

The Morphosyntax of Upward Agreement and Downward Agreement

Introduction, Part V: Closest Conjunct Agreement, Summary

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Phenomenon

- **Languages:** Arabic, Dutch/German Dialects, Limbum, Lubukusu, ...
- **Phenomenon:** Complementizer agrees with a nominal argument, mostly the subject

- (1) a. (I frog' me) ob-sd ned du des mocha kansd
I ask myself whether-2sg not you this make could-2sg
'I ask myself whether you could not make it.' (Bavarian)
- b. yì kwà'cí yì-nɛ mámá bívù
2pl think 2pl-comp grandmother fut1 come
'You think that the grandmother will come.' (Limbum)

- **Direction** seems to depend on the language: Grassfields Bantu: upward agreement; Germanic: downward agreement
- **Note:** In any case, the phenomenon seems to involve (language-dependent?) locality restrictions

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Analysis for Germanic languages (Haegeman and Koppen (2012)):

- There are separate ϕ -features on T and C that may but not must have the same goal.

- (2) a. $[_{CP} C^0_{[u\phi]} [_{TP} DP_{1[\phi]} T^0_{[u\phi]} t_1 \dots]$
b. $[_{CP} C^0_{[u\phi]} [_{\alpha P} DP_{2[\phi]} \alpha^0 [_{FocP} Adv Foc^0 [_{TP} DP_{1[\phi]} T^0_{[u\phi]} t_1 \dots]]]$

Analysis for Grassfields Bantu languages (Nformi (2017)):

- C has its own ϕ -features, but agrees upward with the closest nominative DP as long as no other DP defectively intervenes

- (3) $[_{TP} D_{[nom,\phi]} \dots [_{CP} C^0_{[u\phi]} \dots]$

(Possible) Incompatibility of the two types of CA

- In Bantu, the agreement paradigm for complementizers is full, whereas in Germanic languages, many paradigm cells are empty
- In Bantu, the form of the agreement markers resemble the form of pronouns, whereas in Germanic languages, the form is more similar to verbal agreement markers

- 1 Summary of Part IV
 - Complementizer Agreement
 - SVA Breton vs. Kinande

- **Phenomenon:** SVA depends on overtness of subject, word order and the presence of functional verbal material (auxiliary 'have', negation 'not')

- (4)
- a. Ar vugale a lenn/*lennont levrioù.
the children PART read/*read.3PL books
'The children read books.'
 - b. Levrioù a lennont.
books PART read.3PL
'They read books.'
 - c. Ar vugale ne lennont/*lenn ket levrioù.
the children PART read.3PL/*read not books
'The children do not read books.'

- **Direction** seems to depend on the presence of elements that do not show agreement

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Assumptions:

- In VS structures, the verb moves to T and the subject stays in situ; in SV structures, the verb and the subject move to the TP domain (just as in Arabic).
- The ϕ -probe in T can only Agree with a covert element in the vP (Agreement Filter).
- In negative clauses, preverbal subjects can Agree with T because they move to Spec-CP.

(5) **no Agree with overt subject**

[_{CP} C [_{TP} T_[u ϕ]+V [_{vP} DP_[i ϕ] t_V]]]

(\hookrightarrow violates Agreement Filter)

[_{CP} C [_{TP} T+V [_{vP} DP_[i ϕ] t_V]]]

(\hookrightarrow does not violate Agreement Filter)

(6) **Agree with covert subject**

[_{CP} C [_{TP} T_[uφ]+V [_{vP} pro_[iφ] t_V]]]

(↔ does not violate Agreement Filter)

(7) **Agree with preverbal subject in negative clauses**

[_{TP} T_[neg,uφ]+V [_{vP} DP_[iφ] t_V]]

[_{CP} DP_[iφ] [_{TP} T_[neg,uφ]+V [_{vP} t_{DP} t_V]]]

(↔ does not violate Agreement Filter)

(8) **no Agree with postverbal subject in negative clauses**

[_{CP} C [_{TP} T_[neg,uφ]+V [_{vP} DP_[iφ] t_V]]]

(↔ violates Agreement Filter)

The more you add, the easier it is to Agree

- The problem with the account in Stump (1984) is that is hardly compatible with a minimalist framework using Agree to derive agreement.
- It seems that the data are full compatible with an account based on Downward Agree.
- The complementarity principle can be derived by assuming that overt subjects stay low not being an accessible goal for Agree, while covert subjects are higher.
- The effects of negation and auxiliaries are derived by assuming that these elements provide accessible goal positions even for overt subjects.

- **Phenomenon:** SVA depends on clause structure and type of subject (NP vs. pronoun)

- (9)
- a. émbugá l' ólúhi
9problem 11COP 11war
'The problem is the WAR.'
- b. oluhi lo mbuga
11war 11COP.FOC 9problem
'The WAR is the problem.'
- c. eprobleme ni ingye
AUG.9problem is I
'The problem is me.'

- **Direction** might be fixed (depending on how the clause structure looks like)

- **Phenomenon:** SVA depends on clause structure and type of subject (NP vs. pronoun)

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- **Direction** might be fixed (depending on how the clause structure looks like)

Assumptions:

- Inverse Specificational Clauses (9-a) are derived from Reversed Specificational Clauses (9-b)
- Upward Agree is only an option if Downward Agree is not possible.
- Agree happens quite late after the clause structure is set.
- Pronouns cannot be the goal of Downward Agree.

(10) a. (9-b):

[TP ... [FP DP_[iφ] Cop_[uφ] Pred]]

b. (9-a):

[TP ... [TopP Pred Cop_[uφ]+Top [FP DP_[iφ] t_{Cop} t_{Pred}]]]

c. (9-c):

[TP ... [TopP Pred Cop_[uφ]+Top [FP pro_[(iφ)] t_{Cop} t_{Pred}]]]

2 Partial Agreement with Conjunctions

- Another Agreement Asymmetry
- More patterns
- Is this even a matter of syntactic Agree?

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Word order effects on conjunction agreement I

In Arabic languages, VS is prone to first conjunct agreement (FCA); SV order only allows resolved (summative) agreement (Aoun et al. 1994:207f., Munn 1999:650).

- (11) a. **Mša** [ʔumar w ʔali].
left.3SG.MASC Omar and Ali
'Omar and Ali left.'
- b. **Mšaw** [ʔumar w ʔali].
left.3PL Omar and Ali
'Omar and Ali left.'
- c. [ʔumar w ʔali] **mšaw**.
Omar and Ali left.3PL
'Omar and Ali left.'
- d. * [ʔumar w ʔali] **mša**.
Omar and Ali left.3SG.MASC
'Omar and Ali left.'

(Moroccan Ar.)

Word order effects on conjunction agreement II

- (12) a. **Raaḥ** [Kariim w Marwaan].
left.3SG.MASC Kareem and Marwaan
'Kareem and Marwaan left.'
- b. **Raaḥo** [ʕomar w ʕali].
left.PL Omar and Ali
'Omar and Ali left.'
- c. **Keeno** [Kariim w Marwaan] ʕam **yilʕabo**.
were Kareem and Marwaan ASP playing.PL
'Kareem and Marwaan were playing.'
- d. **Keen** [Kariim w Marwaan] ʕam **yilʕabo**.
was Kareem and Marwaan ASP playing.PL
'Kareem and Marwaan were playing.' (Lebanese Ar.)

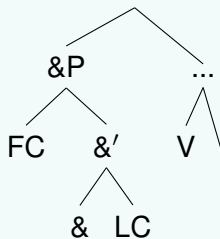
Word order effects on conjunction agreement III

- (13) a. **Qaraʔa** [ʔumar wa ʔaliyaaʔ] l-qišša.
read.3SG.MASC Omar and Alia the-story
'Omar and Alia read the story.'
- b. **Qaraʔat** [ʔaliyaa wa ʔumar] l-qišša.
read.3SG.FEM Alia and Omar the-story
'Alia and Omar read the story.' (Standard Ar.)

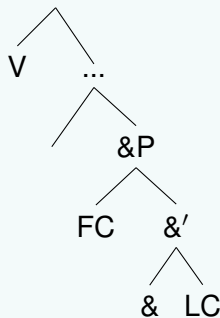
A possible solution

Under VS, the verb c-commands both the conjunction and the first conjunct. Under SV, the verb, there is no c-command between the verb and the first conjunct.

(14) a.



b.



Clausal vs. non-clausal conjunction I

Aoun et al. (1994) suggest that FCA is due to clausal conjunction + ATB-movement

- (15) a. [V_{sg} [t_v Kariim ... t_i ...] w [t_v Mərwaan ... t_i ...] XP_i]
b. [[Kariim w Mərwaan] V_{pl} XP_i]

Clausal vs. non-clausal conjunction II

The argument for this is that items like *both*, *together* can only occur with plural verbs.

(16) *Lebanese Arabic* (Aoun et al. 1994:211)

- a. kariim w marwaan **raaħo sawa**
Kareem and Marwaan left.PL together
- b. ***raaħ** kariim w marwaan **sawa**
left.M.SG Kareem and Marwaan together
- c. **raaħo** kariim w marwaan **sawa**
left.PL Kareem and Marwaan together

Clausal vs. non-clausal conjunction III

However, Munn (1999) shows that the use of *together* is syntactically conditioned.

- (17) a. *el-jamaʕa **raaħet** **sawa**
the-group left.F.SG together
- b. el-rijal **raaħo** **sawa**
the-men left.M.PL together

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Different agreement strategies I

In Bosnian-Croatian-Montenegrin-Serbian (BCMS), there are three possibilities, for gender agreement (Bošković (2009), Willer-Gold et al. (2016), Murphy and Puškar (2018); similar observations hold for Slovenian, see Marušič et al. (2015)):

- **resolved** agreement (default masculine)
- **closest** conjunct agreement (last conjunct for preverbal subjects; first conjunct for postverbal subjects)
- **highest** conjunct agreement

- (18) a. [_{&P} Okolnosti i vremena] su
circumstance.FEM.PL and time.NEUTR.PL are
bili **teški** za sve stanovnike.
be.PRT.MASC.PL difficult.MASC.PL for all inhabitants
'The circumstances and times were hard for all the
inhabitants.'

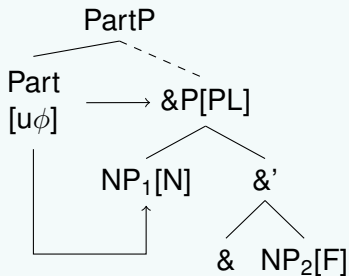
Different agreement strategies II

- b. [&P Sva odela i sve **haljine**] su
all suit.NEUTR.PL and all dress.FEM.PL are
juče **prodate**.
yesterday sell.PRT.FEM.PL
'All suits and all dresses were sold yesterday.'
- c. Na stolu su **stajala** [&P **pisma** i
on desk are stand.PRT.NEUTR.PL letter.NEUTR.PL and
koverte]
envelope.FEM.PL
'Letters and envelopes were lying on the desk.'
- d. [&P **koverte** i pisma] su
envelope.FEM.PL and letter.NEUTR.PL are
stajale na stolu
stand.PRT.FEM.PL on desk
'Envelopes and letters were lying on the desk.'

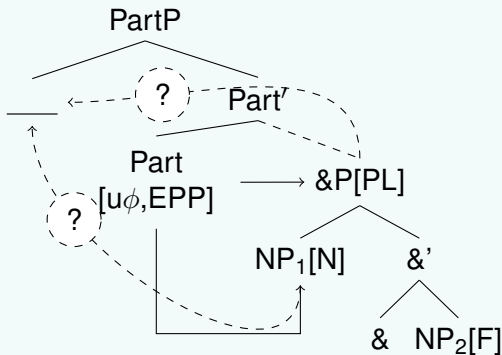
FCA and LCA is Downward Agree I

Bošković (2009) (see Murphy and Puškar (2018)): When two goals quarrel, a third rejoices.

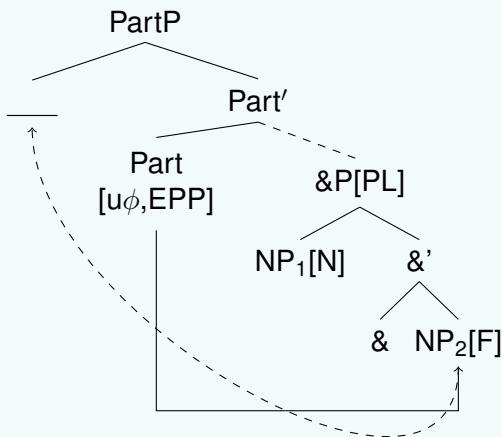
(19) a. **First Conjunct Agreement**



b. Last Conjunct Agreement



c. Last Conjunct Agreement



FCA is Upward Agree, LCA is Downward Agree I

Murphy and Puškar (2018):

- Three operations: Merge, Upward Agree, Downward Agree
- Operations can apply in different orders,
- Agree can fail

(20) **Resolved Agreement:** Merge \prec DA, UA

a. **Merge**

[&P NP₁[fem] &[UGEN:___] NP₂[neutr]]

b. **DA + UA**

[&P NP₁[fem] &[UGEN:fem,neutr] NP₂[neutr]]

c. **Resolution due to Feature Clash**

[&P NP₁[fem] &[UGEN:masc] NP₂[neutr]]

(21) **CCA:** UA/DA \prec Merge \prec DA/UA

a. **UA/DA**

$\&_{[UGEN: ___]}$

b. **Merge**

$[\&P \ NP_1[fem] \ \&_{[UGEN: ___]} \ NP_2[neutr]]$

c. **DA/UA**

$[\&P \ NP_1[fem] \ \&_{[UGEN: neutr/fem]} \ NP_2[neutr]]$

(22) **HCA:** UA/DA \prec DA/UA \prec Merge

a. **UA/DA**

&[UGEN:___]

b. **DA/UA**

&[UGEN:___]

c. **Merge**

[&P NP₁[fem] &[UGEN:___] NP₂[neutr]]

d. **No gender on &P, Part has to agree with FC**

Part_[UGEN:fem] ... [&P NP₁[fem] &[UGEN:___] NP₂[neutr]]

A morphological solution with Downward Agree

Marušič et al. (2015):

RA, CCA, and HCA are due to different grammars and the timing of Agree. Part builds (downward) Agree-Links with the conjunction (and the conjunct).

(23) a. **RA = No-Peeking grammar**

Part_[UGEN:masc] ... [&P[GEN:___] NP_{1[fem]} &[UGEN:___] NP_{2[neutr]}]

b. **HCA = Agree-Copy from FC before Linearization**

(i) [Part_[UGEN:fem] ... [... [&P[GEN:___] NP_{1[fem]} &[UGEN:___]
NP_{2[neutr]}] ...]]

(ii) [[&P[GEN:___] NP_{1[fem]} &[UGEN:___] NP_{2[neutr]}] ... [...
Part_[UGEN:fem] ...]]

c. **CCA = Agree-Copy from CC after Linearization**

(i) Part_[UGEN:fem] ... [&P[GEN:___] NP_{1[fem]} &[UGEN:___]
NP_{2[neutr]}]

(ii) [&P[GEN:___] NP_{1[fem]} &[UGEN:___] NP_{2[neutr]}] ...
Part_[UGEN:neutr]

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A processing issue? I

In German, CCA with disjoined subjects is marginally better under VS than under SV Himmelreich and Hartmann (2021).

- (24) a. Gestern **hast** [**du** oder dein Bruder] den
yesterday have.2SG you or your brother the
Fernseher kaputt gemacht.
TV broke made
- b. Gestern **hat** [**dein Bruder** oder du] den
yesterday have.3SG your brother or you the
Fernseher kaputt gemacht.
TV broke made

A processing issue? II

- (25) a. ??[*Du oder dein Bruder*] **hat** gestern den
you or your brother have.3SG yesterday the
Fernseher kaputt gemacht.
TV broke made
- b. ??[*Dein Bruder oder du*] **hast** gestern den
your brother or you have.2SG yesterday the
Fernseher kaputt gemacht.
TV broke made

A processing issue? III

An acceptability judgment study (online survey hosted on L-Rex <https://www.l-rex.de/>, 69 participants, Likert scale 1-4) showed the following:

A processing issue? IV

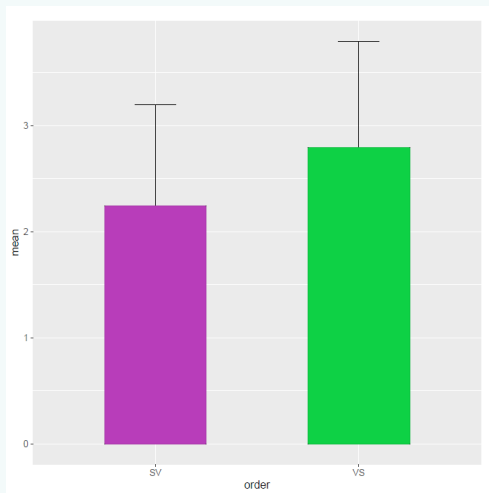


Figure 1: Results of experiment on word order effects

A processing issue? V

The difference was significant (one-factorial ANOVA, $F = 34.62, p < 0.001$).

A processing issue? VI

This is weird for German as a V2 language because we know that

- Agree applies in the derivation before the final word order is fixed.
- the decision which element occurs in the prefield (adverb or subject) is the last \bar{A} -movement step in the syntactic derivation.

A processing issue? VII

The difference might be a garden-path-like effect and not acutally part of grammar (but see Bruening and Al Khalaf 2020 for a framework that incorporates such effects into grammar):

- **SV-order:** The disjoined subject is processed before the verb. The agreement is resolved.
- **VS-order:** The disjoined subject is processed after the verb. At the point where the first disjunct is processed, the verb form matches the first disjunct. This matching is perceived as grammatical. Once the second disjunct is processed, resolved agreement becomes possible, but the speaker has already processed the verb together with the first disjunct.

Thus, the effect of CCA can be called a grammatical illusion (Haider (2011)).

Broader typological view I

Himmelreich et al. (2021) conduct a large-scale elicitation to check for agreement with conjoined and disjoined subjects in the world's languages and created a database (27 languages, 7 language families, 154 entries, <http://www.multivaluation.de/database.php>).

(26) **7 agreement strategies:**

Resolved Agreement	73.33%
Closest Conjunct Agreement	9.33%
Resolved Agreement/Closest Conjunct Agreement	7.33%
Resolved Agreement/Ineffability	4.67%
Resolved Agreement/Default Agreement	2.00%
Default Agreement	1.33%
Ineffability	1.33%

Effects of word order

- It is noticeable that resolved agreement has a much higher frequency under SV-order than under VS-order.
- Closest conjunct agreement is much more prevalent under VS-order.
- A Fisher's exact test revealed that word order is a significant factor for the choice of the agreement strategy ($p < 0.001$).

(27)

	SV	VS
Resolved Agreement	86.11%	41.46%
Closest Conjunct Agreement	1.85%	29.27%

Conclusion?

Independent of a specific language grammar, there seems to be a word order effect on agreement with coordinations. Is this part of (universal) grammar?

Broader typological view IV

Want to help out with the database? We are grateful for your input and have created questionnaires for many languages:

<http://www.multivaluation.de/questionnaire.php>

3 Summary

The development of Agree

We have seen that the definition of syntactic Agree has changed quite a bit since Chomsky (2000):

- 1 Simple Downward Agree (Chomsky (2000))
- 2 Dissociation of Probing and Valuation (Pesetsky (2007))
- 3 Allowing Upward Agree (Baker (2008), Zeijlstra (2012), Bjorkman and Zeijlstra (2019))
- 4 Not all of Agree is syntactic (Arregi and Nevins (2012))

Empirical evidence?

- In general, the case studies have shown that manipulating the direction of Agree in one or the other way does not necessarily help derive the data.
- Have we seen a case where asymmetries could only be derived by explicitly disallowing one direction of Agree?
- What are cases where the direction of Agree has to be explicitly mentioned?

With the right kind of definition, any approach to the direction of Agree seems to be able to account for any data.

Conceptual evidence?

- Upward Agree is not necessarily more complex than Downward Agree, neither is bidirectional Agree.
- Still, Downward Agree might be conceptually preferred, in a framework that is based on bottom-up derivations and Earliness.

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