On the impossibility of furthest conjunct agreement:

Evidence from Arabic

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Abstract

Recent work has revealed that conjunct agreement is affected by linear order: it is the conjunct closest to the agreeing element that values the agreement features of that element. More recently, however, researchers have introduced a new form of agreement that challenges this generalization, namely highest conjunct agreement in preverbal position, where agreement occurs with the furthest conjunct. In this squib, I present an apparently similar form of agreement from Modern Standard Arabic and argue that this form of agreement is not conjunct agreement; it is rather agreement with a comitative. If this conclusion is on the right track, it calls for further investigation of furthest conjunct agreement in the other languages, given that, as reported in the literature, furthest conjunct agreement is less preferred than the other agreement options and given that it is not attested in the nominal domain although closest conjunct agreement is. If furthest conjunct agreement turns out to be not real, this provides support for the generalization that conjunct agreement is strictly a linear phenomenon, lending support to the view that linear order can be computed in the narrow syntax instead of solely being a part of the post-syntactic component.

Keywords: coordination, conjunct agreement, furthest conjunct agreement, comitatives, linear order, Modern Standard Arabic
1 Background

Agreement with conjoined elements has received special attention in the last two decades (e.g., Aoun et al., 1994, 1999; Munn, 1999; Dalrymple and Kaplan, 2000; Citko, 2004, 2018; Corbett, 2006; Soltan, 2006; van Koppen, 2007; Marušić et al., 2007, 2015; Benmamoun et al., 2009; Bošković, 2009; Demonte and Pérez-Jiménez, 2012; É. Kiss, 2012; Bhatt and Walkow, 2013; Larsson, 2013; Al Khalaf, 2015, 2017; Aljović and Begović, 2016; Čordalija et al., 2016; Palmović and Willer-Gold, 2016; Murphy and Puškar, 2018; Arsenijević et al., 2019; Mitić and Arsenijević, 2019). The most recent view on agreement with coordination is that – in addition to resolved agreement (i.e., agreement with the entire coordinate phrase via language-specific resolution rules) – agreement with coordination is affected by the linear proximity between the conjunct valuing the agreement and the agreeing element; that is, it is the conjunct closest to the agreeing element that values the agreement features of that element (e.g., Marušić et al., 2007, 2015; Benmamoun et al., 2009; Bošković, 2009; Bhatt and Walkow, 2013; Al Khalaf, 2015, 2017; Nevins and Weisser, 2019). The best example of the role of linear proximity in conjunct agreement is seen in the cases in which the coordinate phrase is sandwiched between two agreeing elements, as shown by Bhatt and Walkow (2013) for Hindi-Urdu:

(1) **Hindi-Urdu** (Bhatt and Walkow, 2013, 962, (16a))

Rina-ne gaa-yii ek ghazal aur ek nazam thii.
Rina-ERG sing-PFV.F a ghazal.F and a nazam.F be.PST.F.SG

‘Rina has sung a ghazal and a nazam.’

In this example, the coordinate phrase appears between two agreeing elements and first- and last conjunct agreement operations apply simultaneously. These linear effects have formed the basis of heated debates on deeper issues in the syntactic theory, such as where agreement is located in the grammar (e.g., Bhatt and Walkow, 2013), whether the narrow syntax makes reference to linear relations as well as hierarchical relations (e.g., Murphy and Puškar, 2018), and – if it does – how this reference can be syntactically derived without overgenerating.

This squib contributes to the growing body of research on conjunct agreement by considering a recently introduced type of conjunct agreement, namely preverbal highest conjunct agreement.
(henceforth, HCA; e.g., Marušić et al. 2007, 2015; Čordalija et al. 2016; Palmović and Willer-Gold 2016), as in (2) from Slovenian.

(2) **Slovenian** (Marušić et al., 2015, 40, (2a); adapted)

    Radirke in peresa so se prodajal-e najbolje.

    erasers.F.PL and pens.N.PL AUXPL REFL sold-F.PL the best

    ‘Erasers and pens sold the best.’

As seen in the example above, HCA occurs when the initial conjunct values the agreement in preverbal position. Thus, the agreement is with the furthest conjunct rather than the closest. This fact is puzzling to analyses that take conjunct agreement to strictly be a linear phenomenon.

I investigate here an apparently similar form of conjunct agreement from Modern Standard Arabic (MSA) and argue that this form of agreement in fact is not a genuine type of conjunct agreement (Section 2). It is rather agreement with the first nominal in a comitative construction (where the same lexical item is ambiguous between a coordinator and comitative marker). I will discuss some consequences and conclusions that follow from this fact (Section 3).

### 2 Apparent HCA in MSA is agreement with a comitative

The literature has identified two forms of agreement with coordination in MSA: first conjunct agreement and resolved agreement (e.g., Aoun et al., 1994, 1999; Munn, 1999; Soltan, 2006; Larson, 2013; Al Khalaf 2015, 2017), as exemplified below:

(3) a. (Al Khalaf 2017, 2, (1a); modified)

    Sa-taktubu al-mudiiraat-u wa musaaq'iduu=hunna taqriir-an.

    FUT-write.3F.SG the-manager.3F.PL=NOM and assistant.M.PL=3F.PL report-ACC

    ‘The managers (feminine) and their assistants will write a report.’

b. (Al Khalaf 2019, 6, (18))

    ?ali-un wa Salim-un wa Sa'iid-un daxal-u al-maqha kull-u=hum.

    Ali-NOM and Salim-NOM and Said-NOM enter-3M.PL=3M.PL the-café all-NOM=3M.PL

    ‘Ali, Salim, and Said all entered the café.’

As can be seen, when the coordinate phrase appears postverbally, the initial conjunct values the agreement features of the verb, whereas when it appears preverbally, the entire coordinate phrase
values the agreement features according to language-specific resolution rules (e.g., [Corbett, 2006]). The last conjunct does not value the agreement features in MSA, even if it is the conjunct closest to the agreeing element:

(4) Salma wa Rami sa-yusafir-aani/*-u ?ila al-yamani. 
Salma.F and Rami.M FUT-travel.1PFV-3DU/*-3M.SG to the-Yemen
‘Salma and Rami will travel to Yemen.’

A third option, one that has not been documented before as far as I know, is when the initial conjunct within a preverbal coordinate phrase (i.e., the highest conjunct) appears to value the agreement features of the verb:

(5) a. Al-malik-u wa-l-wafd-a al-muraafiq-a hadar-a
the-king-NOM and-the-delegation-ACC attend-3M.SG
the-conference-ACC the-press-ACC
‘The king along with the accompanying delegation attended the press conference.’

b. Al-malikat-u wa mustashaarii=ha saafara-t ?ila al-hind-i.
the-queen-NOM and consultants.ACC=3F.SG travel-3F.SG to the-India-GEN
‘The queen along with her consultants traveled to India.’

I will show below that the HCA in these cases is apparent and the agreement seen is no more than agreement with the initial nominal in a comitative construction.

The first observation about the constructions exhibiting HCA is that HCA is blocked when the nominals match in case and is only possible if the nominal following wa has ACCUSATIVE case.

(6) a. Ar-rajul-u wa zawjat-u=hu d3aa?-aa/*-a ?ila al-hafl-i.
the-man-NOM and wife-NOM=3M.SG came-3M.DU/*-3M.SG to the-party-GEN
‘The man and his wife came to the party.’

b. Ar-rajul-u wa zawjat-a=hu d3aa?-aa/-a ?ila al-hafl-i.
the-man-NOM and wife-ACC=3M.SG came*-3M.DU/-3M.SG to the-party-GEN
‘The man along with his wife came to the party.’

One might argue that the case mismatch as in (6b) indicates that the construction under question does not involve coordination, since generally coordination is subject to a parallelism constraint, which requires that the conjuncts be of the same semantic (e.g., [Munn, 1993] [Fox, 2000]) and morphological (e.g., [Al Khalaf, 2015]) form. However, there is empirical evidence that challenges
this generalization. For instance, English allows conjuncts to mismatch in case (e.g., Johannessen, 1998; Progovac, 1998), as in (7).

(7) Progovac (1998, 5, (56)-(57))
   a. ? Him, her and I all left.
   b. Robin saw he, she and me.

Thus, one cannot simply deny that constructions like (6b) are not coordinates based on the case mismatch between the conjuncts. However, other facts suggest that these constructions do not involve coordination and that they pattern more like comitatives. The facts come from differences between coordinate constructions and comitative constructions discussed in the literature (e.g., McNally, 1993; Zhang, 2007; Al Khalaf, 2018).

Before I go through these differences and for concreteness, I assume that in a comitative construction, the initial nominal (the CORE NOMINAL, following Arkhipov, 2009) is hierarchically higher than the nominal following the comitative marker (the COMITATIVE NOMINAL) and is the head of the comitative construction; thus, any agreement operations targeting the comitative construction will occur with the core nominal, being the head of the projection. I put aside comitative constructions in which the comitative nominal is a VP adjunct and does not form a constituent with the core nominal (see for instance McNally, 1993; Zhang, 2007, and Al Khalaf, 2018 for discussion).

A number of differences between coordinate phrases and comitative constructions can give insights about the nature of apparent HCA in MSA. I will go through these differences using unambiguous comitative constructions with ma?la ‘with’ and test the predictions on the wa-constructions. It will turn out that a subset of wa-constructions are indeed comitatives, and these are the only ones that exhibit apparent HCA, which indicates that the agreement is not conjunct agreement.

One difference comes from extraction facts. While an initial conjunct cannot be extracted out of a coordinate phrase (8b) – because moving a conjunct is independently banned by the Coordinate Structure Constraint (Ross, 1967), a core nominal within a comitative construction can be freely moved outside the comitative construction (9b):

(8) a. Qaabal-a al-mudiir-u al-mudarrisina wa-t1-t1ullaab-a. met-3M.SG the-principal-NOM the-teachers.ACC and-the-students-ACC ‘The principal met the teachers and the students.’
b. *Mann qaabal-a al-mudiir-u wa-t⁵-t'ullaab-a?
who met-3.M.SG the-principal=NOM and-the-students-ACC
(Lit.: ‘*Who did the principal meet and the students?’)

(9) a. Jamaʔ-a al-mumarid⁶-u kull-a um-in maʔa
gathered-3.M.SG the-nurse.M-NOM every-ACC mother-GEN with
ibnat-i=ha fi yurfa-tin waahida-tin.
daughter-GEN=3.F.SG in room-GEN one-GEN
‘The nurse gathered every mother with her daughter in the same room.’

b. Mann jamaʔ-a=ha al-mumarid⁶-u maʔa ibnat-i=ha fi
yurfa-tin waahida-tin?
room-GEN one-GEN
‘Who did the (male) nurse gather with her daughter in the same room?’

The fact that apparent HCA in wa-constructions is possible only when the initial nominal is movable and impossible when it is immovable suggests that the agreement seen is not conjunct agreement, as shown below (here the coordinate phrase appears between two verbs. My concern is the verb following the coordinate phrase. The verb preceding the phrase shows first conjunct agreement):

(10) a. Badaʔ?-at al-marʔat-u wa zawd⁵-u=ha
started-3.F.SG the-woman-NOM and husband-NOM=3.F.SG
yazraʔuuna/tazraʔ-u al-azhaar-a.
plant.IPfv.3.M.PL/plant.IPfv.3.F.SG the-flowers-ACC
‘The woman and her husband started to plant flowers.’

b. *Mann Badaʔ?-at wa zawd⁵-u=ha yazraʔuuna/tazraʔ-u
al-azhaar-a?
the-flowers-ACC
(Lit.: ‘*Who began and her husband to plant flowers?’)

(11) a. Badaʔ?-at al-marʔat-u wa zawd⁵-a=ha
started-3.F.SG the-woman-NOM and husband-ACC=3.F.SG
*yazraʔuuna/tazraʔ-u al-azhaar-a.
*plant.IPfv.3.M.PL/plant.IPfv.3.F.SG the-flowers-ACC
‘The woman along with her husband started to plant flowers.’

b. Mann Badaʔ?-at wa zawd⁵-a=ha *yazraʔuuna/tazraʔ-u
al-azhaar-a?
the-flowers-ACC
‘Who began to plant flowers with her husband?’

Another difference between a comitative construction and a coordinate phrase is that in a comitative construction, the core nominal and the comitative nominal can be separated by linguistic material, while in a coordinate phrase the conjuncts cannot:


(13) a. Intaqal-a ʕumar-u wa Fatʕimat-u ʔila madiinat-in dʒàdiidat-in. moved-3M.SG Omar-NOM and Fatima-NOM to city-GEN new-GEN ‘Omar and Fatima moved to a new city.’

b. *Intaqal-a ʕumar-u ʔila madiinat-in dʒàdiidat-in wa Fatʕimat-u. moved-3M.SG Omar-NOM to city-GEN new-GEN and Fatima-NOM (Lit.: ‘*Omar moved to a new city and Fatima.’

The prediction is that if apparent HCA occurs even when the coordinate structure is disrupted, then the construction under question cannot be a coordinate construction, and, as a result, the agreement seen cannot be analyzed as conjunct agreement. This prediction is borne out. HCA occurs even when an adverb like yesterday occurs between the initial conjunct and the rest of the construction:

(14) Badaʔ-at Hind-u al-barihata wa awlaad-a=ha tu-rattibu began-3F.SG Hind-NOM the-yesterday and sons-ACC=3F.SG 3F.SG-arrange.IPFV al-ʕilyya-ta. the-attic-ACC ‘Hind together with her sons began arranging the attic yesterday.’

Furthermore, iteration provides an additional syntactic aspect to distinguish coordinate phrases from comitative constructions. More specifically, more than two nominals can be contained in a coordinate phrase, whereas no more than two are allowed in a comitative construction.

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1 A pause between city and and, the sentence becomes grammatical, but in this case the second conjunct would be interpreted as an afterthought. This reading is irrelevant here.

2 But note that in a comitative construction, the comitative nominal itself can be a coordinate phrase. The same
Thus, if apparent HCA occurs in constructions that block iteration, this means that the agreement is not conjunct agreement. The same conclusion can be reached if HCA is not allowed in constructions that allow iteration. These two predictions are indeed borne out, as shown in examples (16b) and (17b).

(16) a. ?axað-at al-mar?a-tu wa awlaad-a=ha
began-3F.SG the-woman-NOM and sons-ACC=3F.SG
*tad3libu/yad3libuuna al-hat?ab-a min al-yaaba-ti.
bring.IPV.3F.SG/*bring.IPV.3M.PL the-wood-ACC from the-forest-GEN
‘The woman along with her sons started to bring wood from the forest.’

b. *?axað-at al-mar?a-tu wa awlaad-a=ha wa d?iiran-a=ha
began-3F.SG the-woman-NOM and sons-ACC=3F.SG and neighbors-ACC=3F.SG
*tad3libu/yad3libuuna al-hat?ab-a min al-yaaba-ti.
bring.IPV.3F.SG/*bring.IPV.3M.PL the-wood-ACC from the-forest-GEN
(Lit.: ‘*The woman along with her sons along with her neighbors started to bring wood from the forest.’)

(17) a. ?axað-at al-mar?a-tu wa awlaad-u=ha
began-3F.SG the-woman-NOM and sons-ACC=3F.SG
*tad3libu/yad3libuuna al-hat?ab-a min al-yaaba-ti.
bring.IPV.3F.SG/*bring.IPV.3M.PL the-wood-ACC from the-forest-GEN
‘The woman and her sons started to bring wood from the forest.’

b. ?axað-at al-mar?a-tu wa awlaad-u=ha wa d?iiran-u=ha
began-3F.SG the-woman-NOM and sons-ACC=3F.SG and neighbors-NOM=3F.SG

applies to the core nominal (1b). This is different from iteration.

(1) a. Sally together with her mom and dad went hiking.

b. Sally and John together with their parents traveled to Thailand.
Thus, the facts from iteration also suggest that apparent HCA is not conjunct agreement and it is simply agreement between a verb and a core nominal in a comitative construction.

Furthermore, semantic differences between comitatives and coordinates can give an insight about the reality of apparent HCA in Arabic. In particular, the nominals in a coordinate phrase must have parallel semantic roles, while the nominals in a comitative do not have to (e.g., Yamada, 2010; Al Khalaf, 2018). This can be seen through the distinction below:

(18) a. Clarence cleaned up the room with his pet.
    b. # Clarence and his pet cleaned up the room.

The oddness of (18b) arises from the fact that in a coordinate construction, the nominals must have matching semantic roles; Clarence and his pet must be analyzed as AGENT. On the other hand, (18a) is acceptable because the nominals do not have to have the same semantic roles. For instance, Gleitman et al. (1996) argue that in a comitative construction, the core nominal has the semantic role FIGURE and the comitative nominal has the semantic role GROUND. Assuming this to be correct, the prediction is that if HCA occurs in constructions in which the nominals do not have the same semantic roles, this suggests that it is not conjunct agreement. Similarly, if HCA is blocked in constructions in which parallel theta roles are enforced, then the agreement is not conjunct agreement. These two predictions are borne out:

    ‘The woman began to clean up the house with her infant.’

    b. #Bada?-at al-mar?a-tu wa rad?ii?-u=ha started-3F.SG the-woman-NOM and infant-NOM=3F.SG
       *tuna?i*/ifu/yuna?i*/ifaani al-manzil-a
       *clean.IPFV.3F.SG/clean.IPFV.3M.DU the-house-ACC
    (Lit.: ‘#The woman and her infant began to clean up the house.’)

Here the fact that sentence (19a) – in which only HCA is available – is semantically acceptable suggests that the construction does not involve coordination. Coordination requires that the nom-
inals have the same semantic roles, which would require ‘the woman’ and ‘her baby’ to have the semantic role AGENT in this case. This clearly would result in the sentence being semantically odd. In the same way, that (19b) is semantically odd indicates that parallelism in semantic roles is enforced, which in turn means that the construction involves coordination. That HCA is blocked here provides evidence that the agreement is not conjunct agreement.

The conclusion I reach then is that highest conjunct agreement in preverbal position (i.e., furthest conjunct agreement) is impossible in MSA. Cases in which it appears that the furthest conjunct values the agreement features of the verb are just cases of comitatives. Below I discuss possible consequences this conclusion might have more generally.

3 Consequences and conclusion

Given that apparent HCA in MSA turned out to be just agreement with a comitative, one might wonder whether this could also be the case in the other languages. The languages of interest here are Bosnian/Croatian/Serbian (BCS) and Slovenian, about which early observations about HCA were made. The recent years have witnessed a rapid increase in the amount of research addressing conjunct agreement in these languages, especially the work that applies experimental methods. The first work that introduced HCA was Marušić et al. (2015) (which also builds on Marušić et al. 2007) in which it is shown that HCA is experimentally attested in Slovenian, as in (2) above. Similar observations were made about BCS by several researchers (e.g., Aljović and Begović 2016; Čordalija et al. 2016; Palmović and Willer-Gold 2016). For example, Čordalija et al. (2016) experimentally show that HCA is available as an agreement strategy in BCS:

(20)  BCS (Čordalija et al., 2016 (82), (7))

Nagrade i priznanja su uru?ene na pozornici.
prizesF and awardsN aux presentedF on stage
‘Prizes and awards were presented on the stage.’

However, there are good reasons why the conclusion arrived at for MSA in this squib is worth testing for BCS and Slovenian, or more accurately, there are reasons why HCA in those languages should be put under more scrutiny.
First, HCA is low in frequency compared to the other agreement options (i.e., resolved agreement and last conjunct agreement). For instance, Marušič et al. (2015) report that last conjunct agreement is more frequent than HCA, based on a series of experiments conducted on Slovenian. Čordalija et al. (2016) also report that speakers of BCS chose HCA 7% of the time over the other agreement options in oral-production and written-production experiments, and gave it a rating of no more than 2 on a scale from 1 to 5 in an acceptability judgment task. Similar observations were also made by Palmović and Willer-Gold (2016) who show via an ERP study that last conjunct agreement is preferred over and – from a processing perspective – less costly than HCA in BCS.

Second, a puzzling fact that also calls for further investigation of HCA is that HCA never occurs in the nominal domain – or at least no research has reported that it does – although closest conjunct agreement does (e.g., closest conjunct agreement in Spanish DPs; Demonte and Pérez-Jiménez 2012). More specifically, no research has reported that when a nominal is modified by a preceding coordinate phrase, the initial modifier can agree with the N (i.e., the highest modifier agrees with N). It would be interesting if HCA were possible in the nominal domain, but, to date, no such fact has been reported. If HCA indeed is conjunct agreement, it would be hard to explain this gap. The explanation offered for apparent HCA in MSA predicts this gap; a comitative parse is simply not available for the nominal domain.

If HCA in the other languages turns out to be apparent and is just not conjunct agreement, as in MSA, this would provide support for the generalization that conjunct agreement is a linear phenomenon (e.g., Benmamoun et al., 2009; Bhatt and Walkow, 2013) not a hierarchical phenomenon (pace Murphy and Puškar 2018). This conclusion might have consequences on deeper issues in the grammar of natural languages. One issue is the location of agreement in the grammar: is agreement valued in the narrow syntax or in the post-syntax? The linear effects of conjunct agreement provide evidence that probably agreement is valued in the narrow syntax and there is no reason to postpone its valuation to the post-syntax (but see also analyses in which the valuation of conjunct agreement is split between the narrow syntax and the post-syntax; e.g., Bhatt and Walkow 2013; Marušič et al. 2015). Another issue the conclusion of the current squib might have a bearing on is whether the narrow syntax makes reference to linear relations as well as hierarchical relations. The standard assumption is that linear order is computed in the post-syntax by an algorithm translating hierarchical relations into linear relations. The linear effects of conjunct agreement also
provide evidence that linear order can be part of the narrow syntax, as is argued by much work (e.g., Phillips 1996, 2003; Bruening 2014; Al Khalaf 2015; Bruening and Al Khalaf 2018, 2019).

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