyshire, I gloss *hatɨ* as a single morpheme; this is done to reflect the fact that the attachment of *ha* to *tɨ* does not affect the meaning of the particle.

[17]The particle *tɨ* can also appear alone, without *ha* in the sentence at all.

pendix C discusses what embedded clauses look like, and Appendix D ties all the data together while looking at what can be said about the (non-)ergativity of Hixkaryana.

The following is a descriptive checklist of the core properties that any analysis of Hixkaryana must be able to account for:

(25) Descriptive checklist

a. OVSX word order in transitives and VSX word order in intransitives

b. Pred-Cop-S word order in copula clauses, Dir-V-S order in directionals

c. OSV word order when the subject is *amna* (1+3)

d. A *portmanteau* agreement prefix encoding subject and object agreement

e. A *portmanteau* suffix encoding collectivity, tense, aspect, and mood

f. Second position particles, with *ha* as an exception, follow the first XP

Such an analysis is the goal of the following sections.

3 Previous Accounts

There have been three previous attempts to account for the syntax of Hixkaryana: Cline (1986), Mahajan (2007), and Broekhuis (2010). I review the first two accounts (which are very similar) and present arguments against them, concluding with a brief look at Broekhuis (2010).

3.1 Cline 1986

Cline (1986) argues that clauses in Hixkaryana are underlyingly SOV, and that the object and verb move as a unit (V′) to C. As evidence for underlying VP-finality, Cline cites the following facts about Hixkaryana (Cline 1986:p. 20-23): (i) VP adjuncts follow the subject, so the VP must at one point have been to the right of the subject

and then moved left, stranding the adjuncts; (ii) there is consistent case assignment to the left in Hixkaryana (i.e., consistent head-finality), so the subject must occupy a leftward specifier of IP at some point in order to get case from I.

Cline (1986) also argues for the constituency of O and V (Cline 1986:p. 30-31). Related to the above arguments for VP-finality, Cline says that in order for VP to become initial, the V and O must move together, hence, as a unit. In addition, Cline shows that the evidential particle *tɨ* is a strict second position particle at the clause level, shown in (26a), with a focused subject and (26b) with a focused adjunct:

(26) a. [FOC noro] **tɨ** n-on-yetxkon ha(*tɨ) (p. 147)
3 HSY 3S.3O-eat-COLL.DISTPST.CONT INTENS
'He used to eat them (it is said).'

b. [FOC owto hona] **tɨ** n-omok-ye ha(*tɨ) (p. 79)
village to HSY 3S-come-DISTPST.COMPL INTENS
'He came to the village (it is said).'

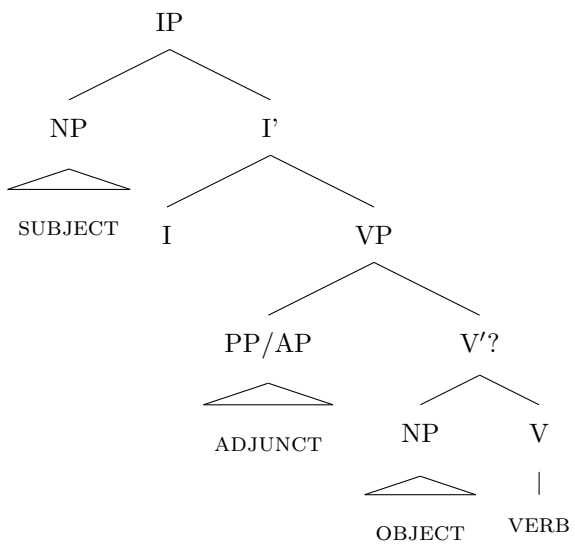
When there is no focused constituent, the evidential particle appears after the verb and generally cannot split O and V:

(27) [wewe y-ame-txow] **hatɨ** hawana komo (p. 33)
tree 3S.3O-fell-COLL.IMMEDPST HSY visitor COLL
'The visitors felled the trees (it is said).'

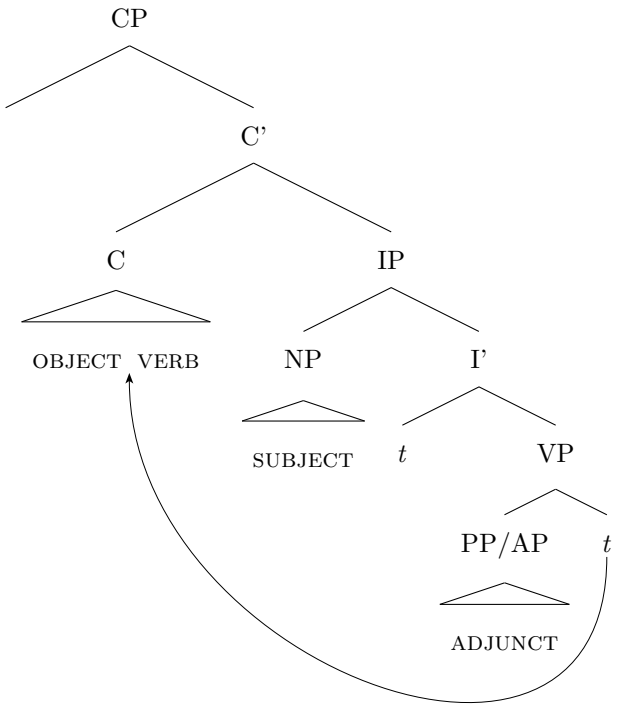
Since the evidential does not appear directly after the object in (27), but rather after the V, O and V must be a constituent, hence, treated as a single unit by second position particles like *tɨ*.

The final step in Cline's analysis is that SOV word order becomes OVS by movement of O and V (as a constituent) to I and then to C. Cline's hypothesized underlying structure is shown in (28), with the surface structure (post-movement) in (29).

(28)



(29)



Cline does not commit to what the label of this moving constituent should be, but considers both V (due to a reanalysis of the V′ phrase-level as the head V, such that the phrase can undergo head movement) and V′ as possibilities. This movement strands all other VP-internal elements (e.g., adjuncts, indirect objects) after the subject, which is in spec-IP. Cline is also able to account for the fact that there is

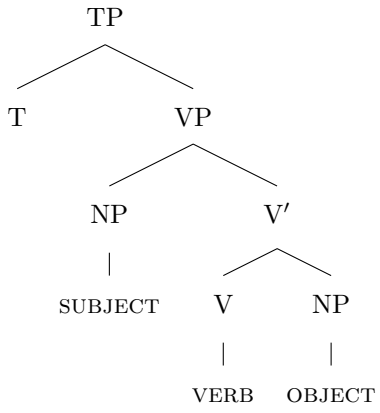
only one position for focus: if O and V are in C, then only spec-CP remains as a target for a fronted constituent.

Cline's answer, then, as to why OVS languages are so rare, is that children's analysis of Hixkaryana requires them to posit a rule that targets a non-maximal projection (V′) to undergo movement. Another contributing factor to the markedness of Hixkaryana, Cline argues, is that in this consistently head-final language, the C head is on the left. Together, these factors conspire to make OVS word order rare.[18]

3.2 Mahajan 2007

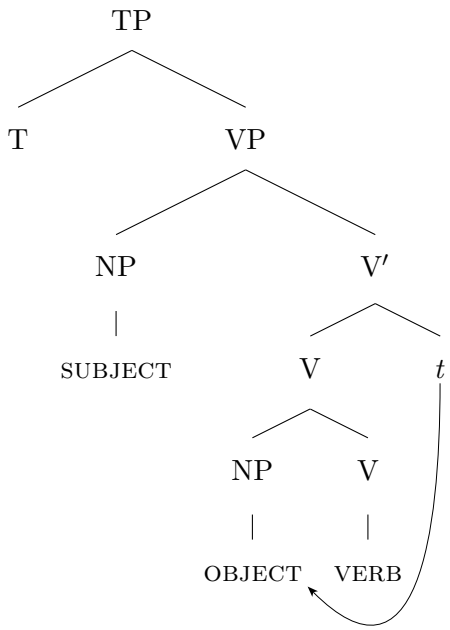
Mahajan (2007) follows many of Cline's (1986) intuitions. As further evidence for the tight clustering of O and V, Mahajan notes that adjuncts may never occur between O and V. However, Mahajan departs from Cline in several ways. First, clauses start as SVO underlyingly. Second, the subject is VP-internal (spec-VP) and remains there throughout the derivation. Third, instead of positing a V′ movement rule, Mahajan proposes that the object NP cliticizes to the verb and head-raises with the verb to T. This derivation is schematized in three steps, from base to surface structure:

(30)

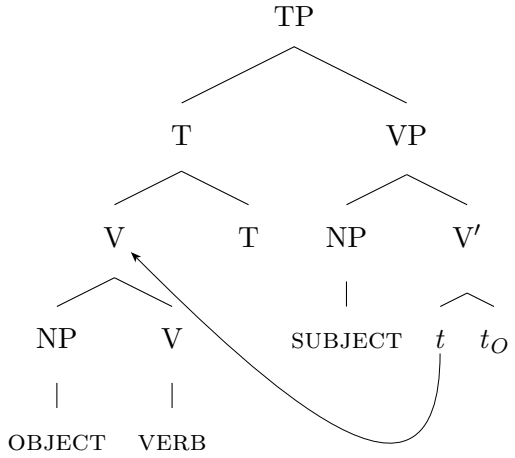


[18]Note, however, that the configuration involving a head-initial CP in a head-final language is not all that rare. See, e.g., Biberauer et al. (2011).

(31)



(32)



From SVO underlyingly, the object cliticizes to the verb, and then the verb raises to T. This cliticization of complement to head occurs for all lexical categories and their complements, deriving head-finality. In focus constructions and *wh*-questions (not shown above), the V-NP cluster raises from T to C, accounting (like Cline does) for the single clause-initial focus/*wh*-position, spec-CP.

As further support for his movement-to-T hypothesis, Mahajan notes that in embedded clauses, the default word order is SOV and there is no longer a restriction on the number of constituents that can precede the object. This would follow if

the V complex does not raise at all in embedded clauses, leaving open potentially more than one position outside VP, e.g., other argument and adjunct positions, topic, and focus. Finally, for Mahajan, "The rarity of Hixkaryana type OVS is therefore attributed to this strange cliticization of full maximal projections to subcategorizing (lexical) heads" (p. 9).

3.3 Against previous accounts

While both Mahajan and Cline offer important insights into the syntax of Hixkaryana, neither can account for all of the data. The main shortcoming of Cline's account is that his analysis is outdated; he did not have access to modern syntactic tools (e.g., vP), and his account cannot be directly translated into current theory, especially as far as movement of a non-maximal projection into a head position goes.

There are three main shortcomings of Mahajan's account: (i) the relationship between O and V, while close, is not as tight as that of a clitic to a head; (ii) Mahajan does not take verbal morphology into account; and (iii) the proposed analysis requires adjunction of a complex phrasal constituent to a head. The first counterargument hinges on the fact that there are several elements (that are not a part of the object NP) that can split O and V; this is laid out in 3.3.1. The other two counterarguments are discussed in 3.3.2.

3.3.1 Elements that may split O and V

O and V may be split by several types of elements, suggesting the relationship between O and V is not a clitic-head relationship. First, there is the imperative particle *hak(a)*, which consistently appears in second position (demonstrated in (33), with a verb-initial clause and a subject-focus clause) and comes directly after O when no

constituent is focused (demonstrated in (34)):[19]

(33) a. [n-omok-no] haka (p. 64)
3S-come-3IMP.NONMOT IMP
'He must come.'

b. [toto kom] hak n-omoh-txowi (p. 64)
person COLL IMP 3S-come-3COLL.IMP.NONMOT
'The people must come.'

(34) [wewe] hak w-ama-txano (p. 65)
tree IMP 1SUBJ.3OBJ-fell-1IMP.MOT
'I must go fell the tree right now.'

The particle *hak(a)* may split O and V. This likely involves object fronting of some sort, but this is still a problem for Mahajan's account (as discussed later in this section); see section 4.8 for a theoretical account of this behavior.

Second, the particle indicating 'alternatives' in yes/no questions (*kaẗi*), which also consistently appears in second position (demonstrated in (35), with a focused adjunct), also comes directly after the complement of the verb when no constituent is focused (demonstrated in (36)):

(35) [owto hona] kaẗi m̈i-te-ko (p. 57)
village to ALT 2S-go-RECPST.COMPL
'Did you (or did you not) go to the village?'

(36) owto hona m̈i-te-ko. [ïẗo-hra] kaẗi
village to 2S-go-RECPST.COMPL go-NEG.ADVZR ALT
m-ehx-ako (p. 57)
2S-be-RECPST.COMPL
'Did you go to the village? Or did you not go?'
(Lit: '...Or were you not going?')

[19]The particle *haka* is glossed by Derbyshire as an imperative marker; I do not mean to attribute any theoretical importance to adopting his terminology here.

Thus, the particle *katɨ* may split O and V. Note that the complement of the verb in (36) is a predicate adverbial embedded clause.[20] While predicate APs and PPs (complement of the copula) are not treated much in this paper, they pattern exactly like O in their placement with respect to particles.

Third, objects may be focused, as in (37):

(37) yawaka ryhe w-ɨm-yako, Waraka wya (p. 149)
axe EMPH 1S.3O-give- Waraka to
'It was the axe I gave to Waraka.'

The focus particle *ryhe* intervenes between O and V. Under the assumption that trees are built bottom-up, this would require extraction of part of a head-adjunction structure (since this happens very low) in order to raise the object into a focus position much later in the derivation/higher in the tree. Mahajan might argue that an object that is going to be focused is merged with some kind of focus feature which blocks the cliticization, enabling the object to be A′-moved later in the derivation. However, some of the cases of fronting of the object do not seem directly related to focus, e.g., *katɨ* and *haka* above.

Finally, the first person exclusive pronoun *amna*, as a subject, obligatorily appears left-adjacent to the verb, giving rise to (O)SV word order, as in (38) (repeated from (6) above):[21]

(38) kanawa amna n-a-no (p. 10)
canoe 1+3 3S-take-IMMPST
'We took the canoe.'

---

[20]Negation in Hixkaryana is a suffix, *-h(ɨ)ra*, that attaches to verbs and makes them unable to function as a main clause verb. Hence, to negate a main verb, the verb must be embedded under the copula 'be'. See Appendix C for more about clausal embedding in Hixkaryana.

[21]As will be seen in section 4.10.2, the object in an OSV sentence with a subject *amna* is not in a focus position.

The pronoun *amna* splits O and V.

If the object cliticizes to the verb (as under Mahajan's account), there is no way to account for the subject *amna* intervening between O and V. Similarly, if the verb never leaves the VP and the object is base-generated as a leftward complement of the verb (as under Cline's account), then there is no account for the position of *amna*.

3.3.2 Verbal morphology and cliticization

The second major objection to Mahajan's (and Cline's) account is that it does not take verbal morphology into consideration at all. If the object NP cliticizes to the verb very low in the structure, how does prefixal agreement morphology end up intervening between the object and the verb?[22]

The final objection to Mahajan's account is that it would be necessary to posit that internally-complex XPs may cliticize to a head. Specifically, full/complex NPs cliticize to whatever head selects them (e.g., V, P), and predicative APs and PPs (which appear before the copula) cliticize to the copula; the cross-categorial cliticization of complement to head would have to be able to target quite large constituents. It is not clear that this is a configuration that syntactic theory should allow. Interpreting Mahajan's 'cliticization' as something more like pseudo-incorporation (along the lines of Mohanan (1995)), this configuration looks more plausible, since pseudo-incorporation may target complex XPs. However, the problem of dealing with verbal morphology and elements that can intervene between O and V remains.

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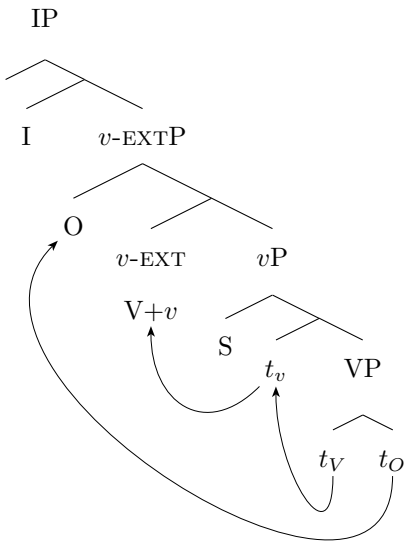
[22]It is possible, however, that Distributed Morphology (Halle and Marantz 1993) could handle this via post-syntactic local movement of morphemes.

3.4 Broekhuis 2010

One final account must be argued against. Broekhuis (2010:p. 10) tries to account for the structure of OVS languages in general as necessarily involving the structure in (39).

(39)



V raises to v and then further to an 'extended' projection of v (created by head movement of v). I and spec-IP necessarily remain unfilled phonologically. Broekhuis argues that the fact that this is the only way to derive OVS word order accounts for the rarity of OVS word order crosslinguistically.

This account is not viable for Hixkaryana for two reasons. First, in the above tree, there is no OV constituent. Given that O and V usually act as a constituent in Hixkaryana (using second position particles as a diagnostic, as discussed in section 2.3), Broekhuis' account cannot be the full story, even if it is a step along the derivational path. Second, Broekhuis, like Cline and Mahajan, cannot account for verbal morphology – neither the tense/aspect/mood suffix nor the agreement prefix – because for him, the derivation stops at (39). In other words, there are no other functional projections introducing any of those elements, and no movement into the domain of these functional projections.

The accounts presented in this section are therefore rejected and a new account is pursued in the following section.

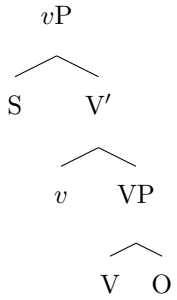
4 A New Account

This section presents a new analysis of Hixkaryana's main clause syntax, guided by the descriptive checklist in 2.5. There are many intricate components to the derivation. Each movement and position will be motivated in turn in this section.

4.1 The big picture

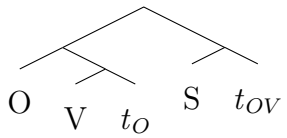
The first step in modeling the syntax of Hixkaryana is (abstractly) deriving its basic word order: OVS. Assuming antisymmetry (Kayne 1994), the following underlying structure is generated:

(40)



From here, the derivation of OVS proceeds (broadly) as follows. Given that O precedes V on the surface, but follows it underlyingly (seen in (40)), O must raise past wherever V ends up in the structure. Further, given that V and O form a constituent on the surface and precede the subject, the O and V must move together (to the exclusion of the subject) to some initial position, above the subject. Greatly simplified, the structure will end up looking something like the following:

(41)



O raises past V and the OV constituent raises past the subject.

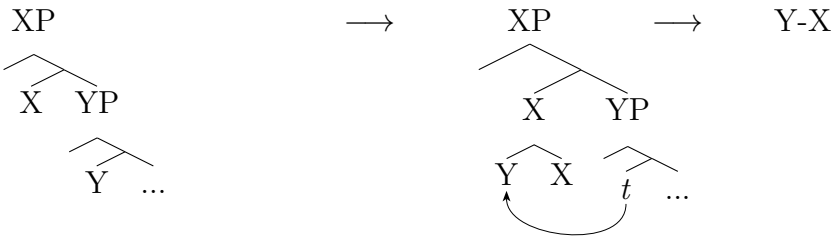
4.2 Syntax via inflectional morphology

The next step is to see how far the inflectional morphology can take the analysis, assuming the mirror principle (Baker 1985:p. 375): "morphological derivations must directly reflect syntactic derivations (and vice versa)". The linear order of inflectional morphemes is the following, repeated from (8) above:

(42) Subj/ObjAgreement-**V**-Collectivity.Tense.Aspect.Mood

Following Kayne (1994), movement of a head Y to a head X uniformly produces the ordering Y-X:

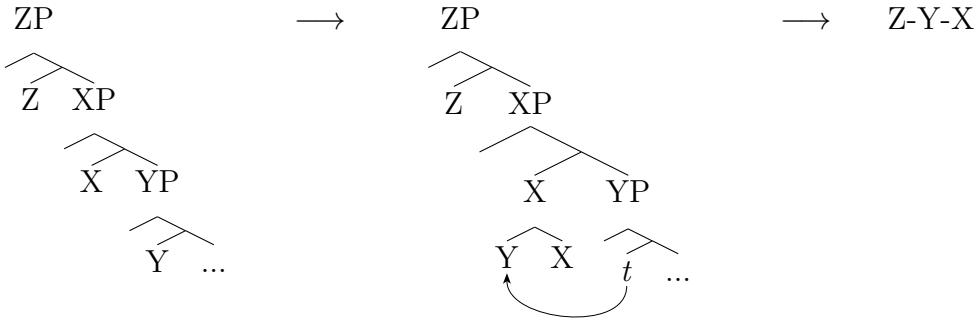
(43)



When the head Y adjoins to the head X, X is a suffix to Y (or, equivalently, Y is a prefix to X). Thus, if V is to raise from its low position and take collectivity, tense, aspect, and mood as suffixes, V can head-move through these projections. (V could also move within a larger phrase to a position above tense/etc., with tense/etc. ending up as a suffix to V; this process would be more like that shown in (44).)

When a stem Y ends up below a bound morpheme head Z (either through movement, as in (44), or being generated there), Z becomes a prefix to Y.

(44)



The specifier of XP in (44) cannot contain any overt material, as this would prevent the phonological attachment of Z to Y. Thus, if V is to take an agreement prefix, V must end up in a head position below AGR with no intervening material; the verb cannot head-raise to an agreement projection to take a prefix. A final note here is that it is assumed that *portmanteau* affixes result from the concatenation of features under a single head node, with an idiomatic/unpredictable spell-out of these features (along the lines of, e.g., Bobaljik and Branigan (2006); see 6.2).[23]

Putting this all together, the underlying structure of Hixkaryana emerges:[24,25]

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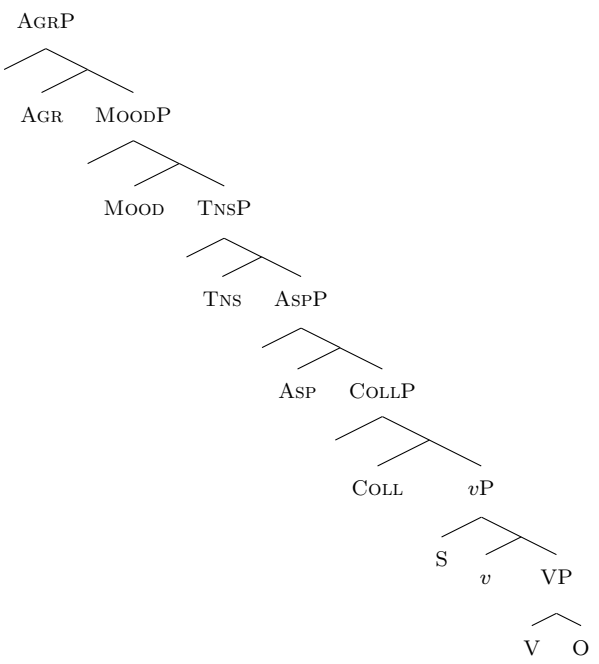
[23]This statement merits much further research; it is an intuition (about morphology acting only on constituents) that has been echoed in at least some other literature.

[24]For now, I use a single projection for AGR so as not to commit to the respective ordering between AGR_S and AGR_O. I will return to this issue in the following section.

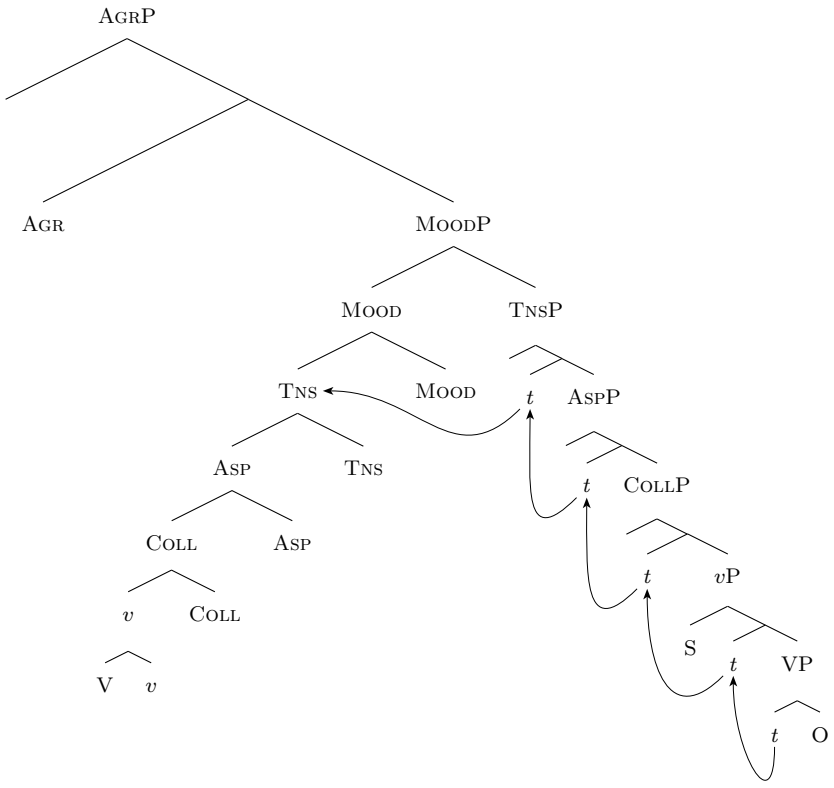
[25]Since the suffix is an unpredictable/idiosyncratic *portmanteau* morpheme (with the exception of COLL, which is always *-tx-*), it is not actually possible to determine the relative ordering among the projections below AGR. I have chosen the order represented in (45) but I am not committed to it. Further, while I include collectivity on the spine, I do not mean to (necessarily) imply that collectivity is a property of events, though it may be. I do this to capture the fact that collectivity is part of the inflectional suffix *portmanteau*. The morpheme *-tx* may be triggered by movement of some argument through this projection, though I do not work out the details of that here. I will leave aside the question of what the exact nature of collectivity is – whether it is a property of individuals or events – and how it is licensed.

(45)



The V moves as high as the head of MoodP, picking up Coll, Asp, Tns, and Mood as suffixal features and Agr as a prefix, as follows:

(46)



The bundle of features in the head of MOOD is spelled out as a *portmanteau* suffix; to simplify future derivations, I will use a projection MTACP in lieu of four separate inflectional projections, MOOD, TNS, ASP, and COLL.[26]

Now that the V's final position/landing site has been determined (whatever the highest projected inflectional projection below AGR is), it is possible to investigate the positions of the subject and object. This is taken up in the following two sections.

4.3 The agreement positions of the arguments

Where do the subject and object end up? To answer this question, it is necessary to elaborate AGR into two separate projections, AGR_SP and AGR_OP. (The labeling of AGR_OP will be modified in section 4.4 to account for non-NP/non-agreeing elements occupying this position.) By virtue of the subject and object sitting in the specifiers of these projections, respectively, the heads AGR_S and AGR_O can be valued according to the person of the verb's arguments.[27] Thus, at some point in the derivation, the subject must be in spec-AGR_SP and the object must be in spec-AGR_OP.

The next step is to determine the relative ordering of the agreement projections. Traditionally, AGR_S is above AGR_O (Chomsky 1991). However, I suggest that the opposite hierarchy is true in Hixkaryana, i.e., that AGR_O is above AGR_S. This non-

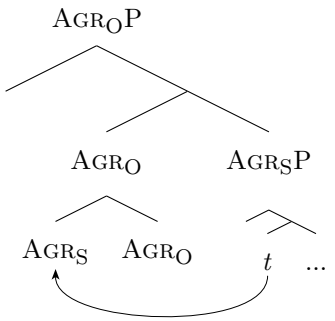
[26]It is not theoretically important for me whether the subprojections of MTACP that are not semantically realized in any given derivation are projected or not. For example, in clauses without any collectivity, it could either be that the COLL head is valued at [–COLL] or it could be that COLLP is not projected.

[27]This follows the spirit of Koopman (2006) in reducing all agreement to purely local spec-head configurations. While there are certain compelling reasons to believe that something more than spec-head is sometimes needed (see, e.g., Schütze (2011)), there are no (obviously) non-local phenomena involved in Hixkaryana's agreement system; as such, I do not make use of the more powerful mechanism AGREE here. Further, an AGREE account will likely yield the same results as the current proposal, as the subject must end up high for scope reasons, and the object must raise above wherever the final landing site of the V is. Under an AGREE approach, then, the agreement projections would have an EPP feature, drawing up the subject and object into these higher specifier positions.

standard hierarchy has several advantages, discussed in section 4.10 after the full structure is introduced below.

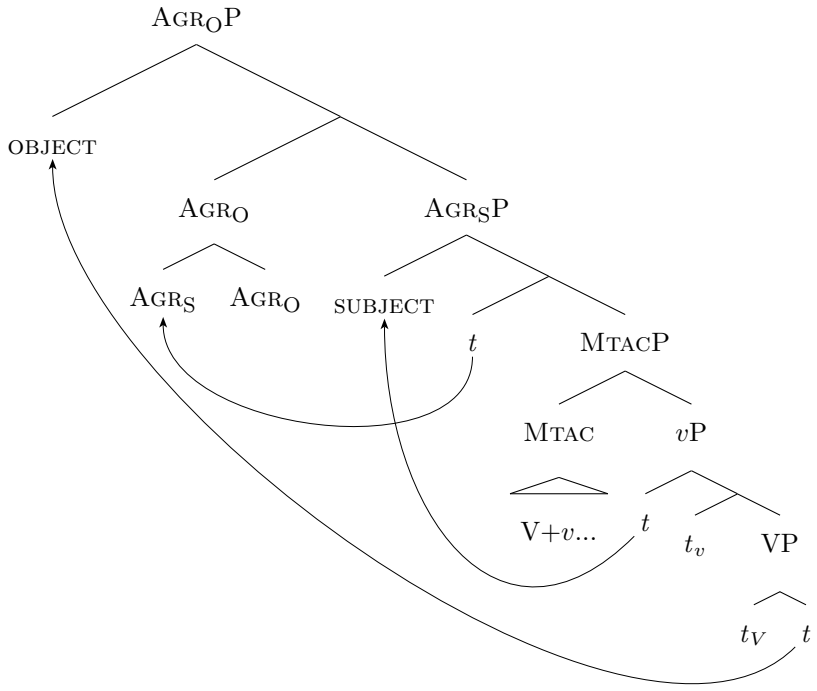
Taking the structure (on faith, for now) to be AGR_O above AGR_S, we have the following configuration for the *portmanteau* agreement morpheme:

(47)



By moving into the same head position, AGR_S and AGR_O are able to spelled out as a single morpheme. Together with the previously motivated structure, we have:

(48)



The subject raises from spec-vP into spec-AGR_SP. Once the features on the subject and AGR_S are checked, the subject is no longer eligible for A-movement (as has

been proposed elsewhere, e.g., Legate (2008)).[28] Spec-AGR$_O$P, however, is also an EPP position in the A syntax; to satisfy this EPP, the object raises from within VP. When the element occupying spec-AGR$_O$P is an NP, it values AGR$_O$ for person features, contributing to the *portmanteau* prefix.

4.4 A revision: the nature of AGR$_O$P

In the above discussion, I have only considered the movement of object NPs into a pre-verbal position, spec-AGR$_O$P. However, there are other elements that behave positionally like object NPs, namely directional PPs, (49a), and predicative APs/PPs, (49b) (repeated from (11)).

(49) a. [ohxe rmahaxa] n-∅-aha woto (p. 31)
good very 3S-be-NONPST meat
'The meat is very good.'

b. [Kasawa hona] ɨ-te-ko (p. 47)
Kasawa to 1S-go-RECPST.COMPL
'I went to Kasawa.'

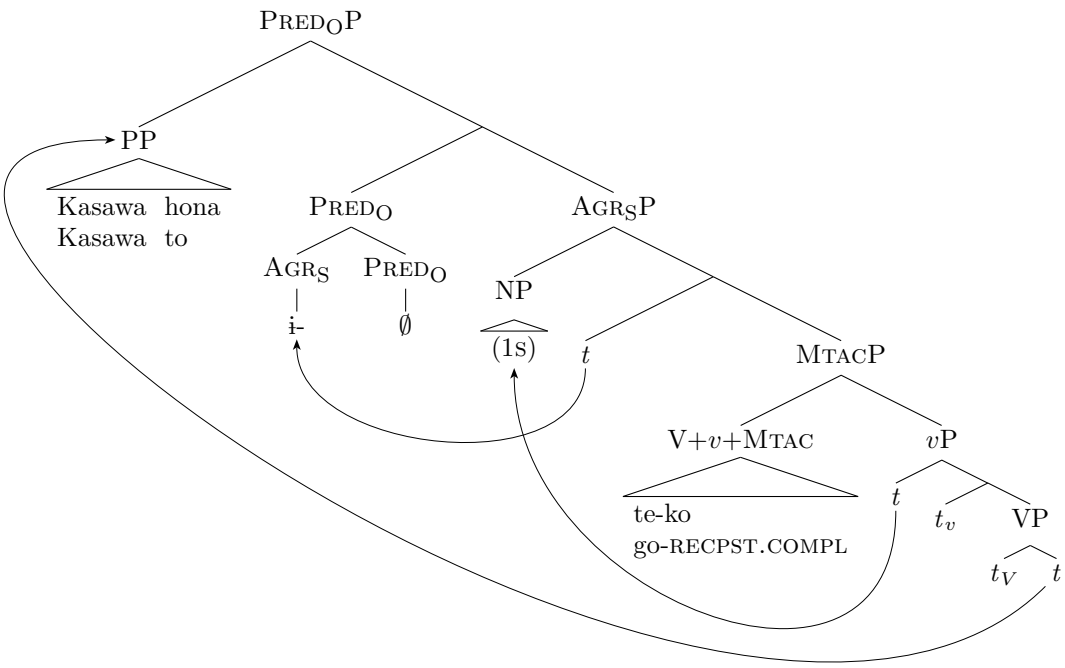
Object NPs, directional PPs, and predicative APs/PPs all precede the verb and the verbal agreement prefix. Further, these three types of elements all have one thing in common underlyingly: they are the complement of the main verb/copula.

I therefore propose that the phrase attracting the object NP is actually more than just a DP-agreement position. Rather, it is a phrase whose head attracts the next

[28] An alternative explanation for getting around the violation of minimality is that the object is smuggled above the subject in the constituent MTACP, which could move to a projection between AGR$_S$P and AGR$_O$P. However, this movement is undesirable for the typology I suggest in section 5, since the restrictive predictions crucially rely on adjacent agreement projections with no intervening functional material. Smuggling is also undesirable because it cannot account for cases in which the subject stays low and is realized left-adjacent to the verb, e.g., *amna*, see section 4.10.2. Finally, note that even if AGR$_S$P were above AGR$_O$P, the minimality violation would persist – there would still be crossover of subject and object movement.

(non-spinal) projection below the subject to satisfy its EPP feature (given that the subject is inert for further A movement, as discussed in the previous section). This will amount to the phrase generated as the complement of the V being drawn up to spec of this projection, which I will label $\textsc{Pred}_{\textsc{O}}$P instead of $\textsc{Agr}_{\textsc{O}}$P from here on out. A sample derivation is given for the sentence in (49b) in (50).

(50)



The subject raises to its normal position, spec-$\textsc{Agr}_{\textsc{S}}$P, and then the EPP feature on $\textsc{Pred}_{\textsc{O}}$ is satisfied by movement of the next non-spinal constituent, the directional complement of the verb, the PP *Kasawa hona*. No agreement is triggered on $\textsc{Pred}_{\textsc{O}}$ by the PP, since agreement can only be valued by NPs.

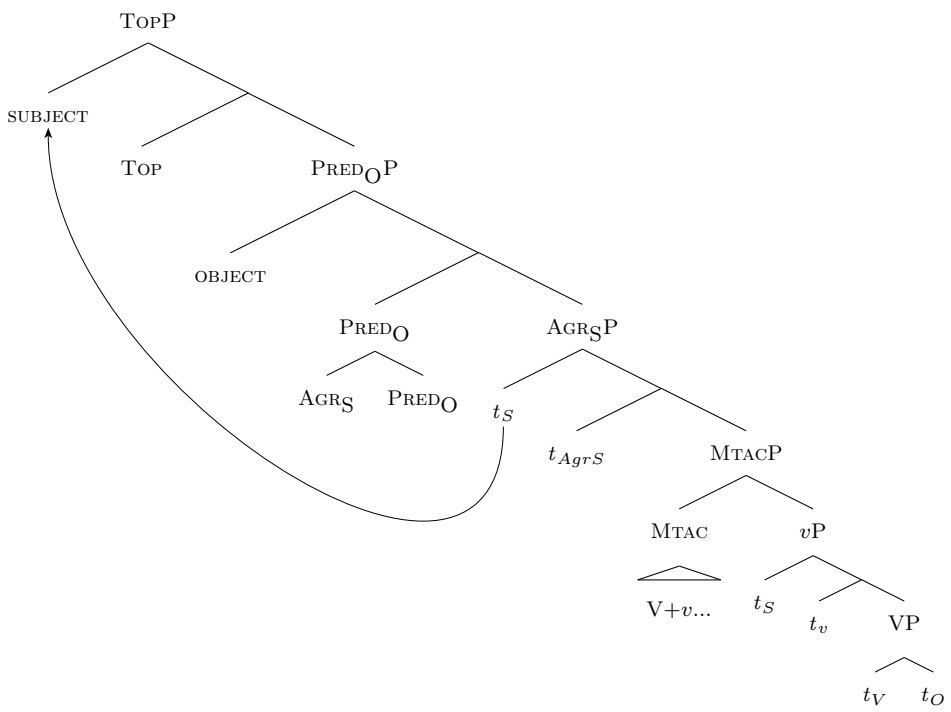
Further implications of this proposal are that spec-$\textsc{Pred}_{\textsc{O}}$P is not a case position, as its EPP feature must be satisfied independent of case. Thus, the object must receive case in its base position, from v, as is standardly assumed. This can be contrasted with spec-$\textsc{Agr}_{\textsc{S}}$P, which is a case position, seen by the fact that only NPs can occupy this position.

4.5 Topicalization of the subject

The word order resulting from (48) is OSV, which is an attested word order in the language but only in special cases; thus, this derivation is along the right track, but there are two problems to resolve for canonical OVS clauses: (i) the word order needs to be OVS; and (ii) if this were the structure, the portmanteau prefix would fail to attach to the verb. The second point is crucial: in the structure in (48), the following ordering of elements occurs: OBJECT-AGR-SUBJ-V-CMTA. The subject occupies a specifier position between the *portmanteau* agreement prefix and the verb, disrupting the attachment. The subject needs to move higher than its position in (48). (Note the prediction made by my theory here: if the subject remains in spec-AGR_SP, there should be a disruption of the agreement morphology. As will be seen in section 4.10.2, this prediction is borne out.)

Where does the subject raise to, and why? Derbyshire notes many times that the subject, when it is not focused, is like a topic; it is never new information. One might object that a true 'topic' (given information) in an NP-drop language would simply not be expressed at all – it would be dropped. However, Derbyshire explicitly notes that even when the subject is overt, it is still old/given information. Referring to a particular example, he says "the subject is an NP after the verb; it is clearly given information and unmarked theme, but the identifying NP is added [in addition] to the verb prefix to avoid possible ambiguity" (Derbyshire 1985:p. 153). This provides a clue as to where the subject moves to: a topic position. This is incorporated into the following tree, with further movement of the subject from spec-AGR_SP to spec-TOPP.

(51)



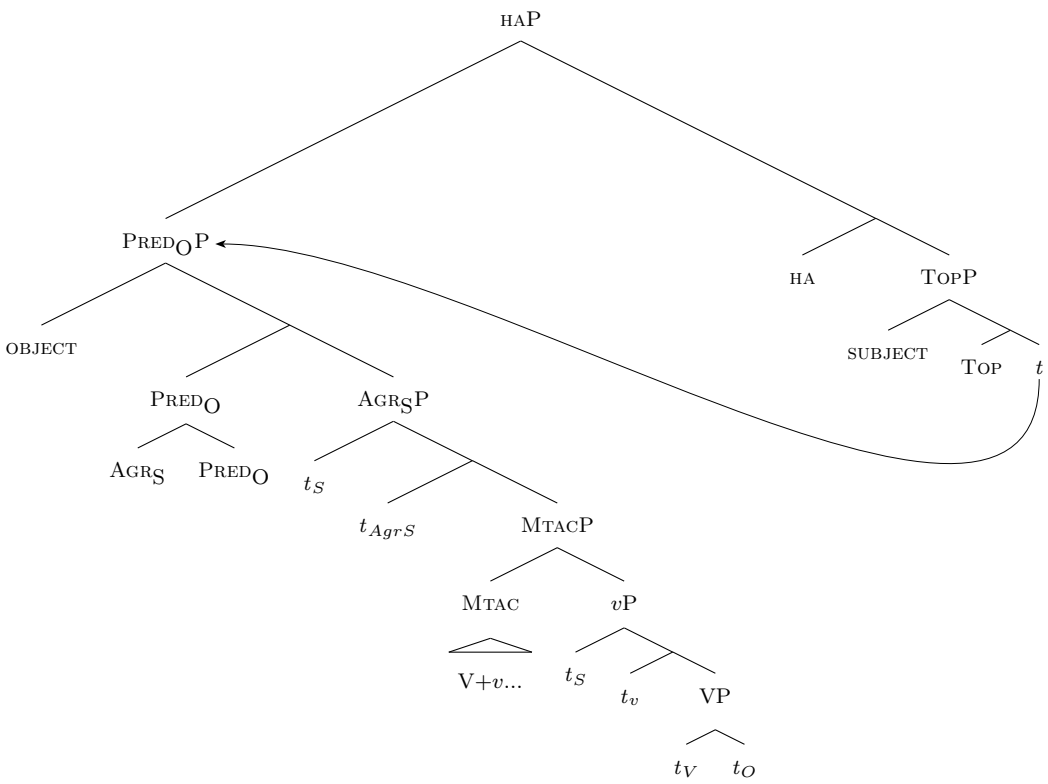
The resulting word order after the subject moves into a topic position is SOV.[29]

4.6 Fronting of PredoP

The structure in (51) solves the problem of the intervening subject and also creates a constituent that contains just the object and the verb (with all of its inflectional morphology). This is precisely what is needed to complete the derivation. If PredOP moves above the subject, as in (52), into spec of a functional phrase (haP below, with ha as an inversion head that draws up a piece of the spine), then everything falls into place.

[29]SOV, in fact, is the word order of many Carib languages, and many of these languages have a *portmanteau* prefix like Hixkaryana's, e.g., Carib itself (Hoff 1995). It may be that the difference between Hixkaryana and (some of) the other Carib languages is the (non-)inversion of PredOP.

(52)



The correct word order – OVS – results from (52), with no intervening elements.

I have labeled the inversion-head HA because it seems to be this projection that houses the single exceptional particle, *ha*. Recall from section 2.4 that *ha* always appears after the verb, even when there is a focused XP with particles following it (repeated from (23)):

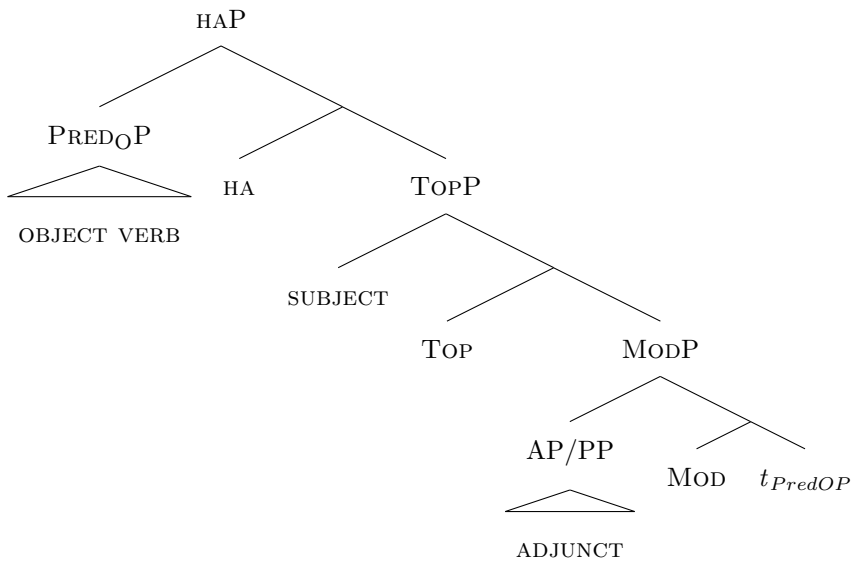
(53) [owto hona] tɨ n-omok-ye ha (p. 79)
village to HSY 3S-come-DISTPST.COMPL INTENS
'It is to the village that he came (it is said).'

The particle *ha* appears in many of Derbyshire's sentences, but does not seem to have any discernible or consistent affect on meaning, as noted by Derbyshire himself (p. 160). I therefore suggest that *ha* (alternating with a null allomorph) occupies the head of the functional projection that draws up PredOP. A further characterization of *ha* is taken up in section 4.9.

4.7 Obliques and adjuncts

Obliques and adjuncts (which appear after the subject) have not yet been accounted for. Their position is, in fact, somewhat mysterious. Under the current account, there must be some iterative projection below TopP and above the trace of Pred_{O}P to house adjuncts (AP/PP), given as ModP (Modifier Phrase) below.

(54)



Each adjunct or oblique would sit in the specifier of one of these iterative projections, ensuring that adjuncts and obliques are uniformly clause-final, no matter what type of adjunct/oblique they are. Whether this position is filled by base-generation or movement likely varies per type of AP/PP. For example, an indirect object PP is more likely to be generated low and moved high, while high-scoping temporal adverbials can be generated in the high position.

Having adjuncts and obliques in this position is consistent with the empirical fact that subjects (transitive or intransitive) can bind into adjuncts and obliques of all types (temporal, locative, indirect objects, causal, instrumental, etc.). This is illustrated in (55).

(55) wewe mahyaka n-te-ko **bɨryekomo**, [ro-wya
tree behind 3S-go-RECPST.COMPL boy 1-by
t-ony-ɨr xe-hra **t**-es-n-ɨr ke] (p. 82)
3REFL-see-NOMZR desirous.of-NEG 3REFL-be-NOMZR-POSSN because
'The boy went behind the tree, because he didn't want me to see him.'
Lit: 'The boy went behind the tree, because one's self's being not desirous of seeing of one's self by me.'

In (55), the matrix subject *bɨryekomo* (bolded) binds the third person reflexive agreement morpheme, *t(ɨ)-* (also bolded), on both embedded predicates in the adjunct 'because' clause, 'go' and 'see'. Matrix objects, unlike subjects, cannot bind into adjuncts/obliques (p. 82).

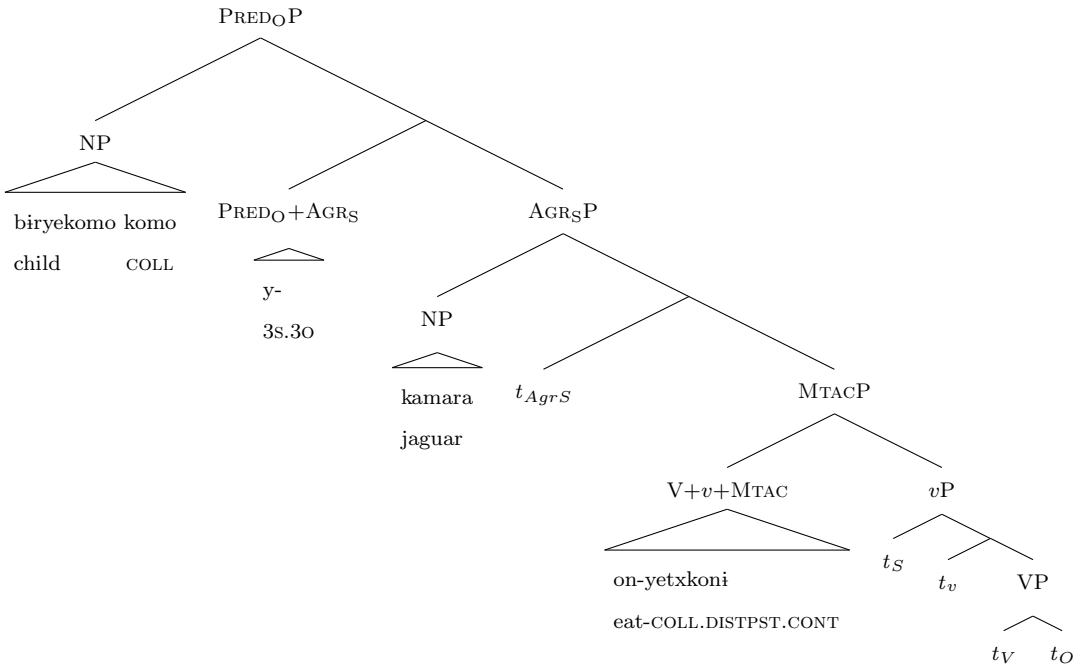
Binding of *tɨ-* can be conceived of in the following way in Hixkaryana. The anaphoric agreement, *tɨ-*, is subject-oriented, i.e., can only be bound by a subject. This anaphoric agreement is either bound within vP (for binding into the object) or TopP (for binding into adjuncts, and potentially objects as well if Pred_OP reconstructs).[30] In order for the subject to be able to bind from its high position in spec-TopP, it must be the case that spec-TopP is a mixed A/A′ position, as the subject would not be able to bind from a pure A′ position.

Before moving on to other A′ phenomena, I will illustrate one full derivation, using the sentence in (56). The tree in (57) shows the derivation of the tree up until Pred_OP, at which point both the subject and object have raised to their case/agreement positions, spec-Agr_SP and spec-Pred_OP, respectively.

[30]It might be objected that it is a problem that the object (in spec-Pred_OP) c-commands the subject in an A-position (spec-Agr_SP), even if *tɨ-* is a subject-oriented anaphor. However, this c-command relationship will be true of any theory in which the object moves out of vP by A-movement: regardless of where the object raises to, it will c-command the trace of the subject in spec-vP. Thus, the binding problem of the object c-commanding a trace of the subject is not unique to the configuration Pred_O over Agr_S.

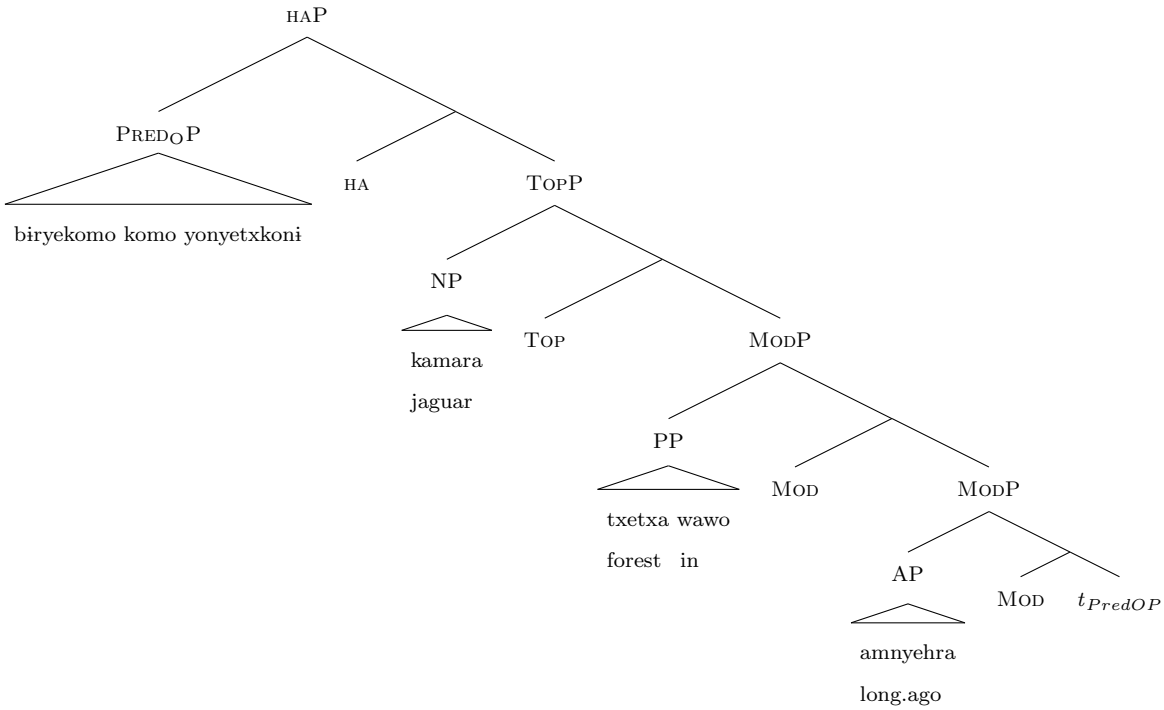
(56) bɨryekomo komo y-on-yetxkonɨ kamara [txetxa wawo]
child COLL 3S.3O-eat-COLL.DISTPST.CONT jaguar forest in
[amnyehra] (p. 8)
long.ago
'The jaguar used to eat children in the forest long ago.'

(57) Part 1 of derivation: up to PRED$_O$P



The tree in (58) completes the derivation, with movement of the subject to its topic position, and fronting of PRED$_O$P.

(58) Part 2 of derivation: topicalization of subject and $\textsc{Pred}_{\textsc{O}}$ to spec-haP

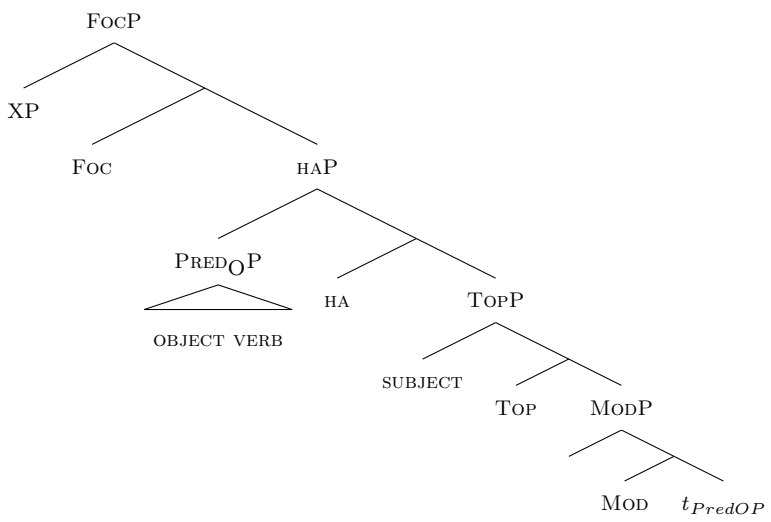


The next section explores phenomena that involve structure above haP.

4.8 Particles and focus phenomena

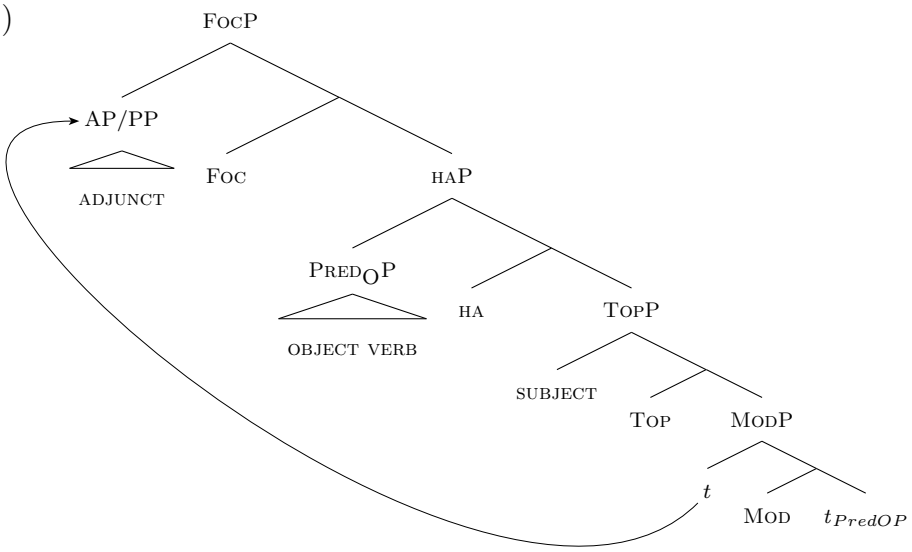
The final step in this proposal is accounting for second position particles and focus. Focus is in a clause-initial position, so the only modification that needs to be made to the above proposal is the addition of FocP above the landing site of $\textsc{Pred}_{\textsc{O}}$P, in spec-haP, shown in (59).

(59)



Spec-FocP may host an oblique/adjunct (as in (60)), the subject, or the object.

(60)

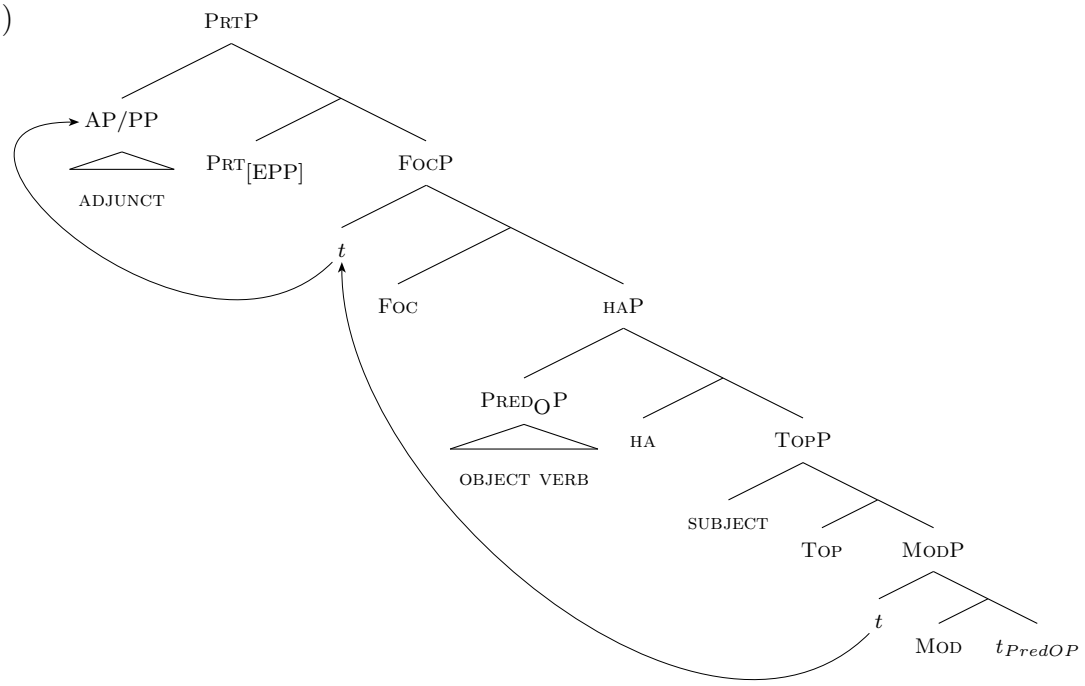


In (60), the fronted adjunct is interpreted as under focus. The focus position, spec-FocP, is also the position for *wh*-phrases, consistent with the mutual exclusivity of a focused XP and a *wh*-phrase. Note that if the subject were focused or *wh*-moved, TopP would not be generated, and the subject would move directly to spec-FocP.

To account for clause-level second position particles, particles must occur even higher than focus, as heads of PrtP, above haP (and above FocP when there is one). Further, each head of a particle phrase contains an EPP feature that draws up

the closest (non-spinal) XP. When there is a focused phrase in spec-FocP, it will be this XP that is closest to spec-PartP and therefore the focused XP will be drawn into spec-PrtP, resulting in particles following the focused phrase. This is illustrated in (61) with a focused adjunct, the extension of (59) with a particle phrase.

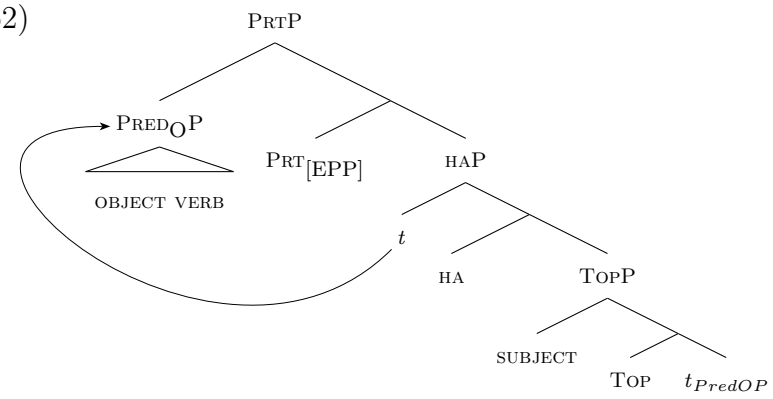
(61)



(61) derives the order Adj-Prt-O-V-S, and the adjunct is interpreted as under focus.

When there is no focused phrase, the closest XP to spec-PrtP will be Pred$_O$P:

(62)



Thus, when there is no focused phrase, particles appear after the verb, before the subject. If there are multiple particles, there are multiple PrtPs and the XP targeted

by the EPP feature on the particle heads is drawn up successively through all the spec-PRTP positions until it reaches the highest spec-PRTP.

In section 3.3.1, two particles that split O and V when there is no focused constituent were discussed: *haka* ('imperative' particle) and *kati* (yes/no question particle). To account for the behavior of these particles, I suggest that there are certain particles that draw up spec-PRED_{O}P, rather than PRED_{O}P itself. Thus, these particles can split the O and V by drawing up the O element (NP, AP, or PP) out of PRED_{O}P. Why these particles behave differently from others is a mystery.[31]

A preliminary analysis of the ordering and (non-)iterativity of the three different types of particles (modifying, discourse, and verification) is that there are three flavors of PRTP, one for each type of particle. The 'modifying' and 'discourse' flavors of PRTP are iterative and may appear in any order with respect to each other. The 'verification' flavor of PRTP, however, is not iterative, and must be the lowest of the particle projections. This ordering is consistent with the observation in section 2.3, example (20): there may only ever be one verification particle, and it must be last in whatever particle sequence it occurs in. However, this hierarchy is strange, as verification particles mostly look like evidentials, which should scope highest over the clause, including other particles (modifying and discourse). This is an open issue.

4.9 A special particle: *ha*

As mentioned in section 2.4, there is one particle that always appears after the verb phrase, even when there is a focused XP with particles following it: *ha*. This was shown in example (23); another example is given in (63).

[31]Perhaps, despite the appearance of non-focus on the object in these cases, there is in fact some kind of focus implicated. This would be a more theoretically appealing story than that of a particle whose EPP feature can target the specifier of a moved constituent.

(63) Kasawa hona hana i-te-n ha (p. 68)
Kasawa to UNCERT 1S-go-NONPST.UNCERT INTENS
'I may go to Kasawa.'

In (63), there is a focused PP, but the particle *ha* does not appear in second position after the PP, like other particles do (e.g., *hana* in (63)). It was conjectured in section 4.6 that the particle *ha* heads the functional projection that draws up PRED_{O}P. This would explain why *ha* is invariably post-V.

Further, while *ha* may sometimes head-raise from its projection, HA, up to a particle head to morphologically compose with other particles (e.g., as in *hati*), this movement is blocked by the head FOC, which for some reason is opaque to head movement;[32] this blocks movement of *ha* to a higher head (skipping over FOC) due to the Head Movement Constraint (Travis 1984).

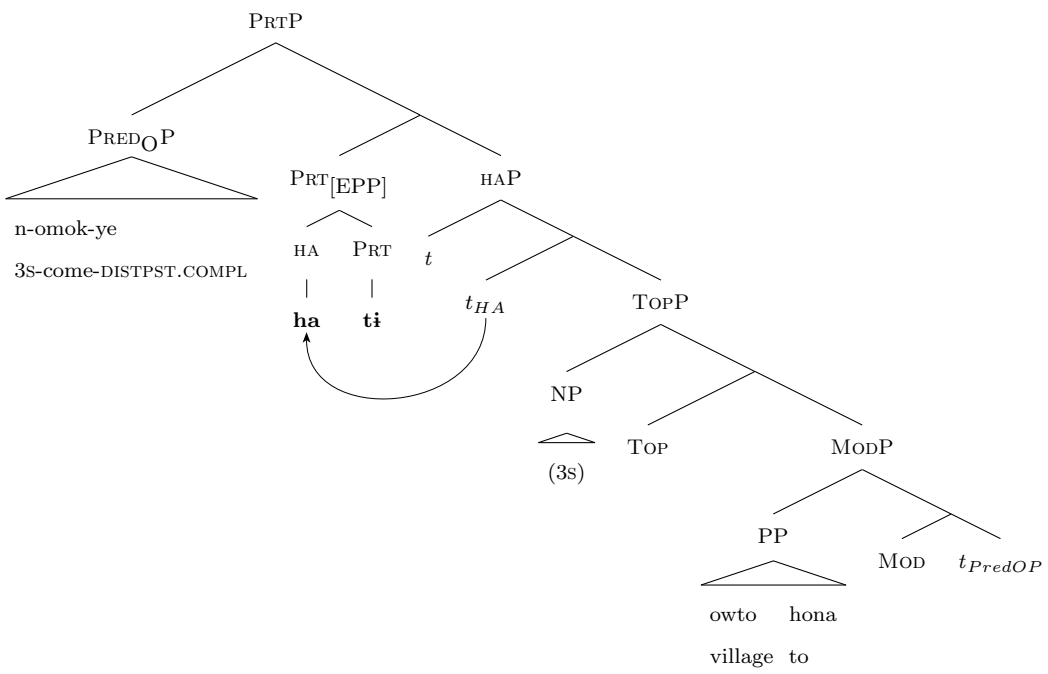
Compare the derivations in (66) (no focus, movement of *ha*) and (67) (focus, *ha* stuck in HA), based on the sentences in (64) and (65), respectively (repeated from (23)).

(64) n-omok-ye **hati**, otwo hona (p. 79)
3S-come-DISTPST.COMPL HSY village to
'He came to the village (it is said).'

(65) [owto hona] **ti** n-omok-ye **ha** (p. 79)
village to HSY 3S-come-DISTPST.COMPL INTENS
'It is to the village that he came (it is said).'

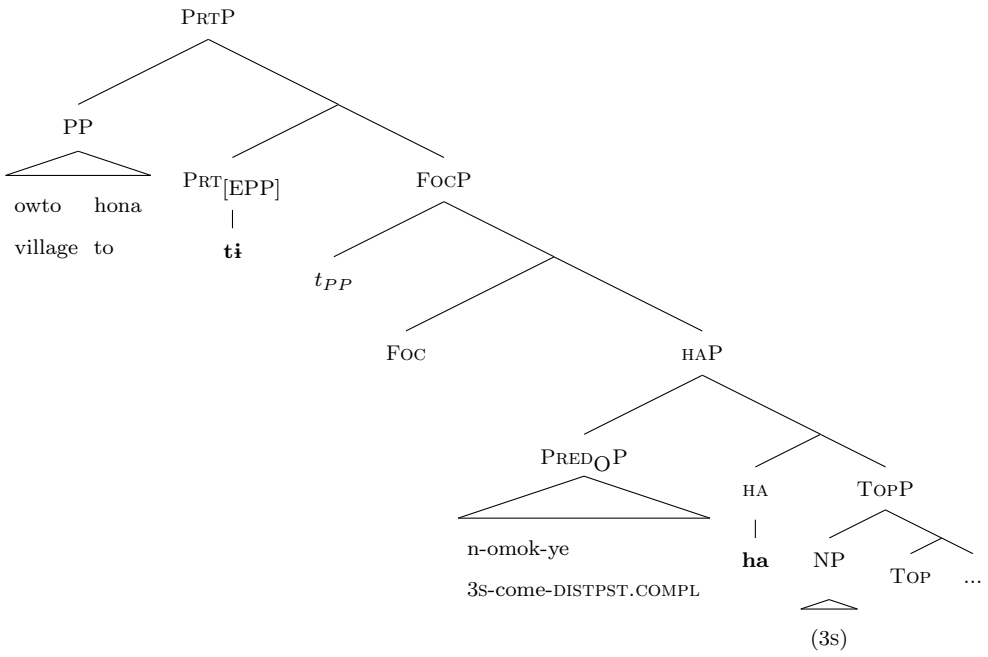
[32]This is reminiscent of Rizzi (1997:p. 264), who argues that TOP is not a suitable host for head movement, hence blocking movement of I into the C domain when TOPP intervenes.

(66)



In (66), PRT and HA are adjacent heads; *ha* is able to raise into PRT and compose with *ti*, creating *hati*. In (67)/(68), however, PRT and HA are not adjacent heads.

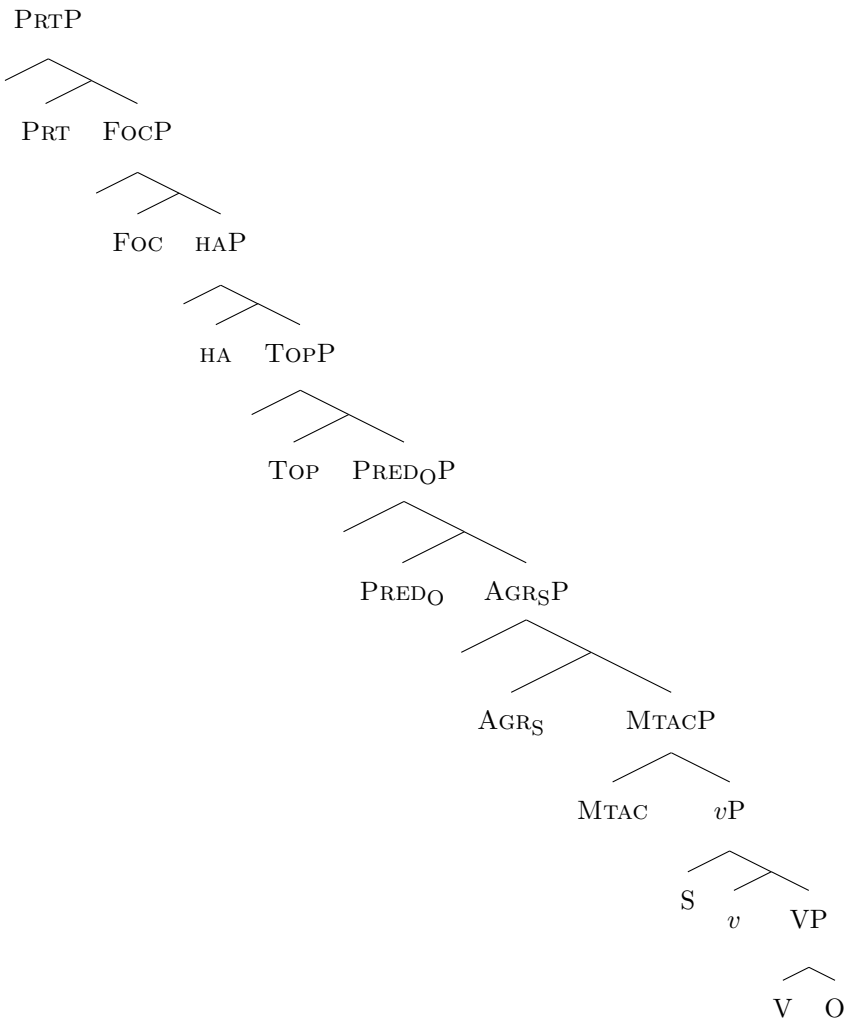
(67)



When there is a focused phrase, as in (67), *ha* cannot raise and compose with another particle because the head FOC is opaque for this movement; *ha* is forced to stay low, hence, invariably realized after the verb.

This concludes my proposal for the syntax of Hixkaryana. The bare spinal structure that has been motivated/discussed is given in (68).

(68)



The following section explores the advantages of positing that the object agreement position (PRED$_O$) is above the subject agreement position (AGR$_S$), as promised at the outset of this section.

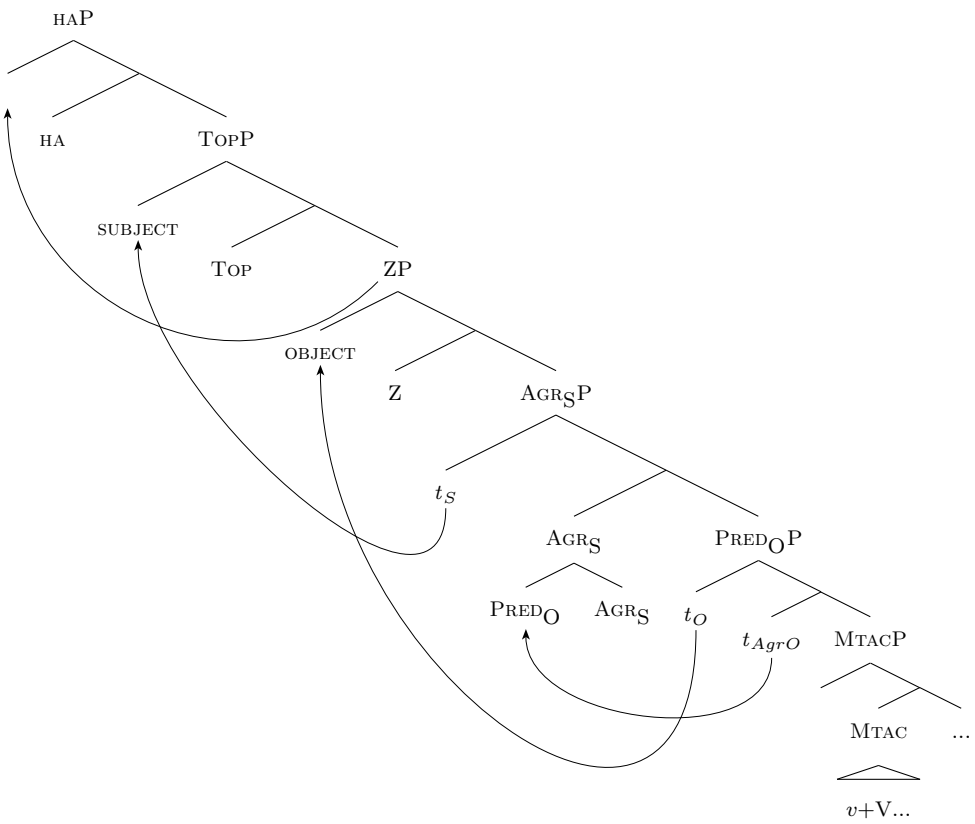
4.10 Advantages of PRED$_O$ above AGR$_S$

There are five main arguments for having PRED$_O$ above AGR$_S$: (i) it prevents the stipulation of an unmotivated functional projection; (ii) it explains why S can sometimes surface between O and V, and why, in these cases, S interrupts the agreement morphology; (iii) it accounts for the uniform behavior of intransitive subjects in triggering subject agreement; (iv) it enables Hixkaryana to fit into a larger picture of OVS languages; and (v) it suggests an explanation for the rarity of OVS word order.

4.10.1 Avoiding unmotivated projections

If AGR$_S$ were above PRED$_O$ (holding all else constant), the derivation would proceed as in (69), notably different from (52) in that there is an additional functional projection, ZP.

(69)



As shown in (69), in order for the agreement prefix to attach to the verb without an intervening argument, the object must move out of spec-PRED$_O$P, to a position below the final landing site of the subject. Thus, having AGR$_S$ above PRED$_O$ requires additional movement and an entirely unmotivated functional projection compared to the account proposed in this paper.

4.10.2 Accounting for *amna*

The special pronoun *amna* (1+3, first person exclusive) was discussed briefly in sections 2.2 and 3.3.1 as being anomalous in several ways relating to morphology and clause structure. To recap: *amna* is the only pronoun that cannot be dropped, and, as a subject, *amna* obligatorily appears left-adjacent to the verb and the verb's agreement prefix, giving rise to (O)SV word order, as in (70) (repeated from (12)):

(70) a. amna n-omok-no (p. 9)
1+3 3S-come-IMMPST
'We came.'

b. kanawa amna n-a-no (p. 10)
canoe 1+3 3S-take-IMMPST
'We took the canoe.'

Further, *amna* is 'deficient' in the sense that it cannot trigger unique person agreement; rather, it behaves (for agreement purposes) as though it were third person. I suggested earlier that this was a single conjunct agreement effect.

Finally, when a subject *amna* is paired with a third person object, the person marking prefix that it triggers is the one that generally accompanies null objects (*n(i)-*), even when there is an overt object, as in (70b). This can be contrasted with (71), which shows the regular agreement morpheme for a third person subject and overt third person object, *y-*.

(71) kanawa y-a-no toto (p. 10)
canoe 3S.3O-take-IMMPST person
'The man took the canoe.'

In (71), 'take' is inflected with the agreement morpheme *y-* instead of *n-*, (70b).

Importantly, it is highly unlikely that *amna* is simply an agreement morpheme (as opposed to a pronoun), for four main reasons. First, *amna* is the same in its subject and object forms (i.e., can be either a subject or object and is still phonologically realized as *amna*), while no agreement morpheme has this property. Second, *amna* is disyllabic, while all agreement morphemes are monosyllabic. Third, if *amna* were subject agreement, then the appearance of an additional agreement morpheme *n-* in (70a) is unexplainable, since (70a) is intransitive (i.e., there should only be one instance of agreement). Finally, if *amna* is subject agreement and concatenates with object agreement, then the accompanying morpheme expected in (70b) is *y-*, as this is the agreement morpheme that encodes the presence of an overt third person object; in reality, the agreement morpheme appearing with *amna* in (70b) is *n-*.

It can further be shown that in subject *amna* constructions (OSV word order), the object is not in a focus position. As was seen in section 2.4, there is a unique clause-initial position that can hold exactly one element: a focused XP, contrastive topic, or *wh*-word. An oblique constituent may be fronted for focus and appear before the object in an OSV sentence, as in (72), fronted PP bracketed.

(72) [owto yoh-∅ me] Kaywerye amna n-wahanonka-ye
village chief-POSSD P Kaywerye 1+3 3S-choose-DISTPST.COMPL
'We chose Kaywerye to be chief.' (Derbyshire 1979:p. 103)

The canonical structure for expressing 'choose X to be Y' involves an oblique (post-subject) PP, as in (73), oblique PP bracketed.

(73) Kaywerye ∅-wahanonka-txowni̶ [owto yoh-∅ me]
Kaywerye 3S.3O-choose-COLL.DISTPST.COMPL village chief-POSSD P
'They chose Kaywerye to be chief.' (p. 17)

Since this PP is able to appear in a fronted focus position in (72), this shows that the object in OSV sentences is not in a focus position.

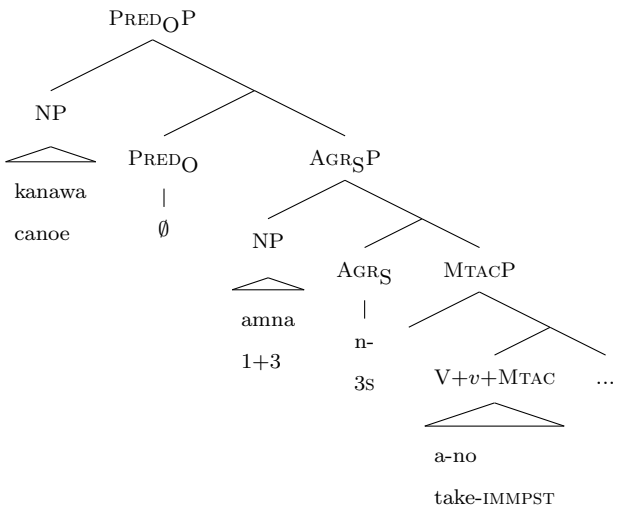
As a final empirical note about *amna*, it can be shown that the object acts as a canonical complement of the verb in one other way (i.e., no special position/behavior): particles that normally split the O and V (section 3.3.1) appear between O and *amna*:

(74) wato hak amna n-e-xe (p. 65)
shelter IMP 1+3 3S-make-1IMP
'Let us build a shelter.'

This suggests that *amna* and the V are in a very close relationship, and that the object in OSV sentences behaves just like a normal object.

The second argument for PRED_O over AGR_S comes from this exceptional instance of OSV word order and the properties attached to this word order. Under the current account, there is a straightforward explanation both for the position of *amna* and its disruption of regular agreement. Namely, if *amna* for some reason cannot topicalize, then it will remain in spec-AGR_S, between O and V, as in (75) for example (70b).

(75)



Crucially, the PRED$_O$ over AGR$_S$ analysis provides a subject position in between the object position and an agreement head, where person-markers may be generated. (Note that previous analyses which rely on low cliticization/incorporation – Cline (1986) and Mahajan (2007) – are not tenable given this observation, since there is no such position under these accounts.)

Further, since *amna* would block the attachment of the agreement prefix to the verb after AGR$_S$ raised to PRED$_O$, AGR$_S$ stays *in situ* and as a result the agreement prefix does not reflect the presence of an object.[33,34] The value contributed by a third person object is generally null (see Appendix B), so no phonological material will be generated in PRED$_O$. Note that this derivation makes the movement of PRED$_O$P to spec-HAP vacuous, since the subject is contained within PRED$_O$P already.

A similar agreement-blocking phenomenon is seen with the subject *mo-*. Derbyshire (1979) notes that *mo-* is a "clitic-like form that seems to be a reduced form of *mokɨ* 'third person remote-deictic': *mo-* occurs before verbs marked for third person with the *nɨ-* prefix ['3S.3O, null object'] when the third person referred to is out of

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[33]I do not know the exact mechanism that blocks the raising of AGR$_S$ to PRED$_O$, since an argument in a specifier position will not block head movement. A surface filter on derivations, *STRAYAFFIX, will rule out a representation involving AGR$_S$ raising to PRED$_O$ in the presence of *amna*, forcing AGR$_S$ to stay low. This will achieve the desired result but is stipulative.

[34]Unfortunately, the picture is more complicated than this, because when a subject *amna* is paired with a second person object, there is normal agreement on the verb (registering the person of both the subject and the object). For example, when *amna* appears with a second person object, there is normal agreement, *o(y)-* (3S.2O) (Derbyshire 1985:p. 188):

(i) amna oy-onye-no (p. 191)
1+3 3S.2O-see-IMMEDPST
'We saw you.'

It is unclear why the object is visible to the agreement morpheme in this case but not in the case of a third person object.

One suggestion as to what is going on here is that, as a last resort rescue, the affix generated in PRED$_O$ (which is not null when valued by a second person object NP, unlike third person objects) can lower/affix-hop to avoid a violation of the *STRAYAFFIX filter.

sight of the speaker and hearer" (p. 129).[35] If *mo-* stays in spec-AGR$_S$P, like *amna*, then this would explain why the word order OSV arises and why, yet again, the agreement prefix does not encode the object in any way.

Importantly, if AGR$_S$ were above PRED$_O$ (as in the structure in (69)), there is no possible account for *amna* or *mo-* with respect to their effect on the *portmanteau* agreement prefix – in the low subject position (spec-AGR$_S$P), this NP does not intervene between the *portmanteau* prefix and the verb, so nothing crucial should change in the derivation.

4.10.3 Intransitive subject agreement

Another advantage of having PRED$_O$ above AGR$_S$ is that in main clauses, intransitive subjects trigger (almost) the same agreement as transitive subjects paired with a (null) third person object, seen in the comparison of transitive (76a) to intransitive (76b), both of which use the agreement prefix *ti-*.

(76) a. ti-nyahm-etxhe (p. 191)
1+2S.3O-supply.with.food-COLL.NONPST
'We (incl.) will supply them with food.'

b. ti-te-he (p. 191)
1+2S-go-NONPST
'We (incl.) are going.'

If AGR$_S$ is closer to the vP/VP than PRED$_O$, then the single verbal argument (regardless of whether the predicate is unaccusative or unergative) will land first in spec-AGR$_S$P, valuing AGR$_S$ according to the person of this NP.[36] PRED$_O$ would then

[35]Unfortunately, I have not yet been able to find any examples involving *mo-* that are transitive, as this clitic is used very infrequently.

[36]Note that a structure in which AGR$_S$ were above PRED$_O$ could also account for this agreement pattern by saying that PRED$_O$ is skipped over in intransitive clauses.

be unable to be valued and so it takes on a default third person. Aside from a default third person object, intransitive clauses are derived exactly as transitive clauses are, with raising of the subject to a topic position and fronting of $\textsc{Pred}_{\textsc{O}}$P.[37]

There are two exceptions to this generalization – second person agreement in unergatives, which triggers the agreement prefix *o-* (instead of the expected *mi-*), and first person agreement, which triggers the agreement prefix *ki-* (instead of the expected *i-*). (See Appendix B.) The former morpheme, *o-*, can be seen as arising from the subject of the intransitive raising to spec-$\textsc{Pred}_{\textsc{O}}$, while $\textsc{Agr}_{\textsc{S}}$ is valued at default third person.[38] The latter morpheme, *ki* is less readily explained. It is a complete mystery why an intransitive first person subject should trigger the morpheme that in transitive clauses reflects a first person subject with a second person object (or a first+second person object with a third person subject).

The final two advantages of $\textsc{Pred}_{\textsc{O}}$ over $\textsc{Agr}_{\textsc{S}}$ – its connection with other OVS languages and the rarity of OVS word order – are discussed in the following section.

5 Towards a typology of OVS languages

If the above analysis is indeed correct about the object agreement position being above the subject agreement position in Hixkaryana, then we might expect other OVS languages to also have this feature. This section looks at what morphological ordering predictions are made by the positioning of $\textsc{Agr}_{\textsc{O}}$ over $\textsc{Agr}_{\textsc{S}}$, and then conversely, what morphological ordering predictions are made by the positioning of

[37] Alternatively $\textsc{Pred}_{\textsc{O}}$ may not be generated, and fronting is of a smaller constituent, $\textsc{Agr}_{\textsc{S}}$P.

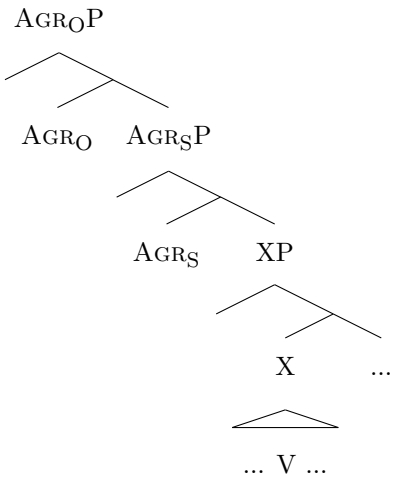
[38] If movement to spec-$\textsc{Pred}_{\textsc{O}}$P can happen for second person, why can't it happen for other persons, creating an unergative/unaccusative distinction for them too? I have no idea, and whichever way I modify my theory to account for an unergative/unaccusative split (or non-split), the opposite case will then not be predicted. Why and how this system arose is left as an open question.

$\textsc{Agr}_S$ over $\textsc{Agr}_O$.[39] As will be seen, the former hierarchy generates every attested morpheme order in all OVS languages that are testable for the relevant property, i.e., languages that have both subject and object agreement (though it also overgenerates). The latter hierarchy ($\textsc{Agr}_S$ over $\textsc{Agr}_O$), on the other hand, both overgenerates and undergenerates.

5.1 $\textsc{Agr}_O > \textsc{Agr}_S$

To make the most restrictive predictions, I assume that all OVS languages have adjacent agreement projections, with object agreement above subject agreement:

(77)



I assume that there can be no overt phrasal interveners between $\textsc{Agr}_O$ and $\textsc{Agr}_S$. Further, I assume that the heads of the agreement phrases must be valued by an argument in specifier position, so these specifiers are not movement targets for phrases other than S and O. Finally, to use minimal machinery (to see how far this can go), only head (non-)movement will be appealed to in generating morpheme orders.

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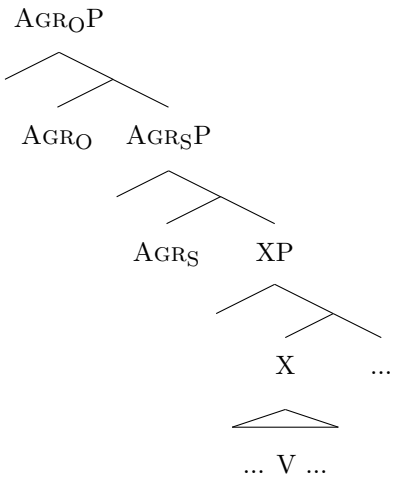
[39] In the forthcoming analysis, the term $\textsc{Pred}_O$P will be replaced with $\textsc{Agr}_O$P, because I have not yet done enough investigation in these other languages to determine whether the object agreement position has the broader function (general EPP position) that it does in Hixkaryana. At the very least, this is an object agreement position, hence $\textsc{Agr}_O$P.

Possibility 1: there is no head movement; the verb stays in a projection below both agreement projections, and both agreement heads are realized separately as their own morphemes, *in situ*.

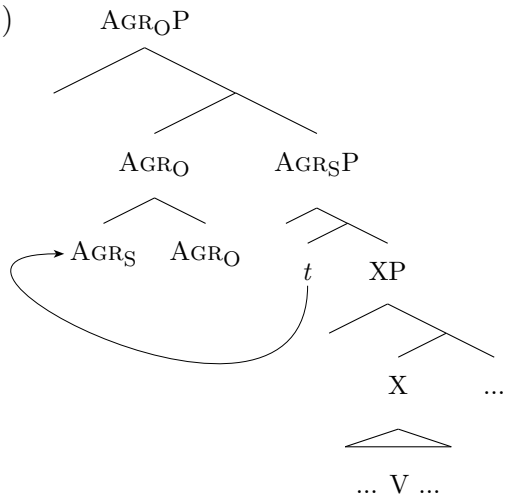
(78)



This would result in the order AGR$_O$-AGR$_S$-V. This morpheme order is attested in Ungarinjin, an OVS Worrorran language spoken in Australia (Dixon 2002, Dryer 2008, Rumsey 1982), as well as for third person subjects and objects in Mangarayi, an OVS Gunwingguan language spoken in Australia (Dryer 2008, Merlan 1982). (Other subject/object combinations are discussed for Mangarayi below.)

The next possibilities involve the verb staying low, with AGR$_S$ moving into AGR$_O$:

(79)

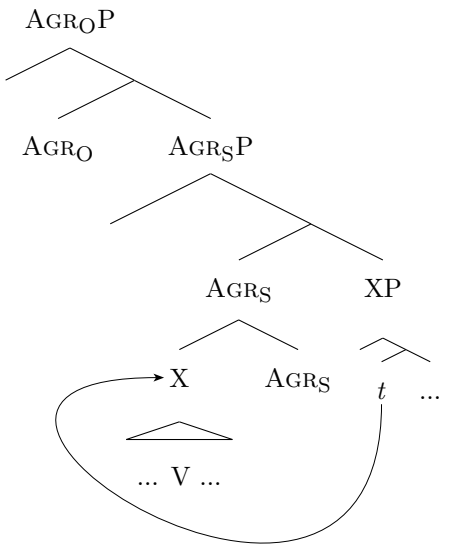


Possibility 2: since AGR_O and AGR_S occupy the same head, they may be spelled out as a *portmanteau* morpheme (see section 4.2), as was seen for Hixkaryana (Brazil; Carib). Five other OVS Carib languages also have a *portmanteau* prefix: Apalaí, spoken in Brazil (Derbyshire 1987, Koehn and Koehn 1986), Bacairí, spoken in Brazil (Derbyshire and Pullum 1981, Meira 2003), Hianacoto-Umaua, spoken in Colombia (Derbyshire and Pullum 1981), Panare, spoken in Suriname (Derbyshire and Pullum 1981, Gildea 1989), and Tiriyó, spoken in Venezuela (Dryer 2008, Meira 1999). Asuriní, an OVS Tupi language spoken in Brazil (Derbyshire and Pullum 1981), also has a *portmanteau* prefix.

Possibility 3: the agreement morphemes in the configuration in (79) may be spelled out separately, giving rise to AGR_S-AGR_O-V; this order is attested for first and second person subjects and third person objects in Mangarayi, an OVS Gunwingguan language spoken in Australia (Dryer 2008, Merlan 1982).

Possibility 4: the verb (or the complex containing the verb) moves up one head position, into AGR_S, such that AGR_O is a prefix while AGR_S is a suffix:

(80)

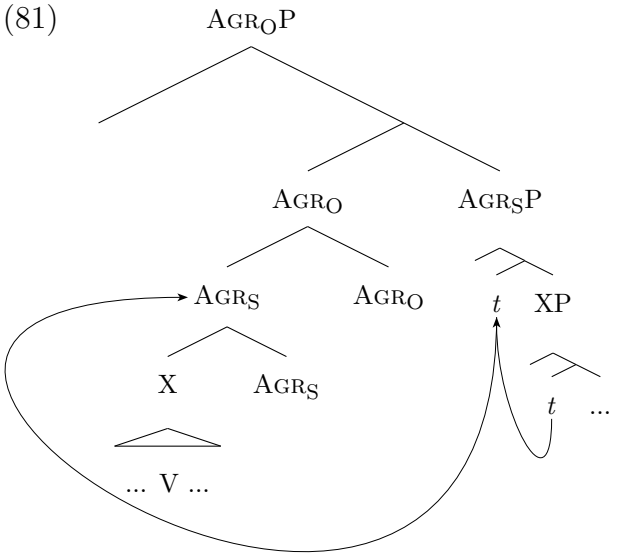


This gives rise to AGR_O-V-AGR_S. This morpheme order is attested in Päri, an OVS Nilo-Saharan language spoken in Sudan (Andersen 1988, Dryer 2008), as well as

Makushi and Arekuna-Taulipang (also known as Pemon), OVS Carib languages spoken in Brazil and Venezuela, respectively (Derbyshire 1985, Derbyshire and Pullum 1981).

Possibilities 5 and 6: the verb raises all the way up to AGR_O:

(81)



This gives rise to the morpheme order V-AGR_S-AGR_O, which may be spelled out as two separate morphemes or as a *portmanteau* suffix. Neither of these morpheme orders is attested in OVS languages; this is an overgeneration of AGR_O over AGR_S.

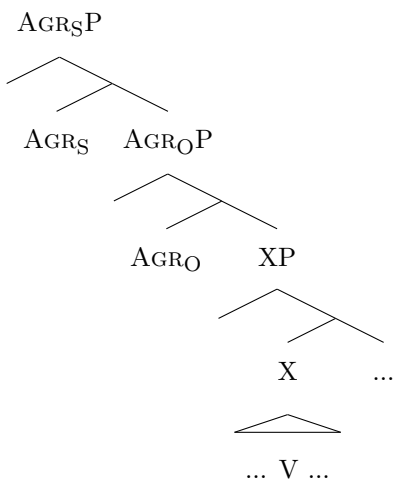
Morpheme orders predicted to be impossible if AGR_O is above AGR_S are V-AGR_O-AGR_S (which wouldn't be able to be spelled out as *portmanteau*, because this order is not derivable by head movement) and AGR_S-V-AGR_O. Neither of these configurations is attested in any OVS language. AGR_O over AGR_S does not undergenerate.

5.2 $\text{AGR}_\text{S} > \text{AGR}_\text{O}$

Given the same assumptions as above (adjacent agreement projections and no phrasal interveners), the following structures and orderings may be generated by the positioning of AGR_S over AGR_O.

First, with no head movement at all, the order AGR_S-AGR_O-V is generated:

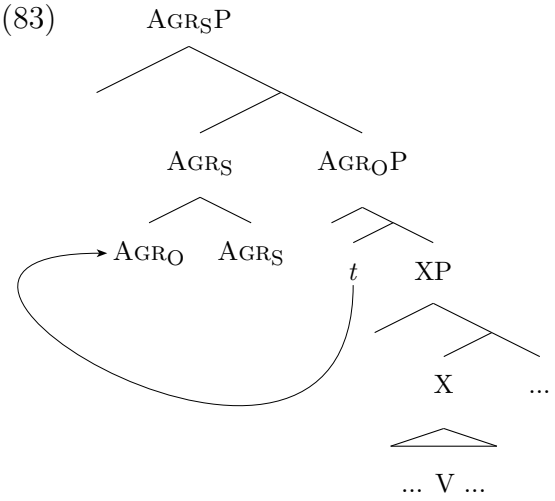
(82)



As seen in the previous section, this order is attested for first and second person subjects and third person objects in Mangarayi.

With movement of AGR$_O$ into AGR$_S$, the resulting order is AGR$_O$-AGR$_S$-V:

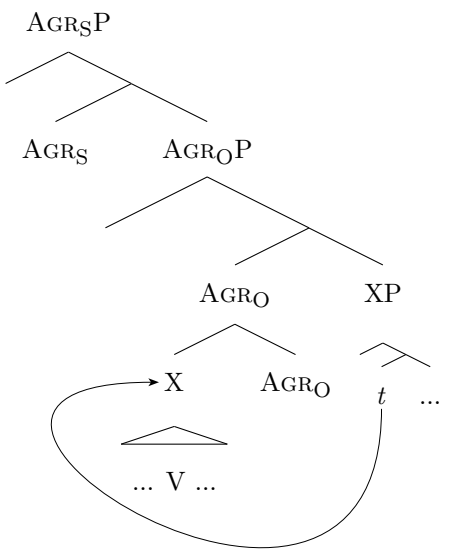
(83)



Again as seen in the previous section, this order is attested as separate AGR morphemes in Ungarinjin and for third person subjects and objects in Mangarayi. This configuration is attested as a *portmanteau* prefix in Hixkaryana, Apalaí, Asuriní, Bacairí, Hianacoto-Umaua, Panare, and Tiriyó.

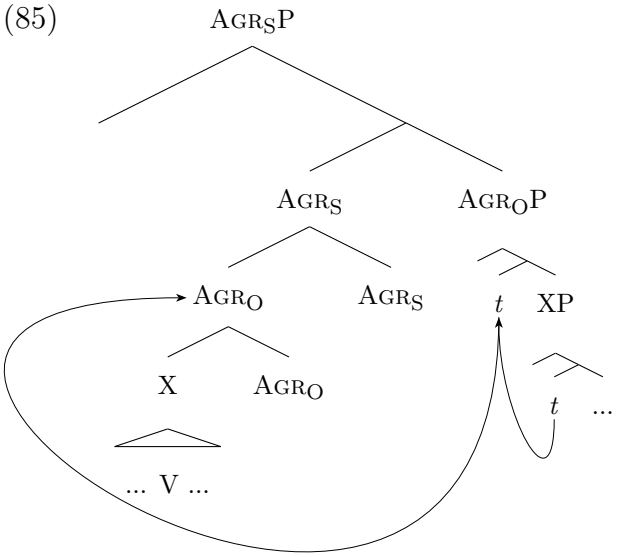
Next, if the verb raises into the lower agreement projection, the morpheme order becomes AGR$_S$-V-AGR$_O$:

(84)



This order is not attested in any OVS language, nor is the final possibility, movement of the verb up to the higher agreement projection:

(85)



This would give rise to the ordering V-AGR$_O$-AGR$_S$, which could be spelled as separate morphemes or as a *portmanteau* suffix.

Crucially, if AGR$_S$ is structurally higher than AGR$_O$ (and the assumptions made at the beginning of this section are held constant), the morpheme order AGR$_O$-V-AGR$_S$ cannot be generated. This is attested in three OVS languages: Päri (Nilo-Saharan), Makushi (Carib), and Arekuna-Taulipang/Pemon (Carib). (The morpheme order V-

AGR_S-AGR_O can also not be generated with the hierarchy AGR_S over AGR_O, but as this is unattested in OVS languages, it does not tip the scales one way or the other.)

In sum, the ordering $\text{AGR}_\text{S} > \text{AGR}_\text{O}$ both overgenerates and undergenerates: it predicts three morpheme configurations that are not attested (AGR_S-V-AGR_O, V-AGR_O-AGR_S, and V-*portmanteau*) and cannot predict an attested order (AGR_O-V-AGR_S). The ordering $\text{AGR}_\text{O} > \text{AGR}_\text{S}$ only overgenerates: it predicts two morpheme configurations that are not attested, V-AGR_S-AGR_O and V-*portmanteau*. This is summarized in the table in (86).

(86) Predicted and attested morpheme orders, crucial row indicated

Hierarchy	Predicted by AGR_O>AGR_S	Predicted by AGR_S>AGR_O	Attested?
AGR_O-AGR_S-V	yes	yes	yes
AGR_S-AGR_O-V	yes	yes	yes
AGR_O-V-AGR_S	**yes**	**no**	**yes**
AGR_S-V-AGR_O	no	yes	no
V-AGR_S-AGR_O	yes	no	no
V-AGR_O-AGR_S	no	yes	no
portmanteau-V	yes	yes	yes
V-*portmanteau*	yes	yes	no

5.3 A note on rarity and acquisition

This paper has proposed that one route to OVS word order is through AGR_O/PRED_O being above AGR_S. Further, this hierarchy is consistent with the morpheme orders in all known OVS languages. It is possible, then, that the main route (or one of the main routes) to OVS word order makes use of this marked hierarchy, as compared to

the more standard ordering AGR_S over AGR_O (Chomsky 1991). As a marked hierarchy, AGR_O/PRED_O over AGR_S will be crosslinguistically rarer than its unmarked counterpart, AGR_S over AGR_O/PRED_O.

While certain marked properties are easily acquirable through a single piece of positive evidence (e.g., preposition stranding can be acquired by hearing a single token of such stranding), AGR_O/PRED_O over AGR_S is not as straightforwardly evidenced in the input, because many of the individual properties of OVS languages will be compatible with AGR_S over AGR_O/PRED_O (e.g., *portmanteau*-V morpheme order). However, certain other properties of a language may indicate to the learner that the more marked structure needs to be posited. For example, this could be the effect of Hixkaryana's exceptional OSV word order with intransitive agreement on the verb with *amna*. If such subtle data turns out to be crucial to learning the marked hierarchy AGR_O/PRED_O over AGR_S, then this might explain why this ordering of projections (one of the paths to OVS word order) is crosslinguistically rare.

6 Conclusion

Here I summarize my proposal, discuss some similar syntactic analyses in the literature, and note directions for further research.

6.1 Summary

In this paper I have proposed and motivated an analysis of Hixkaryana in which AGR_O/PRED_O is above AGR_S. Aside from this non-standard ordering of projections, the syntax of Hixkaryana is derived through movement of the subject to a high topic position, and movement of the rest of the clause (AGR_OP/PRED_OP) over the subject.

There are two main benefits to this analysis. First, it provides a clue as to why

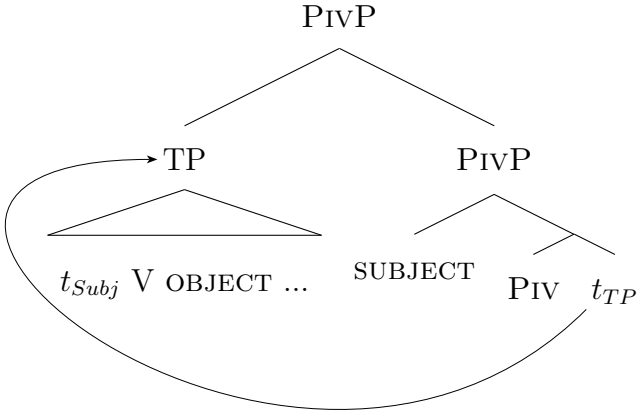
OVS languages are so rare: they may involve both a marked ordering of inflectional projections as well as considerable derivational complexity. Second, using this non-standard ordering of inflectional projections, it is possible to create a typology of OVS languages which is consistent with all available data.

6.2 Similar analyses in the literature

The analysis provided here is similar to syntactic derivations suggested by Pearson (2005) for Malagasy and Bobaljik and Branigan (2006) for Chukchi. Thus, some of the individual features of this paper's proposal have been motivated for other languages elsewhere.

Pearson (2001, 2005) argues that the 'subject' in Malagasy (VOS, W. Austronesian) is actually in a topic-like 'pivot' position (spec of PIVP below), and that the rest of the clause (consisting of VO) raises over the subject to derive VOS word order, as schematized (roughly) in (87) (Pearson 2001:p. 174).

(87)

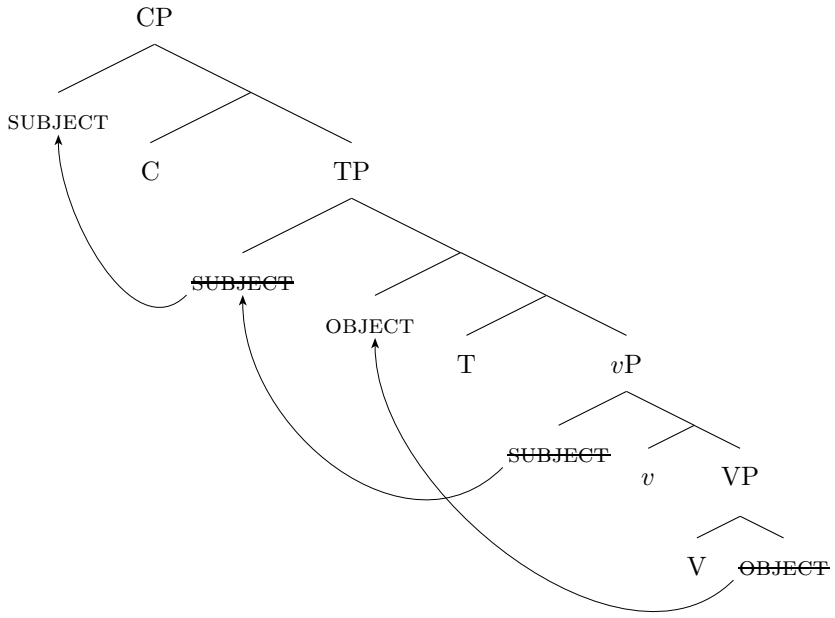


This analysis is essentially the same proposal I offer for Hixkaryana, with a couple differences: (i) the word order within the fronting predicate in Hixkaryana is OV, not VO; and (ii) the fronted material in Hixkaryana occupies spec-HAP, not an outer specifier of the phrase that hosts the raised subject. Other differences be-

tween Hixkaryana and Malagasy include: (i) Hixkaryana's lack of a 'voice' system, through which Malagasy is able to promote non-subjects to topic/pivot position; (ii) Hixkaryana's lack of a restriction on which argument in a clause may be focused/*wh*-moved, while Malagasy has a strict topic/pivot-only restriction on extraction;[40] and (iii) Hixkaryana has both subject and object agreement on the verb, while Malagasy has neither, hence no AGR projections implicated.

Bobaljik and Branigan (2006) propose that the basic syntax of Chukchi (SOV, Chukotko-Kamchatkan) involves multiple case-checking of the subject and object at T, then further movement of the subject to spec-CP, as shown in (88) (Bobaljik and Branigan 2006:p. 57).

(88)



Crucially, both arguments must exit *v*P/VP in order to get case and value agreement features in the inflectional layer of the clause; the same evacuation of *v*P/VP occurs in Hixkaryana. In Chukchi, the further movement of the subject into the C domain is posited to account for the subject triggering agreement twice (once as a prefix

[40]This may be related to the topic position in Hixkaryana being mixed A/A′, while the topic position in Malagasy is purely A′.

and once as a suffix), while in Hixkaryana, this movement is posited to account for the high c-command position of the subject, the subject's non-intervention within the agreement domain, and the subject's status as given information. Finally, the suffixal agreement morpheme in Chukchi is a *portmanteau*, encoding features of both the subject and object, just like the agreement morpheme in Hixkaryana.

There are two main differences between my account and that of Bobaljik and Branigan (2006). First, multiple case checking at T, as conceived of by Bobaljik and Branigan for assigning exceptional ERG case, is not necessary for Hixkaryana, which is not an ergative language. Second, Bobaljik and Branigan propose that the *portmanteau* agreement morpheme arises precisely in multiple case checking configurations, where the arguments are specifiers of one head. However, there is evidence from OVS languages that there are two distinct agreement heads, one encoding subject agreement and the other encoding (separately) object agreement. My proposal includes these separate heads in Hixkaryana, though the agreement heads end up adjoined under one head position, hence spelled out as a *portmanteau*.

Both Chukchi and Malagasy provide crosslinguistic support for certain components of the analysis presented in this paper.

6.3 Issues and further directions

Within the proposed analysis of Hixkaryana, there are several potential holes and many topics that merit further research, of which I will list just a few. First, what exactly is going on with the first person exclusive pronoun *amna*? Why does it result in intransitive subject agreement on the verb when the object is third person, but a regular transitive *portmanteau* agreement morpheme when the object is second person? Second, what is the precise nature of the high subject position – is it mixed A/A′ or just one or the other? If so, how does this affect binding? Finally, are there

other arguments for having AGR_O over AGR_S aside from those presented here? Or, alternatively, are there good reasons to think that AGR_S is above AGR_O, aside from the fact that this seems to be crosslinguistically more common?

This paper also leaves the door open for many future research directions, both within Hixkaryana and crosslinguistically. While a number of syntactic/morphological topics were touched upon in this paper – embedded clauses, particles, obliques, binding – there is much more to be said about them, and these constructions may well inform a better characterization of the basic syntax of Hixkaryana. These topics would also benefit from further fieldwork on Hixkaryana, which I hope to be able to embark on sometime in the next few years.

Crosslinguistically, the typology of OVS languages presented here – with AGR_O over AGR_S – merits much more research. Each individual language discussed here should be thoroughly investigated to see if this hierarchy is plausible within a larger understanding of the language's properties/grammar. Further, is it only OVS languages that have the hierarchy AGR_O over AGR_S? Or can other languages as well, e.g., syntactically ergative languages? Conversely, do all OVS languages have the structural hierarchy AGR_O over AGR_S? What are the other paths to OVS word order? This is an especially important line of research in those OVS languages that lack both subject and object agreement, as children will not have any (agreement-based) morphological clues about hierarchy.

These questions, and many others that the reader has likely posed while reading this thesis, are left as topics for further research. What I hope the reader has taken from this thesis is that OVS languages cannot be ignored – OVS word order is real and needs to be accounted for within mainstream theoretical linguistics. In fact, OVS languages likely have special insights to contribute about what the generative limits of any modern syntactic theory should be.

Appendix A: A list of OVS languages with examples

The following list of OVS languages comes from The World Atlas of Language Structures (Dryer 2008) and studies by Derbyshire and Pullum (Derbyshire 1987, Derbyshire and Pullum 1981).[41]

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[41]New abbreviations for this section (in addition to those used throughout the paper): ABS = absolutive; CERT = certainty; CONTR = contrastive; DU = dual; ERG = ergative; FUT = future; IN = inanimate; MS = multiplicative suffix; MULT = multiplicative; N/H = nonrecent past/present habitual; NARR = narrative suffix; NEUT = neuter; PL = plural; PRES = present; PST = past; PSTCONTIN = past continuative; PSTPUNCT = past punctual; PUNCT = punctual; SG = singular; TAM = tense/aspect/mood; UNIQ = unique; ? = unknown (not glossed).

(89) OVS languages and agreement types in transitive clauses

REGION	AGR TYPE	FAMILY	COUNTRY	LANGUAGE	EX	SOURCE
South America	*Portmanteau* prefix	Carib	Brazil	Apalaí	(90)	Koehn and Koehn 1986
			Brazil	Bacairí	(91)	Meira 2003
			Brazil	Hixkaryana	(92)	Derbyshire 1977
			Colombia	Hianacoto-Umaua	(93)	Gildea 1998
			Venezuela	Panare	(94)	Gildea 1989
			Suriname	Tiriyó	(95)	Carlin 2004
		Tupi	Brazil	Asuriní	(96)	Derbyshire and Pullum 1981
	AGR_O-V-AGR_S	Carib	Brazil	Makushi	(97)	Abbott 1991
			Venezuela	Pemon	?[42]	Derbyshire 1985
	V-AGR_S	Tucanoan	Colombia	Cubeo	(98)	Morse and Maxwell 1999
		n/a (isolate)	Peru	Urarina	(99)	Olawsky 2006
	AGR_O-V	Chon	Argentina	Selknam	(100)	Najlis 1973
		Carib	Brazil	Kuikuro	(101)	Franchetto 2002
Africa	AGR_O-V-AGR_S	Nilo-Saharan	Sudan	Päri	(102)	Andersen 1988
Australia	AGR_O-AGR_S-V	Worrorran	W. Australia	Ungarinjin	(103)	Rumsey 1982
		Gunwingguan	Northern Territory	Mangarayi (type I)	(104)	Merlan 1982
	AGR_S-AGR_O-V		Northern Territory	Mangarayi (type II)	(105)	Merlan 1982
Polynesia	none	Austronesian	Tuvalu	Tuvaluan	(106)	Besnier 2000

[42] I have not able to find an example from Pemon (also known as Arekuna-Taulipang) showing subject agreement as a suffix and object agreement as a prefix, though Derbyshire (1985:p. 109) explicitly states that this is the configuration in the language.

(90) u-kurika-no (Apalaí; Koehn and Koehn (1986:p. 108))
1S.3O-wash-IMMEDPST
'I washed it.'

(91) s-ene-d (Bacairí; Meira (2003))
1S.3O-bring-IMMEDPST
'I brought it.'

(92) kuraha y-onyhorye-no bɨryekomo
bow 3S.3O-make-IMMPST boy
'The boy made a bow.' (Hixkaryana; Derbyshire (1985:p. 31))

(93) əwi ki-hinə-yae (Hianacoto-Umaua; Gildea (1998:p. 63))
1SG 1S.2O-kill-TAM
'I'm gonna kill you.'

(94) yawanë m-ɨkɨtɨ-ya' amën (Panare; Gildea (1989:p. 16))
iguana 2S.3O-cut-PST 2SG
'You cut the iguana.'

(95) w-enee-ja-e (Tiriyó; Carlin (2004:p. 480))
1S.3O-bring-PRES-CERT
'I'm bringing it.'

(96) cánee c-enerecáŋta áʔee (Asuriní; Derbyshire and Pullum (1981:p. 204))
1+2 3S.1O-see.FUT 3
'He will see us.'

(97) i-koneka-′pî-i-ya (Makushi; Abbott (1991:p. 24))
3O-make-PST-3S-ERG
'He made it.'

(98) 'ke-Rõ-RA 'dã-RE 'kaju-wA-RE buba-karã
thus-IN.SG.NOMZR-UNIQ 3PL-O chicken-PL-O finish-N/H.1PL.EXCL
jɨ̃xã (Cubeo; Morse and Maxwell (1999:p. 142))
1PL.EXCL
'That's all, we finished (with) the chickens.'

(99) enejtɕʉ su-a (Urarina; Olawsky (2006:p. 488))
monkey kill-3S
'He killed the monkey.'

(100) sorèn k-èrnn nèj jah (Selknam; Najlis (1973:p. 41))
bag O.NEUT-move.closer ? 1
'I'm moving closer to the bag.'

(101) e-ingi-lü-ko leha u-heke (Kuikuro; Franchetto (2002))
2O-see-PUNCT-PL COMPL 1-ERG
'I saw you all.'

(102) á-yáŋg'-ì̀ yàŋg-ɔ́ (Päri; Andersen (1988:p. 297))
1O.SG-skin-MULT.2S.SG skin-MS
'You will knife me.'

(103) bu-na-iya-yila (Ungarinjin; Rumsey (1982:p. 88))
3O.PL-2S.PL-FUT-hold
'You (pl.) will hold them.'

(104) ŋayaŋayag wuyan-ba-bu-ni-wa (Mangarayi; Merlan (1982:p. 96))
some 3O.PL-3S.PL-kill-PSTCONTIN-NARR
'Some ran and crossed over.'

(105) ḷandi-yara-ŋan ŋa-wuran-gaḷañjawu-b (Mangarayi; Merlan (1982:p. 85))
tree-DU-ACC 1S.SG-3O.DU-pass-PSTPUNCT
'I passed by/through two trees.'

(106) a Niu ne taa a ia loa (Tuvaluan; Besnier (2000:p. 209))
CONTR Niu PST strike ABS 3 indeed
'Niu indeed killed him.'

Appendix B: Syncretisms in the agreement paradigm

This section endeavors to take a closer look at the agreement paradigms, repeated in (107) and (108), and hopefully create a more coherent picture of them.

(107) Intransitive person-marking prefixes (slightly modified from p. 188)

SUBJECT	
1	kɨ-
2	mɨ-/o-
1+2	tɨ-
3	nɨ-
1+3	nɨ-

(108) Transitive person-marking prefixes (slightly modified from p. 188)

SUBJECT ↓ / OBJECT →	1	1+2	2	3
1			kɨ-	ɨ-
2	mɨ-			mɨ-
1+2				tɨ-
3	ro-	kɨ-	o-	y- (+OBJ) nɨ- (–OBJ)
1+3			o-	nɨ-

Looking first more closely at (108), there are several syncretisms that need to be explained. The most straightforward of these is *mɨ-*: it appears in two cells, second person subject with first person object, and second person subject with third person subject. In both these cases, it can just be said that it is only the subject that is

being marked, while the contribution of the other persons is null.

The next syncretism to be explained is that between the agreement triggered by first+third person and that triggered by third person: *o-* (for second person objects) and *ni-* (for third person objects). This can be understood by looking at the decomposition of 'exclusive we' into first person plus third person. Only one of the members of this coordination triggers agreement, which is a crosslinguistically attested phenomenon (single conjunct agreement). It is somewhat of a mystery, however, why only the *ni-* allomorph of third person subject with third person object agreement carries over to agreement with 1+3 person.

Finally, there is a syncretism between 1+2 person subject with third person object and first person subject with second person object; both person combinations are expressed as *ki-*. Again, decomposition of 'inclusive we' into its component persons – first and second – elucidates this syncretism. It is not clear, however, why this syncretism does not extend to second person subject with first person object (which is realized as *mi-*, marking only the person of the subject). Further, why *ki-* is the marker of intransitive first person subjects is a complete mystery.

Next, comparing the tables in (107) and (108) can shed some light on this agreement system overall. It can be seen that for a third person object, it is (generally) the person of the subject that determines the form of the prefix; in other words, the contribution of the third person object is null, $\emptyset$. This accounts for the close resemblance of (107) and the last column of (108).

There are, however, several exceptions to this resemblance. First, the first person intransitive subject marker is *ki-* (discussed further below), not the expected *i-*, first person subject with third person object. Second, the split-S allomorphy in second person reveals that *mi-* (unaccusative subject marking in intransitives) corresponds to a second person subject (paired with a third person object) while *o-* (unergative

subject marking in intransitives) corresponds to a second person object (paired with a third person subject). This is unexpected given that in unergatives, the subject is an underlying external argument, while in unaccusatives, the subject is an underlying internal argument. If these underlying roles were to be encoded in intransitive subject agreement, then *o-* (transitive second person object with third person subject) would mark unaccusatives while *mi-* (transitive second person subject with third person object) would mark unergatives. The opposite holds in reality.

The third difference between (107) and (108) has to do with the only doubly-filled cell in (108): third person subject with third person object. For transitive stems, the allomorph *y-* is used when the third person object is overt (+OBJ), whereas the allomorph *ni-* is used when the third person object is null (–OBJ). It is this latter allomorph that corresponds to intransitive subject agreement; this follows logically since there is never an object in intransitive constructions.

Extending the observation that the final column (third person object) essentially contributes no phonological material when non-third person subjects are involved, it can be posited that the second-to-bottom row of (108) (third person subject) is also determined solely by the non-third person objects in those rows. In other words, it is the subject in this case whose contribution to the *portmanteau* is null, ∅. In fact, the values in the bottom row line up almost exactly with the agreement markers on postpositions (which agree with their object when it is dropped) and possessed nouns (which agree with their possessor). (See Appendix D for more on this overlap.)

There are thus only two forms which are candidates to be true *portmanteau* morphemes: *mi-* (2S.1O) and *ki-* (1S.2O). The first of these, however, can be seen to be determined just by the person of the subject, second person, as this is also the form that appears for every value in the second person subject row. To account for *ki-*, however, both the subject and object must be considered. This can be seen especially

clearly by looking at the syncretism between the morpheme for 1+2 person object with third person subject and first person subject with second person object.

Appendix C: Embedded clauses

There are two main strategies for creating embedded clauses in Hixkaryana, one involving nominalization of verb stems and the other involving adverbialization of verb stems.[43] A single argument of the verb appears before the nominalized/adverbialized verb (though this argument may be dropped) and triggers agreement on the nominalized/adverbialized verb.

The argument that triggers agreement on the derived nominal depends on the transitivity of the verb root: for an intransitive verb, it is the subject that triggers agreement on the nominalized or adverbialized verb, as in (109).

(109) oy- omokɨ -txhe -nye (p. 13)
2 come after.ADVZR COLL
'after your (collective) coming'

The verb 'come' here is adverbialized with the derivational suffix *-txhe*;[44] the argument triggering second person agreement on the adverbialized verb has been dropped (as is common in Hixkaryana), but would canonically precede the adverbialized verb, i.e. SV word order.

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[43]I do not mean to take a strong theoretical stance on whether a verb or something larger is being nominalized/adverbialized in these cases. There is much more to say about clause-embedding in Hixkaryana than I say here. This section is provided to give the reader some idea of what is going on with embedding and will not be appealed to further, except in the discussion of ergativity. The word orders discussed here are also important for Mahajan's (2007) analysis of Hixkaryana.

[44]I adopt the term 'adverbializer' and the gloss ADVZR from Derbyshire; the same holds for my use of 'nominalizer' (NOMZR). This captures the fact that these verbs, once they bear certain suffixes, may go anywhere an A or N element may, depending on the suffix.

For a transitive verb, it is the object that triggers agreement; the subject may appear optionally in a *wya*-phrase (similar to an English *by*-phrase) preceding the object, illustrated in (110), or following the nominalized/adverbialized verb.

(110) [ro-mara-rɨn ho] o-wya-nye *wewe* y-ama-nɨ-r (p. 28)
1-field-POSSD in 2-by-COLL tree 3-fell-NOMZR-POSSD
Lit: 'the felling of trees by you all in my field'

The transitive verb root in (110), 'fell', is nominalized (becoming *amanɨr*) and realizes its object (italicized above) as a direct argument, triggering third person agreement on the nominalized verb; the object directly precedes the nominalized verb. The subject is realized in a *wya*-phrase, with the P *wya* inflected for second person collective (underlined above); the subject has no effect on the person-agreement of the derived nominal. Also shown in (110) is a locative (bracketed above) which precedes the PP containing subject; the adjunct is not in a focus position, as initial position in nominalizations does not imply focus. Note that the transitive object and intransitive subject pattern together in being the agreement-triggering argument in embedded clauses. The word order for transitive embedded clauses, then, is (X)[S-*wya*]OV for transitive verbs and (X)SV for intransitives.

Distributionally, 'embedded clause' nominalizations and adverbializations may appear anywhere that regular NPs and APs may, respectively; for NPs this is subject position, object position, and object of P position; for APs this is as a clause modifier or complement of the copula. The embedded clause in (109) is given in context in (111), as a clause-level AP modifier (in focused position).

(111) oy-omokɨ-txhe-nye t-asahxemt-etxhe (p. 13)
2-come-after.ADVZR-COLL 1+2S-feast-COLL.NONPST
'After you all arrive we will have a feast.'

The embedded clause in (111) is given in context in (112), as the object of P *xe*:

(112) [ro-mara-r~~i~~n ho o-wya-nye wewe y-ama-n~~i~~-r] xe
1-field-POSSD in 2-by-COLL tree 3-fell-NOMZR-POSSD desirous-of
w-ehx-aha (p. 28)
1S-be-NONPST
'I want you all to fell trees in my field.'

This is a regular copula construction, with the copula taking a PP complement. The embedded clause nominalization fills a regular NP slot – object of P.

While [S-*wya*]OV is the unmarked word order in embedded clauses, the transitive subject (in a *wya*-phrase) may optionally follow the nominalized or adverbialized V, as in (113):

(113) [thenyehra] *t~~i~~-mryeno-n* *komo* y-okaryma-n~~i~~-r~~i~~
much 3REFL-people-POSSD COLL 3-tell.about-NOMZR-POSSD
Kaywerye wya (p. 6)
Kaywerye by
'the telling of may things about his people by Kaywerye'

The embedded transitive subject (underlined) of the verb root 'tell about' follows the nominalized verb in its *wya*-phrase. This is, in fact, the preferred word order when the embedded clause contains an adjunct (p. 78), *thenyehra* in (113).[45] Thus, embedded clauses feature [S-*wya*]OV or OV[S-*wya*] surface word order.

In sum, though there is no straightforward clausal embedding in Hixkaryana, nominalization and adverbialization can embed verbs and their arguments.

Appendix D: Ergativity in Hixkaryana

Is Hixkaryana ergative? The diagnostics are conflicting and there is an apparent split between main and embedded clauses. The first diagnostic is syntactic positioning.

[45] A preliminary analysis of this phenomenon is that the inversion head (HAP in matrix clauses) is optional in embedded clauses, allowing adjunct/modifier phrases to freely precede the OV complex.

In main clauses, transitive subjects and intransitive subjects both canonically appear after the verb; transitive objects appear before the verb.

(114) a. Transitive: O V S (Obl/Adjuncts)

b. Intransitive: V S (Obl/Adjuncts)

This points to non-ergativity. In embedded clauses, transitive objects and intransitive subjects both appear in an argument position preceding the adverbialized or nominalized verb; transitive subjects are optional and, when they appear, must be introduced by the P *wya*.

(115) a. Transitive: (Obl/Adjuncts) (S *wya*) O V-NOMZR/ADVZR

b. Intransitive: (Obl/Adjuncts) S V-NOMZR/ADVZR

This looks like an ergative configuration.

The second ergativity diagnostic is agreement morphology. As discussed in Appendix B, in transitive main clauses, both the subject and the object are involved in determining the verbal person agreement prefix. In intransitive main clauses (both unaccusative and unergative), on the other hand, the agreement prefix reflects the intransitive subject paired (invariably) with a third person object.

There are several possible explanations for the intransitive and transitive overlap (whose exceptions are noted in Appendix B). First, there may be a default setting for the agreement prefix such that when there is no secondary (object) argument, object agreement is valued at third person. Second, it may be that there is a null third person object implicated in intransitive main clauses (though this seems unlikely given that unaccusatives and unergatives behave alike). A third possibility is that there are two entirely separate sets of agreement morphemes, one that appears when objects are third person and varies with the subject (i.e., a purely subject marking morpheme) and one that appears when subjects are third person and varies with the

object (i.e., a purely object marking morpheme), with a third set of morphemes for speech-act participants acting on speech-act participants (as proposed for Tiriyó by Meira (1999:p. 283-285)). Regardless of the analysis, this agreement pattern does not look ergative, since in both transitives and intransitives, the subject plays a key role in determining the agreement morpheme.

The opposite is seen in embedded clauses, which use the same person-marking paradigm as main clauses, with minor differences involving allomorphy. In transitive and intransitive embedded clauses, the agreement prefix treats the argument directly preceding the nominalized/adverbialized verb (i.e., the transitive object or intransitive subject) as an object paired (invariably) with a third person subject; in other words, the prefix varies only with the person of the transitive object or intransitive subject. This is the exact opposite of what was seen for intransitive subjects of main clauses in (115). The set of agreement prefixes for embedded clauses is given in (116); note that this is essentially a snapshot of the third person subject row in (6) with some allomorphic differences.

(116) Noun/postposition person-marking prefixes (p. 199-200)

OBJECT	1	1+2	2	3
	r(o)-	k(ɨ)-/ku-	o-/oy-	ɨ-/u- (–OBJ)
			ow-/a(y)-	y-/∅- (+OBJ)

Again the explanations here may vary, but the near-homophony of these agreement morphemes is unlikely to be coincidental. Only a single argument is able to trigger agreement, and this agreement is with the lowest underlying argument – objects of transitives and subjects of intransitives.

It seems unlikely that this agreement pattern could be due to a null third person transitive subject, for two reasons: for transitive verbs, the agent theta role is able

to be discharged overtly, and this agent need not be third person; for intransitive verbs, the agent theta role can be assigned (to the intransitive subject), and it is this argument that triggers agreement, though it triggers what looks like object agreement. It is more likely in this case that there is a default third-person setting for the missing argument, and this argument is always treated as the subject for agreement purposes. Hence this agreement pattern looks ergative, since the transitive subject is entirely disregarded (except as default third person) by the agreement morpheme. Further, intransitive subjects in an embedded clause (whether the NP is the single argument of an unaccusative or unergative predicate) trigger the same contribution to the agreement prefix as do transitive objects, again suggesting ergativity.

There is one way, however, in which embedded clauses do not appear to be ergative. This is seen when one looks at the third person reflexive person-marker, *t~~i~~-*, which can be bound by transitive and intransitive subjects, but not objects. The prefix *t(~~i~~)-* (which may be a reflexive third person pronominal clitic) shows up on possessed Ns, Ps, nominalized Vs, and adverbialized Vs when the subject of the closest verb is coreferent with the argument of one of these elements, e.g. (117)/(118):

(117) t-hetxe-∅ y-ar-yako Waraka Manaws~~i~~ hona
3REFL-wife-POSSD 3S.3O-take-RECPST.COMPL Waraka Manaus to
'Waraka took his wife to Manaus.' (p. 81)

(118) ..., t-hok-ru kom ∅-hana-ni~~-~~hri~~-~~ ke
3REFL-child-POSSD COLL 3-teach-ACTION.NOMZR-POSSD because
wos~~i~~ wya (p. 82)
woman by
'..., because the woman was teaching her own children.'
(Lit: '...because of the teaching of her own children by the woman.')[46]

[46]The *wya*-phrase here is outside of the embedded clause, following the subordinator 'because'. The adjunct *wya*-phrase of embedded clauses is quite mobile; I do not try to account for this here.

In (117), the main clause subject, Waraka, triggers the reflexive prefix on 'wife', since Waraka is coreferent with the possessor of that NP. In (118), the embedded clause subject, *wosɨ* ('woman'), triggers the reflexive prefix on the embedded object, 'child.' Thus, while transitive and intransitive subjects (both embedded and main clause) can trigger *t(ɨ)-*, transitive objects may not (p. 82). This is not surprising for main clauses, which already look non-ergative, but it is surprising for embedded clauses, since it shows a case of the intransitive and transitive subject patterning together, non-ergatively.

In sum, the positioning of arguments and prefixal person agreement make embedded clauses look ergative but main clauses non-ergative. Reflexive-marking, on the other hand, makes both main and embedded clauses look non-ergative. It may well be that ergativity in these embedded clauses in Hixkaryana is epiphenomenal, not related to true ergative languages.

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