First Conjunct Agreement is an Illusion: Evidence From Arabic

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Abstract

Much work on conjunct agreement (CA) assumes that it is hierarchical prominence of the first conjunct that makes it more accessible to agreement (Munn, 1999; Soltan, 2007; Larson, 2013). However, Marušič *et al.* (2007), van Koppen (2007), Bhatt and Walkow (2013), among others reveal that CA interacts with linear order; hence, prominence is not a factor. In addition, previous work does not plausibly account for *all* peculiarities of CA in Arabic: (i) CA is an instance of partial agreement that is not specific to coordination,(ii) CA is always singular, (iii) CA is optional in non-standard varieties, and (iv) CA (and partial agreement in VSO in general) is full (all phi features) agreement when the first conjunct is a pronoun. I argue here that CA in Arabic is an illusion; CA (in the sense that a verb agrees with the first conjunct) does not exist in Arabic. My analysis is couched in terms of left to right structure building (Phillips, 1996;2003; Bruening, 2014), and others). A major finding is that true CA occurs only when both the first and the last conjuncts control agreement as in Hindi (Bhatt and Walkow, 2013).

Keywords: Coordination, Conjunct Agreement, little *pro*, Subject- Verb Agreement, Linear Order

1 Introduction

In many languages, the first conjunct may control agreement on an agreement probe, as in Arabic, English, Irish, Hebrew, Polish, Welsh, Slovenian, Hindi, Croatian, among many others.

(1)   There is a man and a woman at the door.

(2)   žiʔ-nna   hunna   wa ʔabaaʕ-u-hunna
       came-3PL.FEM they.FEM and fathers-NOM-their.FEM
       'They (females) and their fathers came.' (MSA; (Soltan, 2006, (18b), adapted))

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This paper focuses on the reality of conjunct agreement (CA) in Arabic. Much work on conjunct agreement in Arabic argues that the prominence of the initial conjunct facilitates its control of agreement (Munn, 1999, Soltan, 2007, Larson, 2013).[1] However, recent literature focusing on cross-linguistic facts reveals that the final as well as the first conjunct may control agreement as well (Marušič *et al.*, 2007, 2015; van Koppen, 2007; Bhatt and Walkow, 2013). In the Hindi example below the final conjunct values the agreement features on the verb.

(3) Ram-ne ek thailii aur ek baksaa uʹthaa-yaa
     Ram-erg a bag.F and a box.M lift-PFV.M.SG
     'Ram lifted a small bag and a box.' (Bhatt and Walkow, 2013, 958, (8a))

The facts indicate that prominence is not a factor for conjunct agreement. Rather, it is linear closeness that determines which conjunct values agreement. In addition to the role of linear proximity, facts from Arabic indicate that the phenomenon might not be a true case of conjunct agreement. Properties of CA in languages which exhibit only FCA like Arabic, Polish, Welsh, Brazilian Portuguese, among others cast doubt on the status of CA in these languages. For instance, CA is not specific to coordination. Plural subjects in VSO word order might induce partial agreement as well:

(4) There is 30 men at the door. (Morgan, 1972, (14), 88)

(5) Gwelodd   y   bachgen/bechgyn ddraig.
     see.PAST.3SG the boy/boys   dragon
     'The boy/boys saw a dragon.' (Welsh; (Borsley, 2009, (5), 227)

The new findings about the role of linear order and the facts about CA in languages like Arabic call for a reconsideration of the way conjunct agreement in these languages is analyzed. I argue that in languages which show only FCA, like Arabic, the partial agreement results from regular subject-verb agreement with a defective null pro (Muhammad, 1990). The surface effect of CA seen is due to the fact that the defective pro values its unvalued features by agreeing with the linearly closest conjunct, the first conjunct. My analysis is couched in terms of left to right syntax (Phillips, 1996; 2003;Bruening, 2014, and others). The paper is organized as follows. Section 2 discusses the role of linear order in conjunct agreement. In section 3, I briefly list puzzling facts about CA in Arabic. Section 4 is the analysis. Section 5 concludes.

2   The Role of Linear Order

Previous work on CA in Arabic derives the phenomenon from the structural prominence of the first conjunct. The first conjunct is hierarchically more prominent and thus it is more accessible to operations like agreement (Aoun *et al.*, 1994; Munn, 1999). More recent proposals by Larson (2013) and Soltan (2007) attempt to derive FCA from the assumption that agreement occurs with the first conjunct before the coordinate complex is fully derived. Thus agreement occurs with the first conjunct at the point it is merged into the derivation and before the rest of coordinate complex is fully merged and labeled.

Larson (2013) argues that FCA if facilitated by Decomposed Merge (Hornstein 2009). Decomposed Merge involves two processes: Concatenate and Late Label. A illustrated in (7), the NP *Omar* hosts *w Karim* via Concatenate. The label of the conjunction is the label of *Omar*, a DP. It should be noted that Larson assumes that the derivation proceeds from bottom to top, so the coordinate complex is merged into the derivation before the verb is merged. At this point, the coordinate has not been labeled yet, *Omar* can independently agree with the verb upon its merger.

(6)   Moroccan Arabic

    žaa   omar w   karim
    came.SG/PL Omar and Karim
    Omar and Karim came. (Larson, 2013, 619, (33); adapted)

(7)   Step 1= left, Step 2 = right
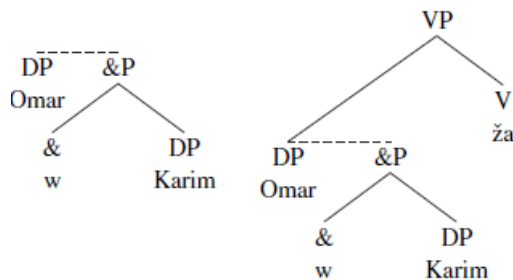
(Larson, 2013, 620, (34)-(35))

Soltan (2007) proposes a similar analysis in which agreement between the conjunction and the agreeing element occurs after the first conjunct is merged and before the rest of the coordinate is derived. In (8), Soltan derives agreement through Agree with *a man* before the late merger of *and two women*. [2]

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(8)   There is a man and two women in the room.

As can be seen, prominence-based accounts of CA fare well with a language like Arabic. However, recent developments in the study of CA show the shortcomings of such analyses. It has been revealed that CA is not just agreement between the initial conjunct and an agreeing element. It turns out the the final conjunct can control agreement as well provided that it is the closer one to the agreeing element. This is the case in Balkan languages such as Slovenian and Croatian, in Germanic languages such as Dutch (van Koppen, 2007) and Bavarian (van Koppen, 2012; Fuß, 2014), and in Hindi-Urdu, an Indo-Aryan language (Benmamoun *et al.*, 2009; Bhatt and Walkow, 2013).

(9)   Croatian (Bošković, 2009, 456 (1a-b))

    a. Juče   su uništena   [sva sela   i   sve varošice]
       yesterday are destroyed.PL.N [all villages.N and all towns.F]
       'All villages and all towns were destroyed yesterday.

    b. [sva sela   i   sve varošice] su juče   uništene
       [all villages.N and all towns.F] are yesterday destroyed.PL.F
       'All villages and all towns were destroyed yesterday.'

The immediate question these facts pose is whether prominence-based accounts can be modified to meet the empirical facts from last conjunct agreement (LCA) languages. One can propose that running the derivation from bottom to top could capture LCA by allowing the last conjunct agreement to occur before merging the rest of the coordinate phrase. Such possibility is illustrated for (9a) below. From bottom to top, the verb *uništene* is merged, and the derivation of the rest of the structure proceeds. Upon the merger of the last conjunct *sve varošice*, Agree occurs between it and the verb before the merger of the first conjunct is accomplished.

(10) a. Step 1: Merge *i sve varošice*
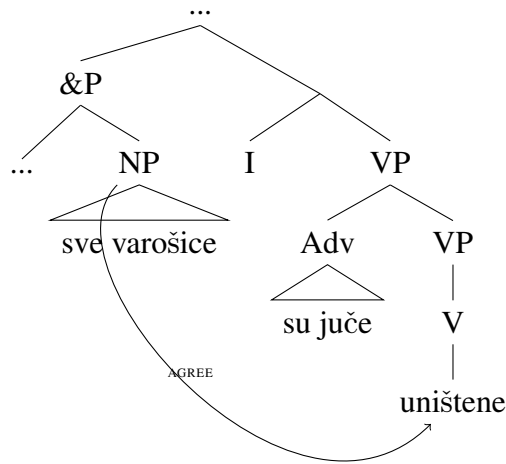
b. Step 2: Merge the rest of the conjunction
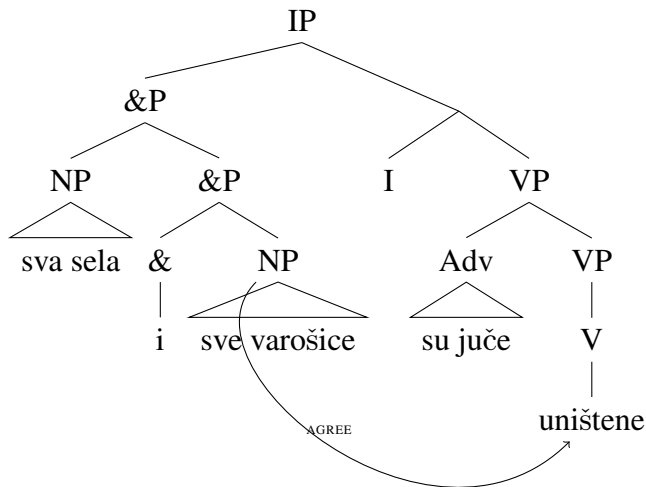
Still, a number of problems arise from such an analysis of LCA. First, one cannot account for FCA and LCA using the same direction of derivation. In a bottom-top model, only LCA can be captured, and in top-bottom model only FCA is captured. Choosing either one direction over the other is ad hoc in itself. Consequently, accounts that hinged on prominence do not seem to be valid.

Another question that can be asked at this point is: if linear order is the factor for agreement,

why can't a language like Arabic show LCA? Below I provide an answer to this question and argue that putative CA in Arabic is an illusion. There is no CA in Arabic.

3 Puzzling Facts

A number of facts indicate that the sort partial agreement in Arabic, and similar languages, is not a case of CA. CA is an instance of partial agreement that is not specific to coordination and should thus receive a general account, a fact that has been noted since Muhammad (1990), as shown below.

(11) ʔallaf-at   al-muʕallim-at   riwayah
      write-3F.SG the-teacher-F.PL a.novel
      'The teachers (Fem) wrote a novel.' Modern Standard Arabic (MSA), (Al Khalaf, 2015)

This is the case in many other languages that pattern with Arabic, that is the languages that show only first conjunct agreement like English and Welsh.

(12) Gwelodd   y   bachgen/bechgyn ddraig.
      see.PAST.3SG the boy/boys   dragon
      'The boy/boys saw a dragon.' (Welsh; (Borsley, 2009, (5), 227))

(13) a. There is 30 men at the door. (Morgan, 1972, (14), 88)

      b. There is a man and a woman at the door.

Second, CA is always singular regardless of the number value of the first conjunct. Again, this seems to be a general property that characterizes many languages.

(14) qadam-at at-tilmiið-at   wa at-talamiið   al-imtiħan
      take-3F.SG the-student.F.PL and the-student-M.PL the-test
      'The students (females) and the the students (males) took the test.' (MSA), (Al Khalaf, 2015)

However, when the first conjunct is a pronoun, CA suddenly becomes full, that is the verb must agree with the first conjunct in *all* phi features.

(15) žiʔ-nna   hunna   wa ʔabaaʔ-u-hunna
      came-3PL.FEM they.FEM and fathers-NOM-their.FEM
      'They (females) and their fathers came.' (MSA; (Soltan, 2006, (18b), adapted))

(16) Gwelon   nhw ddraig.
      see.PST.3PL they dragon
      'They saw a dragon.'   Welsh (Borsley, 2009, (4b), 227)

The last fact that has often given less attention is the optionality of CA in non-standard varieties. CA is obligatory in Modern Standard Arabic only and optional in all the other varieties.

(17) Raaħ-o/-ø   zayd w zeena
      left-3P/-3MS Zayd and Zeina
      'Zayd and Zeina left.' (Lebanese Arabic, (Crone, 2015, (1b)))

The fact that CA is not specific to coordination casts doubt on whether the phenomenon is really a case of CA. The selectivity of conjunct agreement and sensitivity to pronouns in addition to the optionality are all puzzling under previous work which derives the phenomenon from prominence. So under the previous work, neither the optionality nor the peculiarities of pronominal conjuncts are explained. In the next section, I will show that all the facts can be accounted for if we deny the existence of CA in Arabic in the first place.
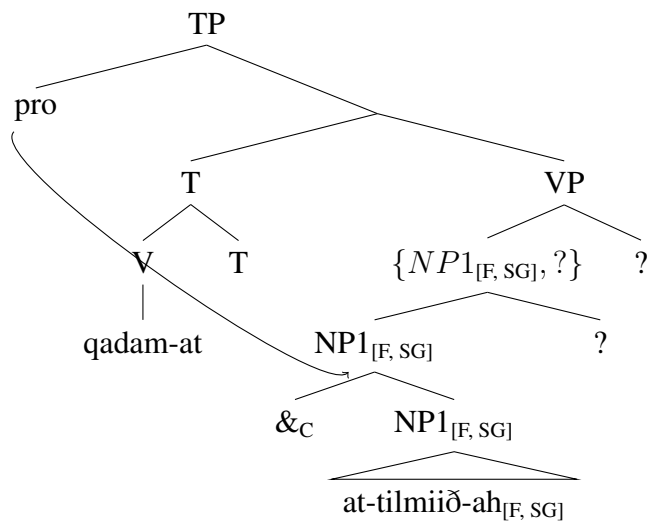
4 Analysis

I argue here that CA in Arabic is an illusion; CA (in the sense that a verb agrees with the first conjunct) does not exist in Arabic. I show that the peculiarities above can be explained by offering a refinement of Muhammad's(1990) Null Pro analysis. I propose that in VSO order a defective null *pro* that is valued only for number (singular) occupies spec-TP. *Pro* here is similar to the English expletive *there* (Chomsky, 1995). I assume that the expletive agrees with the thematic subject in person and gender. When the subject is a coordinate, though, *pro* agrees with the first conjunct in person and gender, then with the verb, creating a partial agreement that appears to be CA.

My analysis is couched in terms of left to right structure building (Phillips, 1996; 2003;Bruening, 2014, and others). As for coordination, I adopt the structure proposed in (Al Khalaf, 2015), which builds on Collins' (2002) Set Merge and Dalrymple and Kaplan's(2000) set union algorithm for resolved features. The structure is a binary branching structure in which the coordinator does not project a special phrase, but adjoins to each conjunct. This coordinator triggers a special sort of labeling called Set Label. I assume that elements that check phi features only (e.g. *pro*), value their

features as soon as a potential valuator is merged into the derivation. Elements that check Case as well as phi features (e.g. T), though, require to agree with the whole coordinate (Walkow, 2013).

As illustrated in (18), the derivation of 14 proceeds as follows. The syntax builds the structure from left to right, by merging *pro* then T. Once the first conjunct is merged into the derivation, *pro*, being a non-case checking constituent, agrees with it, even before the rest of the coordinate has been merged.

(18)

TP

pro

T   VP

V   T $\{NP1_{[F,\,SG]}, ?\}$?

qadam-at   NP1$_{[F,\,SG]}$?

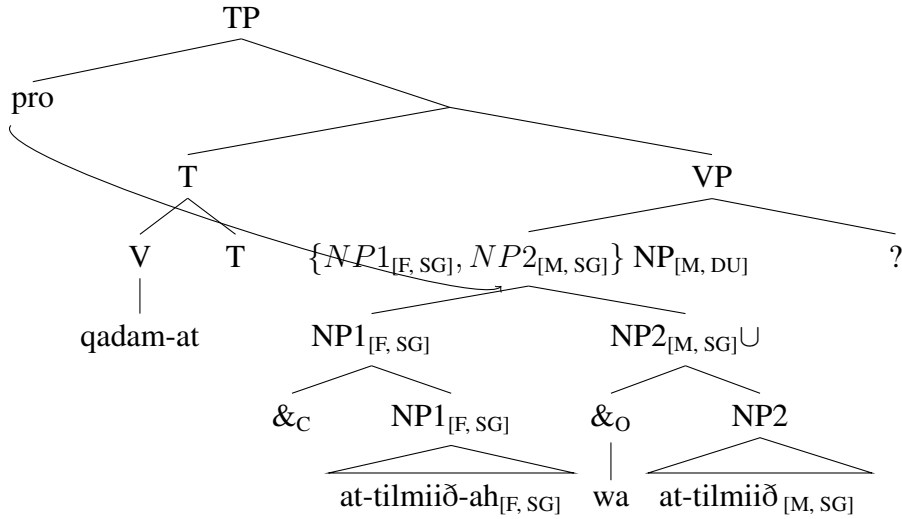&$_C$ NP1$_{[F,\,SG]}$

at-tilmiið-ah$_{[F,\,SG]}$

Another option that the grammar allows is for *pro* to wait until the whole coordinate has been built, as in (19). In such case, agreement will be with the resolved features that are copied to the resolved category (shown outside the braces to the right). Note that *pro* values only gender and person features since it is already valued for number.

(19)

```
                         TP
          _____/         _____
        pro                                 \
          \                                  \
           \         T                        VP
            \    ___/ \___            _____/  _____
             \  V      T   {NP1[F, SG], NP2[M, SG]} NP[M, DU]        ?
              \ |                                              
                qadam-at      NP1[F, SG]            NP2[M, SG]∪
                            __/      \__          __/       \__
                          &C        NP1[F, SG]   &O          NP2
                                  __/    \__      |        __/   \__
                               at-tilmiið-ah[F, SG]  wa  at-tilmiið[M, SG]
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The analysis captures partial agreement with non-coordinate as well as coordinate subjects. It predicts the singularity of agreement, and it predicts the optionality of agreement in non-standard varieties. It will be shown that full agreement with pronominal subjects (and pronominal first conjuncts) follows from the observation that a pronominal subject in VSO has an emphatic function, and thus seems to be licensed by a fully valued (non-defective) null *pro*. In addition, the analysis explains why some number sensitive items are unacceptable when apparent CA applies. As suggested by Munn (1999), the licensing of such elements requires syntactic plurality, which follows from the analysis. If the analysis is in the right direction, it could be that in languages that exhibit only first conjunct agreement, like Biblical Hebrew(Doron 2000), Brazilian Portuguese (Munn 1999), Finnish (van Koppen 2005), among many others, CA is not real. This makes the strong prediction that true CA occurs only in languages that exhibit clear linear effects of agreement, where the *final* as well as the initial conjunct controls agreement.

5 Conclusion

In this paper, I showed that much of the facts about CA general, that it interacts with linear order, and much of the facts about CA in Arabic point to the conclusion that CA does not exist in Arabic. I proposed an analysis in left to right syntax which shows that the pattern of agreement observed is a regular subject-verb agreement. An interesting generalization that emerges from this work is: when CA applies in a given language, both the first and the last conjuncts should be potential

valuators. Agreement that deviates from this generalization is not a true case of CA.

Notes

[1] Some recent work argues that CA results from the interaction between agreement and movement (Crone, 2015, following Bošković, 2009).

[2] Agreement in *there*-constructions was thoroughly investigated in Morgan (1984). Morgan's work was the earliest that addresses conjunct agreement in English. However, I believe that apparent CA in these contexts is not actually CA. Rather, it is regular subject-verb agreement between the coordinate and the verb. The singular agreement observed in existentials with a coordinate subject occurs when the coordinate is construed as singular, or when a non-syntactic factor affects agreement. For the first possibility, see Heycock and Zamparelli (2005) and Champollion (2015). For the second possibility, consult Reid (2011).

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