



Property	V-final	SVO	V-initial
Verb-Tense/Aspect aux verb	94	31	13
Verb-Negative auxiliary	88	13	0

Table 2: V-Aux correlations (Dryer 1991)

- “The typologically rare brace order was available at each stage of early English, but was never the preferred option, neither within nor across speakers.” (Clark et al 2009:6)

(2) *Middle English*

he mæg tha synfullan sawle thurh his gife geliffæstanhe may the sinful soul  
‘He can endow the sinful soul with life through his grace’ (c900-1000, Ælfric’s  
through his gift endow-with-life  
Homilies I, 33.496.30, [SOURCE: Fischer 2000, 143])

- Garifuna shows this order with total regularity across a wide range of inflected auxiliaries

(3) *Garifuna*

- a. Ru-tu Maria fein l-un John  
give-3SG.F Maria bread 3SG.M-to John  
**V S O PP**  
‘Maria gives John bread.’
- b. Ariha **l-umu-tu** John Maria  
see 3SG.MSC.G-AOR-3SG.FEM.T John Maria  
**V Aux S O**  
‘John sees Maria.’

Because this is an ordering problem, we want to know how VSO is derived, or if it is derived at all.

## 1.1 Constituency diagnostics and clause structure

### 1.1.1 Coordination

- On standard assumptions, coordination should offer the clearest view of underlying constituency.
- The conjunction is the inflected preposition *l-uma* 3SG.MSC.G-with which takes default 3SG.MSC agreement.

(4) A-dügü-tu Maria fein  
VRBL-make-3SG.FEM.T Maria bread  
‘Maria makes bread.’

(5) A-lugura-ha-tu Maria fein  
VRBL-sell-VRBL-3SG.FEM.T Maria bread  
‘Maria sells bread.’

• **VSO & VSO (clausal) coordination**

- (6) A-dügü-tu Maria fein l-uma a-lugura-ha lu-mu-ti John  
 VRBL-make-3SG.FEM.T Maria bread 3SG.MSC.G-with VRBL-sell-VRBL 3SG.MSC.G-AOR-3SG.MSC.T John  
 ‘Maria makes bread and John sells it.’

• **V coordination**

- (7) A-dügü-tu l-uma a-lugura-ha-tu Maria fein  
 VRBL-make-3SG.FEM.T 3SG.MSC.G-with VRBL-sell-VRBL-3SG.FEM.T Maria bread  
 ‘Maria makes and sells bread.’

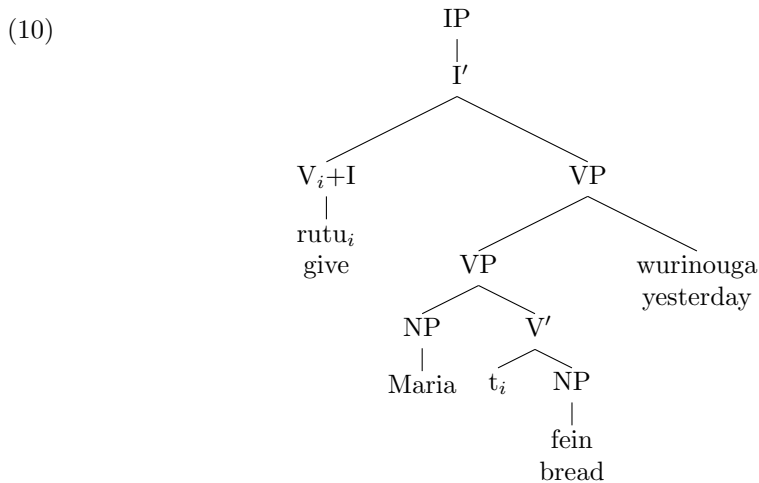
• **SO & SO coordination**

- (8)a. \*Hou-ti [Juan ereba] l-uma [Pablo ri]  
 eat-3SG.MSC.T Juan cassava\_bread 3SG.MSC.G-with Pablo rice  
 (For, ‘Juan eats ereba and Pablo rice’)
- b. [Hou-ti Juan ereba] luma [hou-ti Pablo ri]  
 eat-3SG.MSC.T Juan cassava\_bread 3SG.MSC.G-with eat-3SG.MSC.T Pablo rice  
 (For, ‘Juan eats ereba and Pablo rice’)

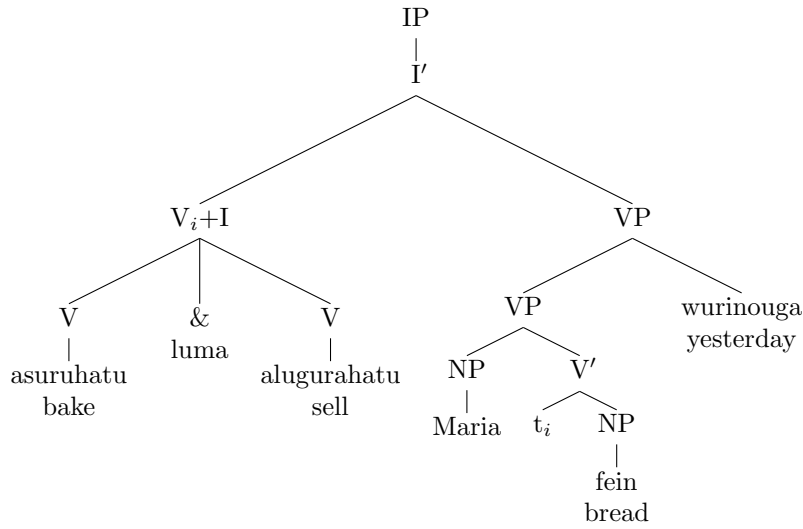
• **VS & VS coordination**

- (9) %[A-dügü-tu Maria] l-uma [a-lugura-ha-ti John] fein  
 VRBL-make-3SG.FEM.T Maria 3SG.MSC.G-with VRBL-sell-VRBL-3SG.MSC.T John bread  
 (Bad for, ‘Maria makes and John sells bread.’  
 OK For, ‘Maria makes (something) and John sells bread’)

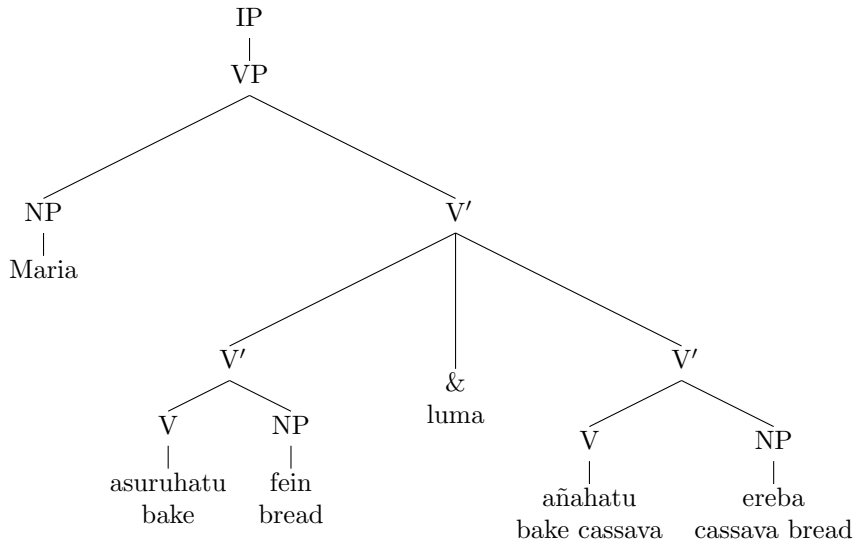
- If the strict VSO order is derived through verb movement, it should be clear why coordination is constrained
  - V' coordination would create an island (Ross's (1967) Coordinate Structure Constraint) which would in turn prevent verb movement
  - V + S and S + O do not form constituents to begin with (and gapping is apparently also impossible)



(11)



(12)

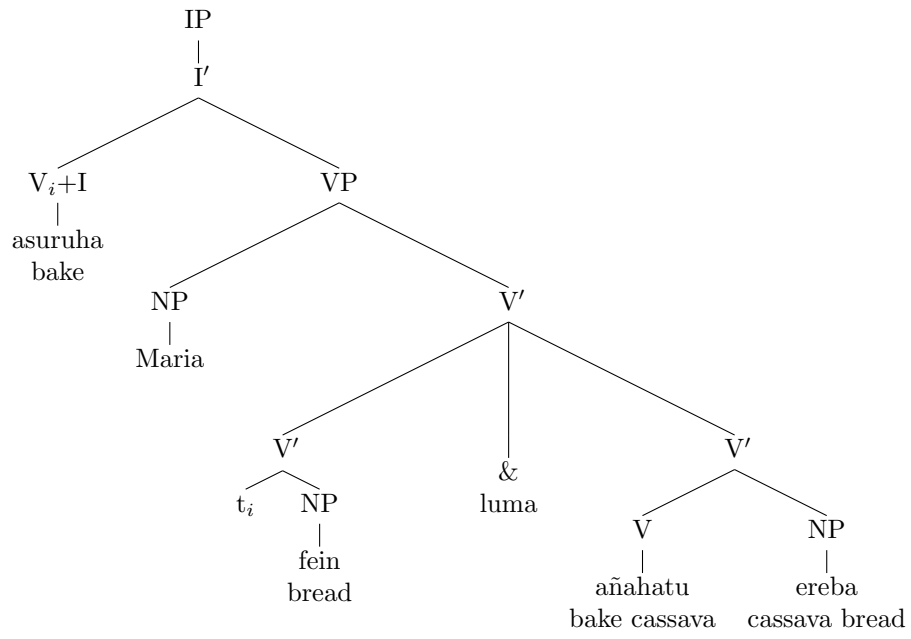


- We do find examples which, on the surface, look like V' coordination:

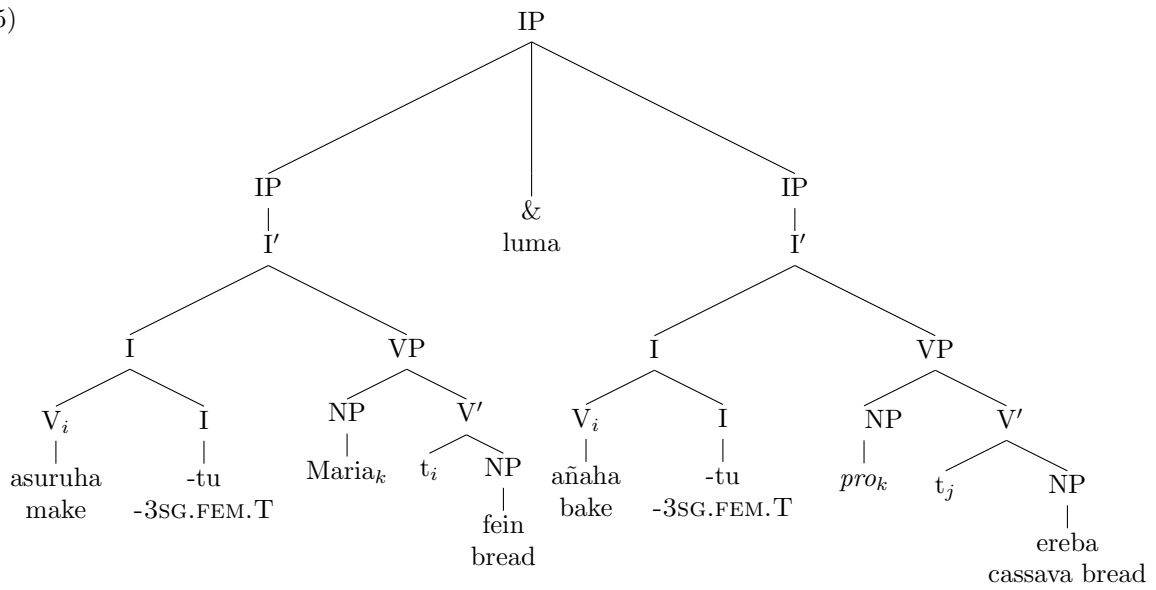
(13) A-suru-ha-tu                      Maria fein    luma a-ña-ha-tu                      ereba  
 VRBL-bake-VRBL-3SG.FEM.T Maria bread and VRBL-bake.cassava-VRBL-3SG.FEM.T cassava  
 bread  
 'Maria baked bread and made cassava bread.'

- However, this can also be coordination of a larger, clausal constituent, e.g. IP. The evidence indicates that (13) is not as in (14) but rather as in (15).

(14)



(15)



- When embedded under a higher predicate the higher predicate must be repeated with the V' under coordination

- (16)a. [Uwa-tiña a-suru-ha-tiña fein] luma [uwa-tiña a-ña-ha-tiña  
NEG.EXT-3PL.T VRBL-bake-VRBL-3PL.T bread and NEG.EXT-3PL.T VRBL-bake.cassava-VRBL-3PL.T  
ereba]  
cassava.bread  
'Nobody baked bread or made cassava bread.'
- b. \*Uwa-tiña [a-suru-ha-tiña fein] luma [a-ña-ha-tiña ereba]  
NEG.EXT-3PL.T VRBL-bake-VRBL-3PL.T bread and VRBL-bake.cassava-VRBL-3PL.T cassava.bread

- The complementizer must be present in both the first and second conjunct when embedded under a CP selecting predicate:

- (17)a. Subudi n-umu-ti t-a-suru-ha ña **lan** Maria fein luma  
know 1SG.G-AOR-3SG.MSC.T 3SG.FEM.G-VRBL-bake-VRBL PROG COMP Maria bread and  
t-a-ña-ha ña **lan** ereba  
3SG.FEM.G-VRBL-bake.cassava-VRBL PROG COMP cassava.bread  
'I know that Maria is baking bread and making ereba.'

*With simplified glossing:*

- b. Subudi numuti [tasuruha ña **lan** Maria fein] luma [tañaha ña **lan** ereba]  
know AUX bake PROG COMP Maria bread and bake.cassava PROG COMP cassava.bread  
'I know that Maria is baking bread and making ereba.'
- c. \*Subudi numuti [tasuruha ña **lan** Maria fein] luma [tañaha ña ereba]  
know AUX bake PROG COMP Maria bread and bake.cassava PROG cassava.bread

- There is a construction which suggests that the leftmost verb can raise to an inflectional head and strand the following verbs. Here, the verbs in non-initial conjuncts remain uninflected and allow pronominals in argument position, which is ungrammatical with inflected verbs.

- (18) Subudi n-umu-ti t-a-suru-ha ña lan Maria fein  
know 1SG.G-AOR-3SG.MSC.T 3SG.FEM.G-VRBL-bake-VRBL PROG COMP Maria bread  
**a-ña-ha tuguaya** ereba  
VRBL-bake.cassava-VRBL 3SG.FEM cassava.bread  
'I know that Maria baked bread and made ereba.'

- Taylor claims that in this construction the pronominal can appear before the verb, dramatically demonstrating that the verb begins in a lower position.

- (19) dan le h-aidi lu-bien Timu, niein n-adaira-ña muladunun, **hagia**  
time DEF.MSC 3PL.G-go 3SG.MSC.G-house Timu there 1SG.G-find-3PL.D Ladino:PL 3PL  
**a-gañai-ha** fein  
VRBL-buy-VRBL bread  
'When they went to Tim's home, I found Ladinos there, and they buying bread.' (Taylor 1958:48)

### 1.1.2 Adverb intrusion

- (20) Ru-tu (\*yahaun/wurinouga) Maria (\*) fein (✓) l-un John (✓)  
give-3SG.FEM.T here/yesterday Maria bread 3SG.MSC.G-to John  
'Maria gives John bread here/yesterday.'

- Basic positioning of temporal and spatial adverbs is not very different from English; they must follow the object
- The impossibility of intruding between verb-subject-object suggests that we are indeed dealing with head movement and not remnant movement

## 1.2 The auxiliary system

- Taylor occasionally refers to these elements as “verbalizing aspect markers” but they are clearly best described as auxiliaries on the basis of the following:
  - They take complements of any lexical category
  - They are accented like verbs and not like affixes
  - **They host prefixes**
- The T set of person markers represent true verbal agreement while the D set may only attach to auxiliaries. Prefixes indicate both possessors and agents in certain constructions (e.g. the progressive, future and immediate past).
- Agreement is not possible with nominal predicates, (21). Conversely, pronouns are not possible in the argument positions of inflected verbal predicates, (22).

- (21)a. Surusiya nuguya  
doctor 1SG  
'I'm a doctor.'
- b. \*Surusiya-tina  
doctor-1SG.T  
(For, 'I was a doctor.')

- (22) Eremu-ha-tina (\*nuguya)  
sing-VRBL-1SG.T 1SG  
'I sang.'

- Tense and aspect can only be expressed by auxiliaries with non-verbal predicates:

- (23)a. Surusiya **ba**-dina  
doctor FUT-1SG.D  
'I will be a doctor.'
- b. Surusiya **ha**-dina  
doctor ALRD-1SG.D  
'I'm already a doctor.'

- c. Surusiya **gi**-dina  
doctor STILL-1SG.D  
'I'm still a doctor.'
- d. Surusiya **ña**-dina  
doctor PROG-1SG.D  
'I'm being a doctor.'

(24) l-uagu ha-li t-igachürügü uwie  
3SG.MSC.G-about PRF-3SG.MSC.D 3SG.FEM.G-knee dirt  
'The dirt is up to her knees.' (Taylor p.7)

- But auxiliaries are not dedicated verbalizers; they combine with verbal stems equally often to indicate aspect.

- (25)a. Aibagua-tina  
run-1SG.T  
'I ate.'
- b. Aibagua **ha**-dina  
run ALRD-1SG.D  
'I already ran.'
- c. Aibagua **gi**-dina  
run CONT-1SG.D  
'I'm still running.'

- They are also required with definite objects (except in the immediate future):

- (26)a. A-lugura-ha-tina mesu  
VRBL-sell-VRBL-1SG.T cat  
'I sold a cat.'
- b. \*A-lugura-ha-tina mesu le  
VRBL-sell-VRBL-1SG.T cat DEF.MSC  
(For, 'I sold the cat.')
- (27)a. A-lugura-ha n-umu-ti mesu le  
VRBL-sell-VRBL 1SG.G-AOR-3SG.MSC.T cat DEF.MSC  
'I sold the cat.'

- The agreement patterns are slightly different for almost each auxiliary:

- The AORIST is obligatorily transitive, i.e., it cannot appear without prefixal and suffixal agreement:

(28) Ariha n-umu-ti mesu le  
see 1SG.G-AOR-3SG.MSC.T cat DEF.MSC  
'I saw the cat.'

- The PERFECTIVE is optionally transitive, i.e. it can occur with a definite object with or without hosting object agreement:



- (29)a. Ariha n-a mesu le  
 see 1SG.G-PRF cat DEF.MSC  
 'I already saw the cat.'
- b. Ariha n-a-li mesu le  
 see 1SG.G-PRF-3SG.MSC.D cat DEF.MSC  
 'I already saw the cat.'

– The FUTURE only takes prefixal agreement when it is blocked on the verb due to negation:

- (30)a. N-eremu-ha ba-dina  
 1SG.G-sing-VRBL FUT-1SG.D  
 'I will sing.'
- b. M-eremu-ha nu-ba-dina  
 NEG-sing-VRBL 1SG.G-FUT-1SG.D  
 'I won't sing.'

– The PROGRESSIVE never takes prefixal agreement, perhaps because it is compatible with nominal negation, which can cooccur with verbal prefixation:

- (31)a. N-eremu-ha ña  
 1SG.G-sing-VRBL PROG  
 'I'm singing.'
- b. Mama n-eremu-ha ña  
 NEG 1SG.G-sing-VRBL PROG  
 'I'm not singing.'

- (32) N-ari-ha ña-dibu  
 1SG.G-see-VRBL PROG-2SG.D  
 'I'm seeing you.'

– Garifuna agreement markers (Ekulona 2000):

Symbol	series	1s	2s	3fs	3ms	1p	2p	3p
P	prefix	n-	b-	t-	l-	Wa-	h-	ha-
D	di suffix	-dina	-dibu	-ru	-li	-diwa	-düü	-yan
S	short suffix	-na	-bu	-u	-i	-wa	-üü	-yan
R	reduced di suffix	-dina	-dibu	-u	-i	-diwa	-düü	-yan
T	ti suffix	-tina	-tibu	-tu	-ti	-tiwa	-tüü	-tiyan
N	ni suffix	-nina	-nibu	-nu	ni	-niwa	-nüü	-niyan
I	infix <sup>4</sup>	-na-	-bu-	-nu-	-ni-	-wa-	-nü-	-ya-

Table 3: Summary of auxiliary agreement patterns

	Positive		Negative	
i. Aorist Intransitive	VERB- <b>S</b>		NEG-VERB- <b>S</b>	
ii.a. Immediate Future Intransitive	<b>S</b> -VERB		–	
ii.b. Immediate Future Transitive	<b>A</b> -VERB- <b>P</b>		–	
iii. Aorist Transitive <i>umu</i>	VERB	<b>A</b> -AUX <sub>Aor</sub> - <b>P</b>	NEG-VERB	<b>A</b> -AUX <sub>Aor</sub> - <b>P</b>
iv.a. Future Intransitive <i>ba</i>	<b>S</b> -VERB	AUX <sub> Fut </sub>	NEG-VERB	AUX <sub> Fut </sub> - <b>S</b>
iv.b. Future Transitive <i>ba</i>	<b>A</b> -VERB	AUX <sub> Fut </sub> - <b>P</b>	NEG-VERB	<b>A</b> -AUX <sub> Fut </sub> - <b>P</b>
v.a. Progressive Intransitive <i>ñā</i>	<b>S</b> -VERB	AUX <sub> Prog </sub>	NEG <b>S</b> -VERB	AUX <sub> Prog </sub>
v.b. Progressive Transitive <i>ñā</i>	<b>A</b> -VERB	AUX <sub> Prog </sub> - <b>P</b>	NEG <b>A</b> -VERB	AUX <sub> Prog </sub> - <b>P</b>
vi.a. Perfective Intransitive <i>ha</i>	VERB	AUX <sub> Perf </sub> - <b>S</b>	NEG-VERB	AUX <sub> Perf </sub> - <b>S</b>
vi.b. Perfective Transitive <i>ha</i>	VERB	<b>A</b> -AUX <sub> Perf </sub> -( <b>P</b> )	NEG-VERB	<b>A</b> -AUX <sub> Perf </sub> -( <b>P</b> )
vii.a. Continuative Intransitive <i>gi</i>	VERB	AUX <sub> Cont </sub> - <b>S</b>	NEG-VERB	AUX <sub> Cont </sub> - <b>S</b>
vii.b. Continuative Transitive <i>gi</i>	VERB	<b>A</b> -AUX <sub> Cont </sub> - <b>P</b>	NEG-VERB	<b>A</b> -AUX <sub> Cont </sub> - <b>P</b>

- Multiple conditions on person marking: (i) aspect, (ii) definiteness of the object (in the aorist), (iii) presence of negation and (iv) matrix/subordinate status
- But note the following generalizations:
  - Only **A** is marked prefixally on Auxiliaries (ERGATIVE pattern)
  - **S** and **A** but never **P** are marked prefixally on Verbs (NOM-ACC pattern)
  - Verbal prefixation appears to be mostly compatible with tense rather than aspect. (The observant reader may have noticed the use of “progressive” on statives and nominal predicates above, places where “real” progressives deign not go.)

### 1.3 From Aux-V-O to V-Aux-O

- If we assume a universal base order of Aux-V-O, what is so difficult in deriving V-Aux-O?
  - If heads are really subject to stricter locality conditions due to something like the Head Movement Constraint (Travis 1984), we expect that V-Aux-O could only be derived by merger of V-Aux into a single compound word
  - Verb-ASP-TNS Obj is of course totally commonplace.
  - It has been shown repeatedly that affixes can be independent prosodic words (Booij 1995, Peperkamp 1996) .
  - The crux of the Garifuna auxiliary puzzle is the fact that auxiliaries may be prefixed – It is *not* normal for suffixes to host prefixes
- Let’s follow the intuition that V-Aux may be a maximal morphological word containing two subwords

### 1.3.1 Garifuna auxiliaries in a crosslinguistic perspective

- **Auxiliary coordination**

- (33)a. I [**was** and still **am**] swimming every morning  
 b. Bruce [**is** and will forever **be**] the Boss

- (34) *Hebrew*  
 Hu [haya paam ve od paam **yehiye**] koxav ha=kvutsa  
 3SG.MSC AUX.3SG.MSC.PST once & again once AUX.3SG.MSC.FUT star DEF=group  
 ‘He once was and will be again the star of the group.’

- (35) *Indonesian*  
 Coba pikirkan semua yang **pernah** dan **akan** kau=lakukan  
 try think all RELT once & will 2SG=do  
 ‘Try to think of everything you’ve done and will do.’

- (36) *Garifuna*  
 a. \*Ariha **l-umu-tu** luma **t-umu-ti**  
 see 3SM-AOR-3SF & 3SF-AOR-3SM  
 b. Ariha **l-umu-tu** luma ariha **t-umu-ti**  
 see 3SM-AOR-3SF & see 3SF-AOR-3SM  
 ‘He saw her and she saw him.’

- **Verb coordination under a single Aux**

- (37) Johann **will** [shake and shimmy] until at least midnight

- (38) *Hebrew*  
 Hu tamid **haya** [sam lev] ve [makshiv] le=kulam  
 3SG.MSC always AUX.3SG.MSC.PST put:SG.MSC heart & listen:PRS.SG.MSC to=everyone  
 ‘He would always pay attention and listen to everyone.’

- (39) *Indonesian*  
 Dia **sudah** [makan dan minum]  
 3SG already eat & drink  
 ‘He already ate and drank.’

- (40) *Garifuna*  
 a. \*Ariha luma áfara **t-umu-ti**  
 see & hit 3SG.FEM.G-AOR-3SG.MSC.T  
 b. Ariha **t-umu-ti** luma áfara **t-umu-ti**  
 see 3SG.FEM.G-AOR-3SG.MSC.T & hit 3SG.FEM.G-AOR-3SG.MSC.T  
 ‘She saw him and she hit him.’

• **Independent movement of Aux**

(41) Will<sub>i</sub> Margaret *t<sub>i</sub>* shimmy?

(42) *Hebrew*

Im **haya**<sub>i</sub> kol exad *t<sub>i</sub>* nexshav ke=gaon...  
 if AUX.3SG.MSC.PST every one think:PASS.SG.MSC as=genius...  
 ‘If everyone was thought of as a genius’

(43) *Indonesian (Formal)*

**Sudah**<sub>i</sub>=kah Dahlia *t<sub>i</sub>* makan?  
 already=QM Dahlia eat  
 ‘Did Dahlia already eat?’

– The auxiliary can never move on its own, as it can in Hebrew and Indonesian (but see below):

(44) *Garifuna*

- a. \***N-a-li** ariha  
 1SG.G-PRF-3SG.MSC.D see  
 b. Ariha **n-a-li**  
 see 1SG.G-PRF-3SG.MSC.D  
 ‘I already saw him’

• **Aux stranding VP ellipsis**

(45) Seamus played the bagpipes and Yankele did ~~play the bagpipes~~, too.

(46) *Hebrew*

?\*Yosi haya menagen et=ha=mandolina ve Yuval **haya** gamken  
 Yosi AUX.3SG.MSC.PST play:PRS.SG.MSC ACC=DEF=mandolin and Yuval AUX.3SG.MSC.PST also  
~~menagen et=ha=mandolina~~  
 ‘Yosi would always play the mandolin and Yuval did, too.’

(47) *Indonesian*

Laura masih mau ambil ujian=nya tapi aku **sudah** ~~ambil ujian=nya~~  
 Laura still will take exam=DEF but 1SG already  
 ‘Laura will still take the exam but I already have.’

(48) *Garifuna*

- a. \*Afara l-umu-tina Pedro, l-umu-tina=gien Pablo  
 hit 3SG.MSC.G-AOR-1SG.T Pedro 3SG.MSC.G-AOR-1SG.T=also Pablo  
 (For, Pedro hit me and Pablo did too.)  
 b. Afara l-umu-tina Pedro, afara l-umu-tina=gien Pablo  
 hit 3SG.MSC.G-AOR-1SG.T Pedro hit 3SG.MSC.G-AOR-1SG.T=also Pablo  
 ‘Pedro hit me and Pablo hit me also.’

• **Intrusion between Aux and Verb**

- (49)a. He **did** always **tell** me to avoid light beer  
 b. I **will** surely never in my life **drink** that stuff again

(50) *Hebrew*

Hu **haya** tamid ba=daka ha=axrona **mazhir** lanu al=ha=bira  
 3SG.MSC AUX.3SG.MSC.PST always in:DEF=minute DEF=last warn:PRS.SG.MSC to:lpl on=DEF=beer  
 ‘He would always at the last minute warn us about the beer’

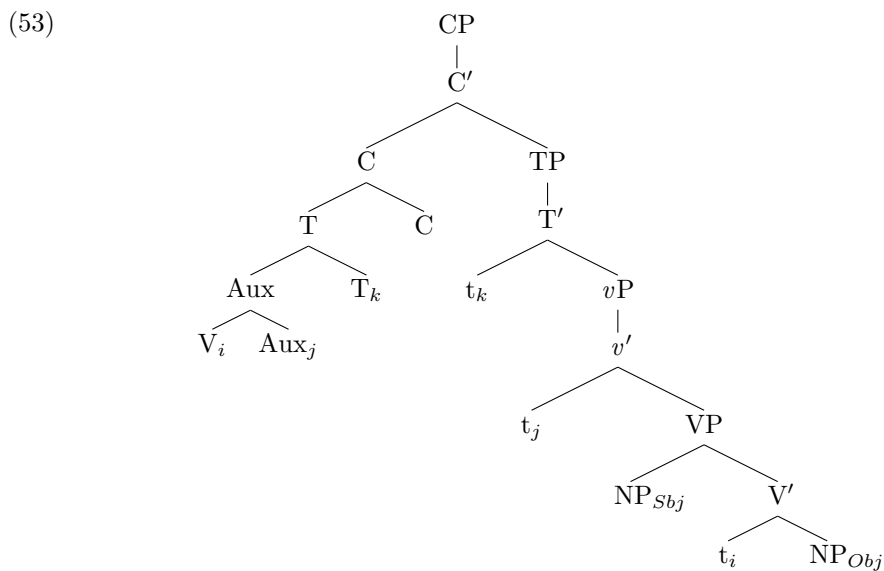
(51) *Indonesian*

- a. Dini **sudah** sebenarnya **cari** alasan  
 Dini already actually search excuse  
 ‘Dini actually already looks for excuses.’

(52) *Garifuna*

- a. **Ariha** (\*sunwadan) **l-umu-tu** (sunwadan)  
 see always 3SG.MSC.G-AOR-3SG.FEM.T always  
 ‘He always sees her.’  
 b. **Agamba** (\*ya) **n-umu-ti** (ya)  
 hear here 1SG.G-AOR-3SG.MSC.T here  
 ‘I heard him here’

- All the facts above are consistent with Garifuna auxiliaries and verbs constituting two subwords within a maximal morphological word (MWd<sup>MAX</sup>).
- We can assume a basic head movement approach to VSO (in the tradition of Emonds 1980) with the verb merging with the auxiliary as it moves and carrying it up to the C-layer:



- The fact that both Aux and V are both (sub)words and the former precedes the latter is of no theoretical significance, if as Julien (2002, 2007) argues, the concept of ‘word’ itself is of no grammatical significance at all. Verb Aux order in a VO language is thus no different from V-TNS morpheme order in a VO language.

(54) *Awa (New Guinea)*

a. S O [V-[OBJAGR-Tns-SBJAGR]]

*Rikbaktsa*

b. S O [[SAGR+Tns+OAGR]+V]

*Irish, Welsh*

c. [V+[Tns/Asp+SAGR]] S O

*German, Icelandic*

d. S [V+[Tns+SAGR]] O

(Julien 2002:Appendix)

- The two problems which remain are:
  - How does the auxiliary get prefixed if it’s not initial in MWd<sup>MAX</sup>?
  - As far as the position of agreement is concerned, Julien (2007) draws the following conclusion from her large scale survey:

“The variation that we find in the positioning of agreement markers is such that we have to give up the idea put forth in Chomsky (1993) that clauses contain a subject agreement head and an object agreement head which are located in fixed positions universally.”

But If such prefixation is derivable in a straightforward manner, why is it so vanishingly rare?

- Today’s hypothesis: What’s rare is **low agreement**
- Some low agreement phenomena:
  - Active alignment
  - Agreement with passive agents
  - Agreeing infinitives
- Why is it rare? The functional domain likes to be peripheral

### 1.3.2 Acehnese agent agreement (Lawler 1977, Legate 2008)

- Legate (2008) argues convincingly that Lawler (1977) was right about Acehnese agent agreement and that the forms below with agents introduced by *lé* are truly passive.

(55) *Acehnese*

a. Lôn geu-tingkue lé ureueng inong nyan  
 1sg 2POL-carry by person female that  
 ‘I was carried by the woman’

- b. Lôn lôn-tingkue lé ureueng inong nyan  
1sg 1SG-carry by person female that  
(For, 'I was carried by the woman')
- c. Ureueng inong nyan neu-ba lé droeneuh  
person female that 2-take by you  
'The woman was brought by you'

- Legate argues that the person marking in (55) is not agreement *sensu strictu* but rather:

“... interpretable features on *v*, expressing person, inclusiveness, and relative position in the social hierarchy. These features do NOT saturate the external argument position, but rather restrict the possible external argument...” (or, in other words, agreement)

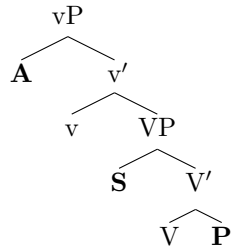
- Low agreement entails the visibility of thematic relations, and hence a split-S pattern:

- (56)a. Lôn lôn-due ateuh kursi  
1SG 1SG-sit above chair  
'I sat on a chair.'
- b. Lôn ka (\*lôn-)reubah  
1SG PERF 1SG-fall  
'I fell' (Legate 2008:6)

- It is not agreement with the by-phrase because the by-phrase is not obligatory.

### 1.3.3 Back to Garifuna

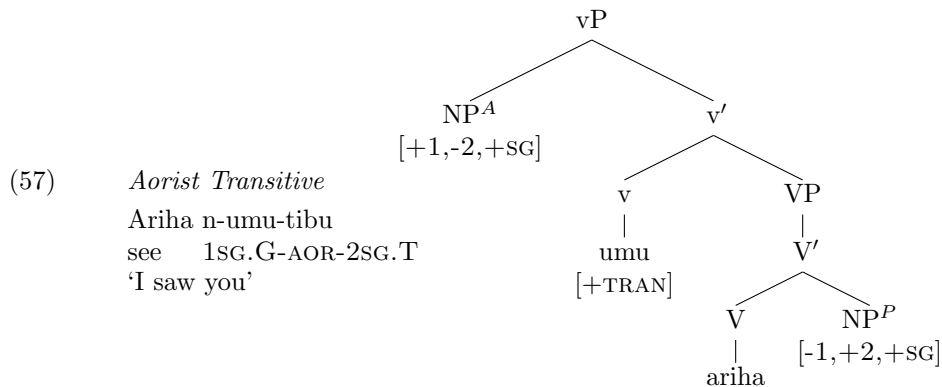
- And now, if you'll allow a vulgar hybrid of X-bar theory and Jakobsonian/Kiparskian case theory, let's posit separate positions for transitive agents and intransitive subjects:



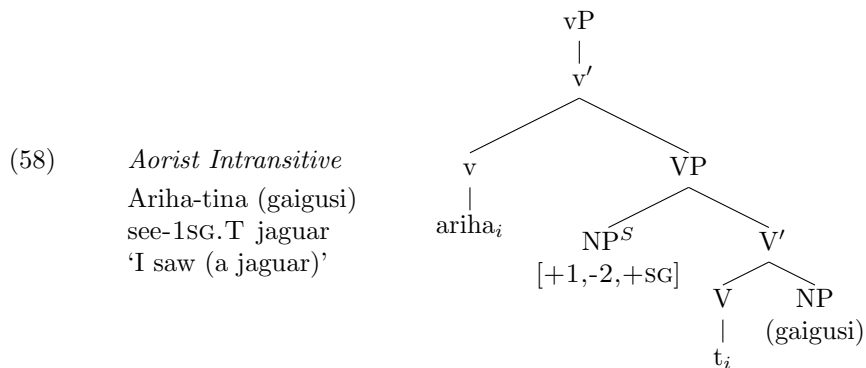
- Maybe this isn't as vulgar as it sounds if *v* is something along the lines of Dowty's **DO** operator (as has been argued), which is inherently transitive to begin with.
- The locus of agreement in Garifuna is *v*, not a higher functional phrase, as is more typical. If all the arguments within vP are merged, after which agreement takes place, after which movement takes place, then the following facts are on their merry way to explanation:
  - The Aux gets first pass at agreement, i.e. fully inflected (prefixed and suffixed) verbs are only possible without an Aux

- Prefixes on Aux are always transitive agents (the ergative argument)
- Suffixes are either S or P (when definite)

- Consider the following configurations:

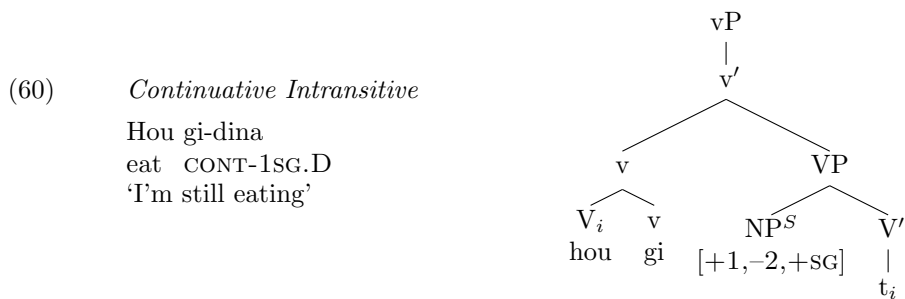
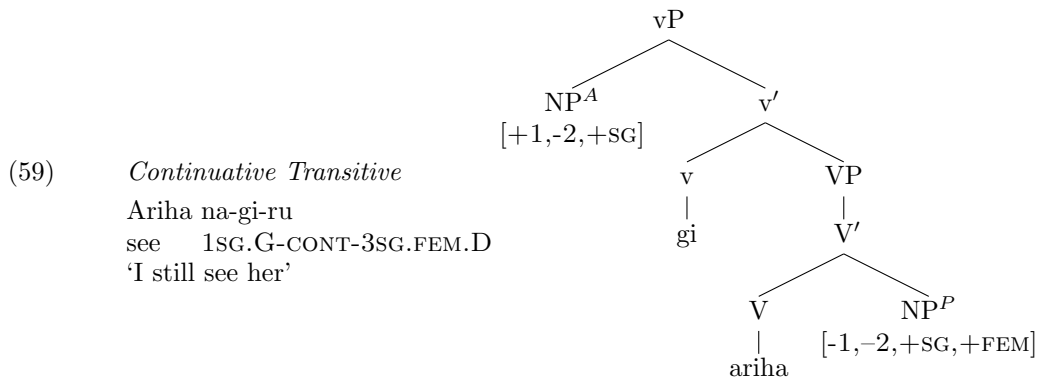


- The fact that the locus of agreement is low can predict the fact that agreement takes place on the auxiliary before movement of the verb.
- In the aorist intransitive there is no auxiliary and the verb must move to *v* for agreement to obtain:

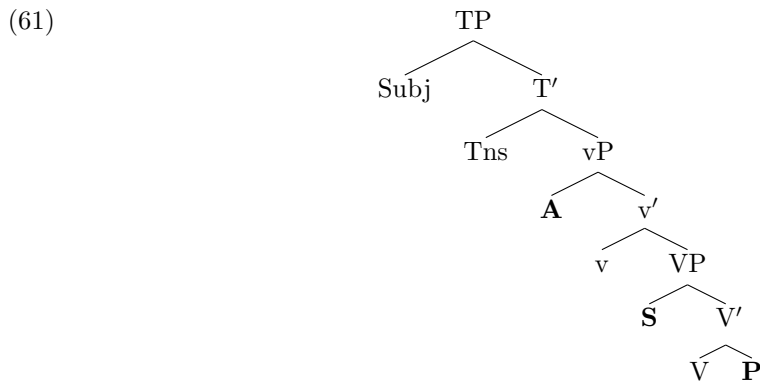


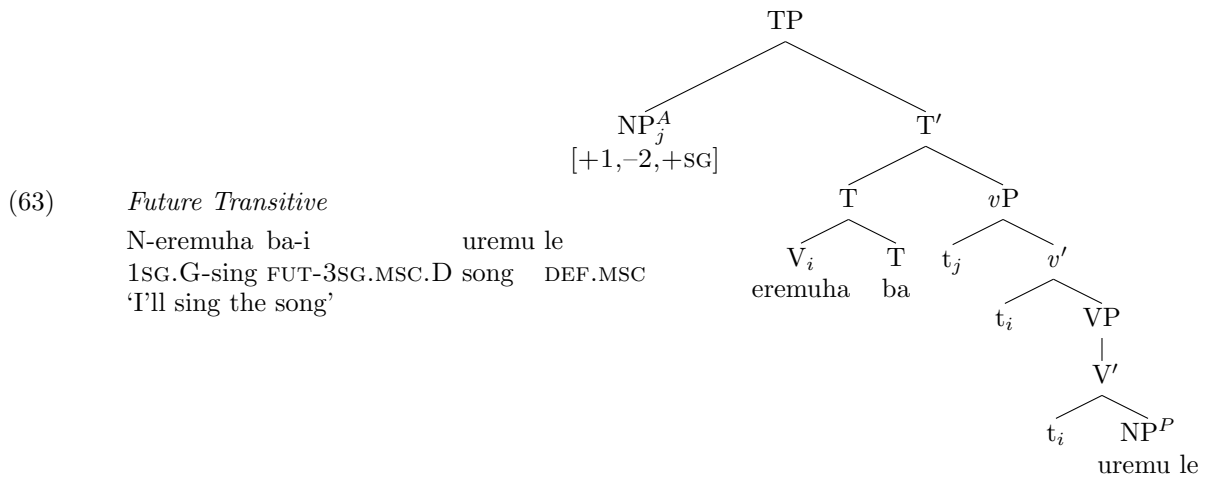
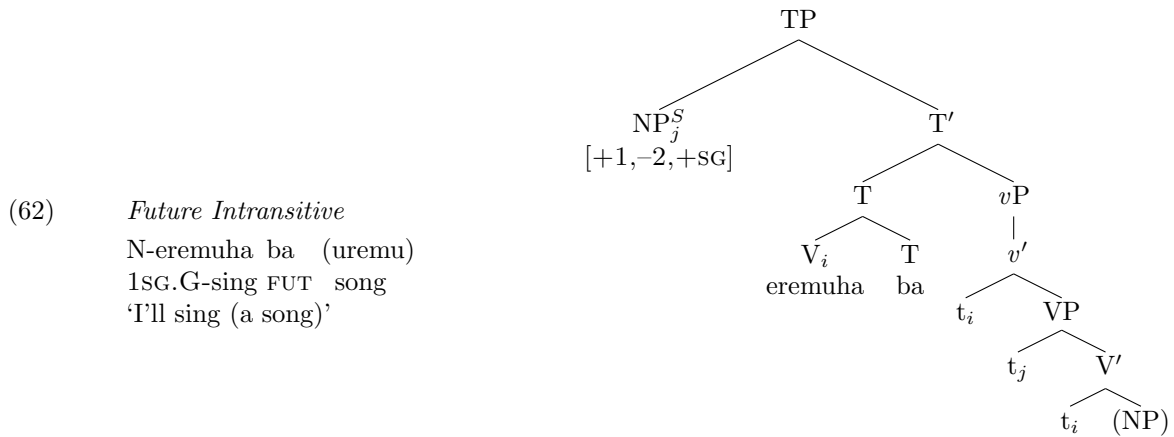
- As indicated above, aorist *umu* is [+TRANSITIVE]. We can similarly account for the behavior of continuative *gi* and perfective *ha*, if they are underspecified for transitivity.





- Recall that verbal prefixing appears to be associated with future tense or imperfective aspect. Recall also that it follows a nominative accusative pattern as opposed to the ergative pattern found above.
- This again makes sense if NOM-ACC (the most common alignment pattern cross-linguistically) is associated with T and we assume something like the EPP which forces the highest argument into [Spec,TP]





- The higher locus of *ba* agreement thus jibes well with several facts:
  - It follows a NOM-ACC pattern
  - It appears to have bona fide tense semantics while the ergative auxiliaries appear to be aspectual
  - Unlike other auxiliaries, it regularly appears preceding the verb when CP is occupied by something other than the verb:

(64) Ka **ba** funa san a-yanu-ha Garifuna n-uma?  
*wh-* FUT SPCLT QM VRBL-speak-VRBL Garifuna 1SG.G-with  
 ‘(I wonder) who will speak Garifuna with me?’ (Andy Palacio, *Amunegu*)

(65) Mully ba afara wügüri  
 Mully FUT hit man  
 ‘It was Mully who hit the man.’ (Ekulona 2000:24)

– It doesn't instantiate the curious prefixed subword pattern, with two exceptions:

(i) Ekulona (2000) reports that *ba* is prefixed with statives:

(66)        subusi nu-ba-u  
               know 1SG.G-FUT-3SG.FEM.D  
               'I will know her'

(ii) Prefixal negation is incompatible with prefixal agreement

- The facts concerning complementation are extremely complicated but at least semi-predictable. In most cases, no auxiliary, but on the other hand, P agreement is forced to appear on the verb:

(67)        N-aiba    ariha-un            nu-faluma  
               1SG.G-go look-3SG.FEM.D 1SG.G-coconut  
               'I must go and see about my coconuts' (Taylor 1958:47)

(68)        N-aibuga a-luaha-un  
               1SG.G-go VRBL-search-3SG.FEM.D  
               'I'm going to look for her' (Taylor 1958:37)

- In other cases, obligatory raising to object(!), in which case the matrix predicate/modal behaves like a transitive verb and the downstairs verb remains without agreement

(69)a.        Siña        n-umu-ti                    h-aguci<sub>i</sub>    a-deira    *t<sub>i</sub>*  
               NEG.CAN 1SG.G-AOR-3SG.MSC.T 3PL.G-father VRBL-find  
               'I can't find their father.'  
               b. \*Siña        n-umu-ti                    a-deira    h-aguci  
               NEG.CAN 1SG.G-AOR-3SG.MSC.T VRBL-find 3PL.G-father  
               'I can't find their father.'

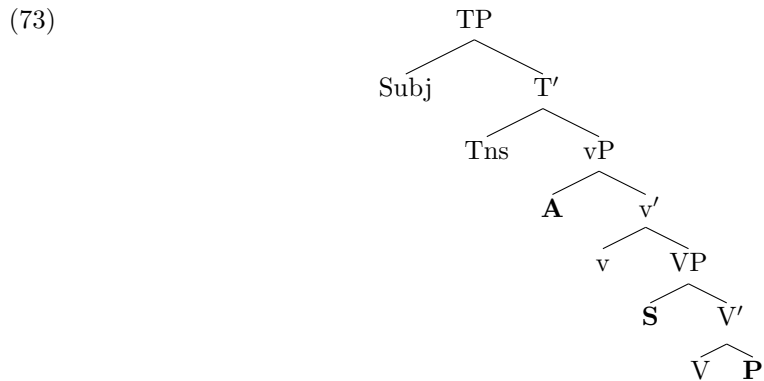
- Agreement can also appear on Comp, in which case we correctly predict that it will be NOM-ACC, as it appears to be the result of T moving to C independently.

(70)        ahan-ña a-hámacha    n-uagu  
               if-3PL.D VRBL-pounce 1SG.G-on  
               'If they pounce on me...'  
               (Taylor 1958:41)

(71)        ahan-bu a-gamba    umalali  
               if-2SG    VRBL-hear voice  
               'If you hear a voice...'  
               (Taylor 1958:43)

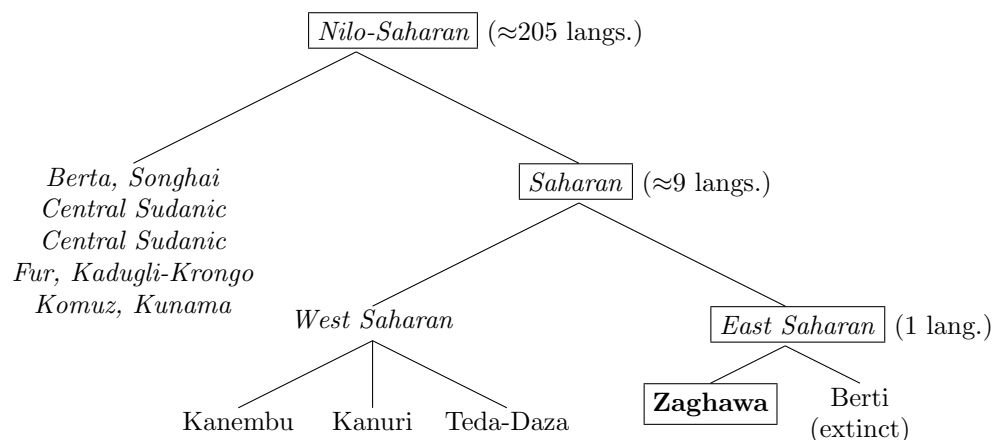
- If sets of agreement markers are associated with different loci in the clause and agreement morphology is selected on the (binary) basis of whether the controller is above or below the locus, we may be able to derive an improved formalization of the three major types of agreement in a very elegant way.

(72) [TP **Subj** [T' Tns [vP [v' v **A** [VP **S** [V' V **P** ] ] ] ] ] ]  
 NOM-ACC DOMAIN ERG DOMAIN ACTIVE DOMAIN



- Assume two sets of agreement morphemes with Set 1 finding its controller by probing down and Set 2 by probing up in the configuration in (73).
  - If the locus is V, the result is an ACTIVE pattern
  - If the locus is v, the result is an ERGATIVE agreement pattern
  - If the locus is Tns, the result is a NOMINATIVE-ACCUSATIVE pattern
- Note that, as one goes up the tree, the systems become increasingly common (Siewierska 2004)
- The extreme rarity of the Garifuna pattern can now be tied to the relative rarity of active systems or “semantic alignment” , as it is but one among several ingredients required to break Greenberg’s 16<sup>th</sup>.

## 2 Puzzle 2: The Zaghawa alignment system



- The Nilo-Saharan phylum is as typologically diverse as a phylogenetic unit could possibly be:
  - \* Both head-initial, head-final languages are widely attested
  - \* SOV, SVO, VOS, VSO and OVS are all attested
  - \* ACCUSATIVE, ERGATIVE and ACTIVE alignments are attested
  - \* A wide range of morphological complexity from isolating to polysynthetic
- Like other languages of Darfur, Zaghawa is a head-final, tonal language
- In contrast to its neighbors, Zaghawa attests all three alignment patterns in a single language:
  - \* ACTIVE agreement pattern
  - \* NOMINATIVE-ACCUSATIVE word order
  - \* ERGATIVE-ABSOLUTE case system

## 2.1 Active patterning verbal agreement

Table 4: Zaghawa agreement markers

	PATIENT	AGENT
1SG	<i>V-</i>	-g
2SG	n( <i>V-</i> )	-n
3SG	∅-	-ɾ, -n, -∅
1PL	t( <i>V-</i> )	-d
2PL	n( <i>V-</i> ) + H	-b
3PL	∅- + H	-ɾ, -n, -∅ + H

- In class 2 transitives, prefixal agreement marks the **P** argument while suffixal agreement marks the **A** argument:

(74) *nòrògḡ*  
 no- **rḡ** -g -i -L  
 2**P**- marry -1**SGA** -AFR -IMPRF  
 ‘I will marry you.’ (Jakobi 2006:132)

(75) *éséɾí*  
 e- **sé** -ɾ -i -H -L  
 1**SGP**- eat -3.**S** -AFR -PL -IMPRF  
 ‘They will eat me.’ (Jakobi 2006:132)

- The same pattern obtains in class 3 transitives, but the agreement markers attach to the AUX element:

- (76) *sàì nénégì*  
 sàì ne- **n** -g -i -L  
 cut 2**P**- AUX -1SG**A** -AFR -IMPRF  
 ‘You will cut me.’ (J&C:72)

- The choice of agreement paradigm with intransitives depends on the agency of the subject.
- \* Roughly speaking, “Unergatives” take suffixal marking while “unaccusatives” take prefixal marking. Note that unaccusatives look like transitives due to the presence of default third person **A** agreement.

- (77)a. *áì júgì* (Class 2)  
 áì jú -g -i -H  
 1SG go -1SG**A** -AFR -PRF  
 ‘I went.’

- b. *áì égédégì* (Class 1)  
 áì e- gédé -ɾ -i -L  
 1SG 1SG**P**- fall -3.**A** -AFR -IMPRF  
 ‘I will fall.’

- \* This holds both for verbs which take agreement morphology directly (Classes 1 and 2) as well as those which require an auxiliary (Class 3).

- (78)a. *áì kí ègì* (Class 3 unergative)  
 áì kí è -g -i -L  
 1SG leave AUX -1SG**A** -AFR -IMPRF  
 ‘I will leave.’

- b. *áì kíjì éjìgì* (Class 3 unaccusative)  
 áì kiji e- i -ɾ -i -L  
 1SG tremble 1SG**P**- AUX -3.**A** -AFR -IMPRF  
 ‘I will tremble.’

## 2.2 Nominative-Accusative word order

- Diagnosing position with progressive *je*
  - In transitive clauses, the unmarked position of A is to the left of *je* with P to the right of *je*

- (79)a. Hassan je kodi se-ɾ-ì  
 Hasan PROG chicken 3.**A**-AFR.IMPRF  
 ‘Hassan is eating chicken.’
- b. %Hassan kodi je se-ɾ-ì  
 Hassan chicken PROG eat-3.**A**-AFR.IMPRF

- Unergative and unaccusative subjects pattern identically; the subject prefers to be to the left of *je*, just like the A argument.

- (80)a. Hassan je Ø-kede-ɾ-ì  
 Hassan PROG 3P-fall-3.A-AFR.IMPRF  
 ‘Hassan is falling’  
 b. \*Je Hassan Ø-kede-ɾ-ì  
 PROG Hassan 3P-fall-3.A-AFR.IMPRF  
 (For, ‘Hassan is falling’)

### 2.3 Ergative-Absolutive case marking and extraction restrictions

- When both arguments of a transitive clause are present, case marking is typically omitted. However, sole arguments of a transitive clause can only be interpreted as S or P unless explicitly marked with by the ergative case marker =*gu*.

- (81)a. *bágúógó kúgúrí*  
 bágú=ogo Ø- ku- gú -ɾ -i -H  
 woman=3SG.GEN 3.P- 3.A.PRF- call -3.A -AFR -PRF  
 ‘He called his wife.’  
 b. *bágúógógú kúgúrí*  
 bágú=ogo=**gu** Ø- ku- gú -ɾ -i -H  
 woman=3SG.GEN=ERG 3.P- 3.A.PRF- call -3.A -AFR -PRF  
 ‘His wife called him.’ (Jakobi 2006)

- Case marking is also used to indicate the transitivity of ambitransitive clauses:

- (82)a. *ái=gu sé-g-í*  
 1SG=ERG eat-1sg.A-AFR:PRF  
 ‘I ate (it)’ (J&C:151)  
 b. *ái=di sé-g-í*  
 1SG=ABS eat-1sg.A-AFR:PRF  
 ‘I ate’

- Crucially, both unaccusative and unergative subjects are marked absolutive. Neither may be marked ergative.

- (83) *áì dì kí è -g -i -L*  
 1SG=ABS leave AUX -1SGA -AFR -IMPRF  
 ‘I will leave.’ (Jakobi 2006)

(84) *áì dì égédéí*  
 áì=dì e- gédé -∅ -i -H  
 1SG=ABS 1SG.**P**- fall -3**A** -AFR -IMPRF  
 ‘I fell.’ (Jakobi 2006)

(85) *sùltán dì níí*  
 sùltán=dì ∅- ní -∅ -i =H  
 sultan=ABS 3**P**- die -3**A** -AFR -PRF  
 ‘The sultan died.’ (Jakobi 2006)

- As in many languages, questions in Zaghawa are formed as clefts, with the third person singular copula =*i*.

(86) *núrá í séní*  
 núrá=í ∅-sén-i-H  
 what=COP.3SG 3**P**-eat-2SG**A**-AFR-PRF  
 ‘What did you eat?’ (Lit. ‘What is it that you ate?’)

(87) *nánà í kágáí*  
 nánà=í ka-gà-∅-i-H  
 who.PL=COP.3SG APPL-come-3**A**-AFR-PRF  
 ‘Who (pl.) came?’ (Lit. ‘Who was it who came?’)

- As in Malayalam, there is also an in-situ strategy for forming content questions

(88) *Malayalam*  
 aare aaNē [niṇṇ-e talli-yate] *Malayalam*  
 who COP you-ACC hit(PST)-NMLZR  
 ‘Who is it that hit you?’  
 a. niṇṇ-e aare talli?  
 you-ACC who(NOM) hit(PST)  
 ‘Who hit you?’  
 b. \*aare niṇṇ-e talli?  
 who(NOM) you-ACC hit(PST)

- In Zaghawa, the choice is deterministic. Only the in-situ strategy is possible for ergatives.

(89) *náà=gu ∅-k-í-i-H*  
 who=ERG 3**P**-3**A**.PRF-say-AFR-PRF  
 ‘Who said that?’ (J&C:151)



- Scrambling of ergatives is allowed, but clefting is not.

(90) ai=gu na n-ai-g-i-*H*  
 1SG=ERG 2SG 2SG $\mathbf{P}$ -see-1SG $\mathbf{A}$ -AFR-PRF  
 ‘I’m the one who saw you.’

(91) \*naa=i n-ai-g-i-*H*  
 1SG=COP 2SG $\mathbf{P}$ -see-1SG $\mathbf{A}$ -AFR-PRF  
 (For, ‘Who saw you?’)

- The so-called converb paradigm appears in a variety non-finite environments. Crucially, it always appears with person inflection – there are no verbs uninflected for person. This is precisely what we expect from low agreement.

(92) na-bù-g-e-*L* kéí-g-i-*H*  
 2SG $\mathbf{P}$ -tell-1SG $\mathbf{A}$ -CVB-IMPRF go-1SG $\mathbf{A}$ -AFR-PRF  
 ‘I went to tell you’

### 3 Some conclusions

#### 3.1 Methodology

- There are millions of universal challenging patterns waiting to be discovered, many of which are undoubtedly lurking in understudied and isolated families.
- Let the universals guide us to interesting research questions without predetermining our analysis
- In the cases reviewed above, probing led to the discovery that the “aberrant” order had some aberrations of its own; it differed in several respects from canonical systems beyond ordering

#### 3.2 Theory

- Nominalization has been profitably analyzed as taking place at various heights along the clausal spine (see Whitman & Yanagida 2009 for a recent example)
- Analyzing agreement in the same fashion appeared to explain many of the complexities of the Garifuna agreement systems.
- It also suggests an elegant treatment of ACTIVE, ERGATIVE and NOM-ACC morphological patterns by translating the strong points of Kiparsky’s case theory into geometric terms.
- The upshot of this is that active agreement can be explained as a generally low phenomenon which is available in embedded clauses.