Feature Conflicts, Feature Resolution and the Structure of *either... or*

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Abstract

In this paper we discuss the asymmetry in agreement between conjunction and disjunction, and what could the reason be that underlies the lack of resolved agreement in disjunctions as compared to conjunctions. We provide evidence from agreement that disjunction sentences are not derived through local agreement and ellipsis, and argue in favour of a syntactic symmetry between conjunctions and disjunctions, by showing that resolved agreement is present in some disjunctions.

1 Introduction

1.1 Conjunction and resolved agreement

Conjunction structures and how they interact with agreement are at the same time predictable and unpredictable. It is extremely widely attested, indeed seemingly the unmarked state of natural languages, that if a language has number agreement, then a conjunction of two singulars acting as the controller of agreement will yield plural agreement on the verb. Consider the following examples where two singulars in a conjunction yield plural agreement on the verb.

(1)   a. An owl and an elephant are playing with a bee.   [English]

     b. Een uil en een olifant spelen met een bij.
        an owl and an elephant play.PL with a bee

        'An owl and an elephant play with a bee.'   [Dutch]

On the one hand, this makes a lot of sense: the meaning of a conjunction is that the combination of them is doing the action signified by the verb, in this case, both the owl and the elephant are playing with a bee. The subject of the sentence is plural, since there are two individuals, and the meaning (on the relevant reading) is akin to *two creatures are playing with a bee*. Thus, plural agreement makes sense, since, though derived through the combination of two singulars, the subject is plural.
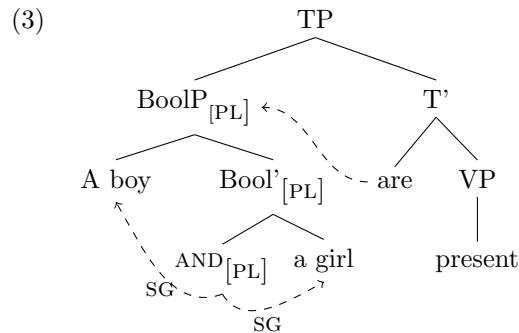
On the other hand, the plural agreement is perhaps surprising, given that there is no obviously plural element that can donate the feature [−singular] to

the verb. Both of the conjuncts have the number specification [+singular], and so the question is how exactly the combination of [+singular] and [+singular] is converted to [−singular]. It makes intuitive sense, and we know that it happens, but it is by no means a trivial task for the grammar to achieve.
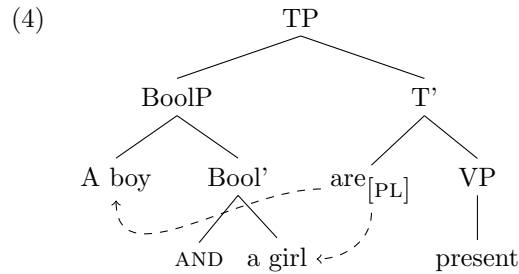
When faced with such patterns, it is reasonable to ask where the ability to resolve agreement stems from. It is commonly assumed that the syntactic structure of conjunction facilitates resolved agreement. For a long time (especially Munn, 1993), it has been widely accepted (but not universally — see Borsley, 2005) that conjunction structures involve the two conjuncts being coordinated by a Boolean head in a structure much like the following:

(2)

```
            BoolP
           /     \
       Conj1     Bool'
                /     \
             Bool    Conj2
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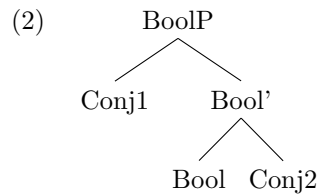
There are various options for how this type of structure facilitates resolved agreement. The coordination head itself could resolve the features, by agreeing with both of the conjuncts and percolating the resolution to plural up to the level of BoolP, which then facilitates plural agreement on the verb.

(3)

```
                         TP
                    /          \
            BoolP[PL]           T'
           /       \          /    \
       A boy     Bool'[PL]  are    VP
               /        \           |
          AND[PL]     a girl     present
         SG              SG
```

A second option is that the verb directly agrees with the conjuncts, and it is the verb itself that resolves the combination of two singular features to plural (cf. Grosz, 2015).

(4)

```
                      TP
                  /        \
            BoolP           T'
           /     \        /    \
       A boy    Bool'   are[PL]  VP
               /    \             |
            AND    a girl      present
```

2

1.2 The conjunction/disjunction asymmetry

In terms of agreement, disjunction sentences are well known to differ from conjunctions in that they tend to show the agreement of the closer of the two disjuncts, but not the resolution value that we would find in a conjunction (Haskell & Macdonald, 2005). This is shown in the following from English, where the agreement must be singular when two singulars are disjoined (5a). Crucially, a resolution to plural is not possible (5b).

(5) a. Either an owl or an elephant is playing with a bee.
     b. *Either an owl or an elephant are playing with a bee.

Also in Dutch, the verb must show agreement with the closer of the two DPs. In the following, the choice between *is* (the singular form of the auxiliary) and *zijn* (the plural form of the auxiliary) is determined by whether the noun closest to the auxiliary is singular or plural.

(6) a. Óf   het meisje óf de jongens zijn naar de bioscoop geweest.
         either the girl   or the boys   are to   the cinema   been
         'Either the girl or the boys have been to the cinema.'
     b. *Óf   het meisje óf de jongens is naar de bioscoop geweest.
         either the girl   or the boys   is to   the cinema   been
         'Either the girl or the boys have been to the cinema.'
     c. Óf   de jongens óf het meisje is naar de bioscoop geweest.
         either the boys   or the girl   is to   the cinema   been
         'Either the boys or the girl has been to the cinema.'
     d. *Óf   de jongens óf het meisje zijn naar de bioscoop geweest.
         either the boys   or the girl   are to   the cinema   been
         'Either the boys or the girl has been to the cinema.'

This asymmetry appears to be quite general, and we can state this as the following:

(7) **Conjunction/disjunction asymmetry in agreement**
     Conjunctions show resolved agreement in number, whilst disjunctions do not.

Though this asymmetry holds quite often in the languages that we are aware of, it is not without exceptions. Regarding conjunctions, it is known that not all conjunctions show resolved agreement.[1] Closest agreement has been noted in a variety of circumstances. Firstly, in English where a conjunction is the controller of agreement but is postverbal (see Sobin, 1997; Wurmbrand, 2013; Smith, 2017).

(8) There is an owl and a duck in the garden.

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[1]We do not discuss the reasons for why closest agreement should hold, but we invite the reader to look at the cited references for a deeper discussion.

(9) * There are an owl and a duck in the garden.

Secondly, (Marušič et al., 2015) discuss closest conjunct agreement in Slovenian, showing that it is a possible agreement resolution for speakers, as can be seen by the N.PL agreement on the verb in the following example. This pattern holds in various Slavic languages, see Gold et al. (2017) and references therein for further discussion.[2]

(10) Radirke   in peresa   so   se   prodajal-a najbolje.
      erasers.F.PL and pens.N.PL AUX.PL REFL sold-N.PL   the.best
      'Erasers and pens sold the best.'

Regarding disjunction, we will discuss below instances where there is resolved agreement. Nevertheless, the asymmetry in (7) is sufficiently general and robust that we can treat it as a genuine point of divergence between conjunction and disjunction.

Obviously, we would like to understand why this asymmetry would hold, and specifically, why disjunctions do not seem to show the same agreement possibilities as conjunctions. We see a few options. Firstly, conjunctions and disjunctions have a fundamentally different syntax. Whilst conjunction sentences have a syntax like the above that facilitates resolved agreement, disjunction could lack this. One way that this could be implemented is that disjunction sentences are derived through ellipsis.

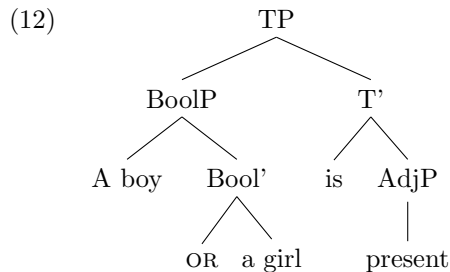(11) Either an owl ~~is in the garden~~ or a duck is in the garden.

On this view, there is no resolved agreement, because there are two different verbs that each agree with their subjects, but one of the verbs is deleted. Resolved agreement cannot arise, since agreement is determined locally. Each verb in the above will get the agreement features of only the closer subject. The closest agreement effect thus arises due to ellipsis of the first verb.

The second option is that conjunction and disjunction share a common syntax, but that it is an arbitrary property of each coordinating head as to whether resolved agreement can occur.[3]

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[2]First conjunct agreement is also possible, see section 3.2 for further discussion.

[3]Throughout this paper, we do not distinguish between *either...or* constructions and regular, *or* constructions (i.e. without *either*), and assume that they have broadly the same syntactic structures. Where not relevant, we abstract away from the positions of *either* and *or* in the tree, but see section 2 for some discussion. OR is used to represent the disjunction head, and not meant to imply that *or* would necessarily realise this, as it has been argued to be a phrasal category, adjoined to the right disjunct (den Dikken, 2006).

(12)

```
                        TP
                  ┌──────┴──────┐
               BoolP            T'
            ┌────┴────┐      ┌───┴───┐
         A boy     Bool'    is     AdjP
                ┌───┴───┐            │
               OR    a girl       present
```

Put another way, the choice of whether $Bool^0$ is filled by *and* or *or* will determine whether BoolP shows resolved agreement. Thus, it as an idiosyncratic property of *and* to show resolved agreement, but *or* does not have this property. Note, though, that under this view we assume that agreement between the coordination head and its DPs always occurs, it is the step of resolution that differs between the two heads.

The final option is similar to the second in that conjunction and disjunction share a common syntactic structure (and so the structure in (12) applies again). However, it differs in that all coordinations have the same property of potentially showing agreement, but whether they do so or not is determined independently. That is, it is not the case that *all* disjunctions (or conjunctions for that matter) will not show agreement, but certain factors will allow resolved agreement to come through.

The difference between the two latter options seems subtle but has certain consequences. The second option necessitates a two-step view of resolved agreement, where resolution is crucially a property of *and* but not of *or*, whilst the third option allows for resolved agreement as a single step property of the coordinating head $Bool^0$. In addition, the third option naturally allows for optionality in resolved agreement in coordinating constructions, whilst the second option does not.

The second two options share the assumption of coordinating structures sharing the same syntax. The three options can be summarised as follows.

(13) Option 1: Different syntax Ellipsis (only) in disjunction.
      Option 2: Same syntax   *and*:   agreement + resolution
                                    or: agreement
      Option 3: Same syntax   *and/or*: agreement + resolution
                                               do nothing

It is the goal of this paper to argue against the first option where disjunction and conjunction have a fundamentally different syntax. There have been various arguments advanced that support our position, but we believe our argument to be somewhat novel. Ultimately, we believe that position 3 is correct. That is to say, conjunction and disjunction are not fundamentally different in either their syntax nor are the heads that different, but whilst disjunction has the potential to show resolved agreement, it fails to do so in the usual case. This predicts

that there will be scattered effects of resolution, a prediction that we show is borne out.

This paper is structured in the following way. In section 2, we discuss Schwarz (1999), an approach put forward which claims that disjunction contexts are derived through ellipsis, in the manner we suggest above. We also provide a counterargument from den Dikken (2006), who argues that the same constructions are better analysed as involving the standard coordination structure given in (2). In section 3, we discuss three arguments from agreement that favour a coordination-style construction for disjunction, as opposed to a derivation involving ellipsis. Specifically we will show that we see either effects of resolution, or resolution itself in some disjunction environments. In section 4, we discuss two environments where agreement resolution happens in disjunction, and argue that there is a common syntactic base to these. The discussion in this section is preliminary, but we believe offers a programme for future research. Finally, in section 5 we conclude the paper.

2   Syntactic Approaches to *either. . . or*

Disjunctive coordinations containing the complex disjunction *either. . . or* represent a challenge to syntactic theory due to the varying position of *either*, which has been claimed to indicate scope (Larson, 1985). In (14), *either* appears in its base-position, left-adjacent to the disjunctive coordination. As the examples in (15) show, *either* may occur at a distance to the disjunctive coordination. In (15a), it precedes the predicate, and in (15b) it precedes the subject. In both cases, *either* is positioned further to the left compared to its base-position, which led den Dikken (2006) to refer to the cases in (15) as "left-*either*", a term that we will borrow from him.

(14)   John ate *either* [rice or beans].

(15)   a. John *either* ate [rice or beans].
          b. *Either* John ate [rice or beans].

Either may also be embedded within the first conjunct, in which case it is further to the right compared to its assumed base-position adjacent to the disjunctive coordination. Following again den Dikken (2006) we call such constructions "right-*either*", see (16) where *either* occurs within the first clausal disjunct.

(16)   [John either ate rice] or [he ate beans].

In this section, we discuss two syntactic theories of the *either. . . or*-construction, the ellipsis approach by Schwarz (1999) and the phrase structure approach by den Dikken (2006).

2.1 The Ellipsis Approach

Schwarz (1999) provides an account of left-*either* constructions. He shows that they exhibit properties typical of Gapping and therefore proposes an ellipisis account also for left-*either* assuming the following structures for (14). In the ellipsis approach, *either* is always positioned adjacent to the disjunctive coordination, which is VP in (17a) and IP in (17b).[4]

(17)   a. John either [$_{VP}$ ate rice] or [$_{VP}$ ~~ate~~ beans].
        b. Either [$_{IP}$ John ate rice] or [$_{IP}$ ~~John ate~~ beans].

The ellipsis approach is supported by the following four arguments. First, Gapping licenses additional constituents to be gapped apart from the verb. This is also possible in *either. . . or*-constructions, as can be seen in the following examples. In both examples, the elided constituents do not have to be adjacent.

(18)   Jack begged Elsie to get married and Wilfred ~~begged~~ Phoebe ~~to get married~~.

(19)   [Either this pissed Bill off] or [~~this pissed~~ Sue ~~off~~].

The second parallelism between *either. . . or*-constructions and Gapping concerns the property of having overt antecedent-remnant pairs. Thus, Gapping requires remnant constituents to have correlates in the first conjunct, see (20). Schwarz observes that *either. . . or*-constructions exhibit the same constraint, as shown in (21) and (22). The addition of the adverbials in the second conjuncts leads to the ungrammaticality / markedness of the two sentences due to a missing correlate in the first conjuncts.

(20)   John dropped the coffee and Mary (*clumsily) ~~dropped~~ the tea.

(21)   Either [they answered my question] or [~~they~~ (?correctly) ~~answered~~ yours].

(22)   ??Either [this pissed Bill] or [~~this pissed~~ Sue off].

Third, Schwarz argues that negation may not be contained within the gap in a disjunctive Gapping construction. (The case of negation in conjunctive Gapping is a little bit more intricate and not of direct relevance here). The interpretation of (23a) excludes a negation in the second conjunct. This is the reason why (23c) must be the source of (23a), but not (23b).

(23)   a.   John hasn't seen Harry or Bill Sue.
        b. ?? [John hasn't seen Harry] or [Bill ~~hasn't seen~~ Sue].
        c.   [John hasn't seen Harry] or [Bill ~~seen~~ Sue].

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[4]All examples of this subsection are taken from Schwarz (1999). No independent references to original example numbers are given.

A similar restriction appears to regulate *either. . . or*-constructions. Here, negation may not appear between *either* and *or*, see Larson (1985). The ungrammaticality is traced back to the Gapping restriction which bans negation within the gap.[5]

(24)   ?? Either John hasn't seen Harry or Bill Sue.

Finally, Gapping and *either. . . or*-constructions show locality restrictions. As argued by Neijt (1997), Gapping remnants may not be included in a syntactic island in the second conjunct, see (25) for an illustration with the CNPC (Neijt, 1997, 138).

(25)   * Some revised their decision to cook rice on Monday and others ~~revised~~ [~~their decision to cook rice~~ on Tuesday]

As observed in Larson (1985), *either. . . or*-constructions are also subject to locality restrictions in that *either* may not be separated from its licensing disjunction by an island, see (26) for the CNPC.

(26)   * John either revised his decision to cook rice or beans.

2.2   The Phrase Structure Approach

Despite the argument for the Ellipsis account, there are convincing arguments showing that this account can not be the entire story. For example, den Dikken (2006) points out that the ellipsis analysis falls short in accounting for the right-*either* constructions in (27).

(27)   a. John either ate rice or he ate beans.
       b. Either John ate rice or he ate beans.

In (27) *either* is embedded within the first disjunct and therefore fails to be left-attached to the disjunction coordination, a basic assumption of Schwarz (1999). In addition, right-*either* appears to allow 'dangling' particles in the second conjunct. RNR does not appear to be blocked in such cases, see (28), a fact which is not accounted for in Schwarz (1999).

(28)   (?) This (either) pissed Bill or it pissed Sue off.

Based on the observation that *either...or* constructions are tightly connected to contrastive focus, den Dikken (2006) offers an account that assumes a hierarchically structured disjunction similar to that of conjunction. In this account, *either* and *or* are phrasal categories that attach to a contrastive focus. *Either* and *or* attach to the first/second disjunct (29b), or to the first/second

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[5]Schwarz notes that the ungrammaticality of the assumed source of (24) given in (i) is due to a violation of the left bracket thesis which requires *either* to be adjacent to the disjunction. Under Schwarz's analysis of Gapping, this is not the case.

i.   *Either John$_i$ hasn't [t$_i$ seen Harry] or [Bill ~~seen~~ Sue]

contrastive focus (29a), or to a phrasal node on the θ-path[6] projected from the contrastive focus (29c) (den Dikken, 2006, 707). Capitals indicate accent, underlining indicates semantic focus.

(29)   a. Q: Did John say that he had either FRIED it or BAKED it?
            A: No! John DENIED that he had either fried it or baked it.

        b. John ate either RICE or BEANS.

        c. < *Either* > John < *either* > will < *either* > read CHAPTER 3 or
            CHAPTER 4.

The Phrase Structure Approach accounts not only for left-*either* (cf. 29c) but also for right-*either*. (30), repeated from (16), is compatible with contrastive focus on the object (30a) and the VP (30b), but not on the IP (30c) because *either* would be contained within the focus constituent, which is syntactically ruled out.

(30)   [John either ate rice] or [he ate beans].

        a.   [John either ate [$_{DP}$ RICE]] or [he ate [$_{DP}$ BEANS]]

        b.   [John either [$_{VP}$ ate RICE] or [he [$_{VP}$ ate BEANS]]

        c. * [$_{IP}$ John either ate RICE] or [$_{IP}$ he ate BEANS]]

The Phrase Structure Approach accounts for the locality restrictions with *either...or* constructions by Larson (1985) and Schwarz (1999) in following way: negation may not intervene between *either* and *or* because it interrupts the θ-path that defines possible adjunction sites for *either*. Thus, the negation head does not θ-mark its complement.

Overall, in this section, we have seen that although it is possible to construct an ellipsis structure for disjunction, such an account faces problems with the positioning of elements like *either* and *or*, which are more easily handled in an account where there is a more standard conjunction-like phrase structure for disjunction.

3   New Arguments Against the Ellipsis Approach

On top of the arguments provided by Den Dikken, in this section we present arguments from agreement against the Ellipsis Approach of disjunction. We present two types of evidence, which both converge to the observation that the two disjuncts jointly influence the agreement on the verb, and as such, there must be a single verb that sees both disjuncts, and not two instances of local agreement with one deleted. We will first see instances where mismatches between the disjuncts cause the agreeing element to be unable to be spelled out, due to conflicting features. Secondly, we will see that there are similar patterns in disjunction to how agreement in conjunctions gets resolved, namely resolved

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[6] "A θ-path is a sequence of nodes such that each node is θ-linked to the next higher node on the main projection line" (den Dikken, 2006, 708).

	Noun phrase	Pronoun	Gloss
a.	gama	a	'spider'
b.	taka	a	'basket'
c.	nove	ɛ	'bee'
d.	gama ɔja taka	a	'spider or basket'
e.	gama ɔja nove	*ɔ, *a, *ɛ, *ʊ, *ɪ, *wa	'spider or bee'

Table 1: Ineffibility in Guébié disjunction

agreement, as well as closest and highest agreement, suggesting that the same processes underlie all.

3.1 Ineffability and syncretism

Pullum & Zwicky (1986) note that for some speakers, a clash in the person and number features of two disjuncts will cause a sentence to be ineffable when the disjunction controls agreement. For example in (31), the copular verb tries to spell out the competing features (3rd person plural from *they* and 1st person singular from *I*), but can't. The example in (32) shows that syncretism of the verb forms can save the ineffability.

(31)   Either they or I {*are/*am/*is} going to have to go.

(32)   Either we or they are going to have to go.

The ellipsis analysis of disjunction would predict that the verb always shows agreement with the subject in the second disjunct. Thus the ineffability in (31) makes little sense on the ellipsis analysis because there is not predicted to be any interaction between the two verbs.

Ineffability in disjunction agreement goes beyond Indo-European. As discussed in Sande (2017), in Guébié, a Niger-Congo language, the pronoun for words for 'spider' and 'basket' is *a* while the one for the word for 'bee' is *ɛ*.[7] While the disjunction of 'spider' and 'basket' can be replaced with the pronoun *a*, none of the pronouns can be used to replace to the disjunction of 'spider' and 'bee' since they each require different pronouns. This is summarised in Table 1. Again, the ellipsis analysis would predict the disjunction of 'spider' and 'basket' to be compatible with the last disjunct, contrary to the fact.

What's more, verbal syncretism fixing ineffabilities caused by agreement clashes is well documented in many languages. Similar facts regarding conjunctions have been attested in German (Pullum & Zwicky, 1986), Icelandic (Zaenen & Karttunen, 1984), Hindi (Bhatt & Walkow, 2013) and Russian (Asarina, 2010) amongst others. That this pattern is also seen in disjunction indicates that there is a common syntax between the conjunction and disjunction.

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[7] We abstract away from how the pronoun is derived from the antecedent, whether it is morphosyntactic or phonological; see Sande (2017) for discussion.

3.2 Strategies to fix a clash

Syncretism is not the only attested repair strategy for feature clash. Failures of conjunct agreement have been shown to use either highest conjunct agreement or closest conjunct agreement as a backup. If the conjunction and disjunction involve similar structures, we expect the same in disjunction and that's indeed what we found.

Slovenian has been shown to show both closest and highest conjunct agreement (Marušič et al., 2015):

(33) a. Radirke   in   peresa   so   se   prodajal-e najbolje
          erasers.F.PL and pens.N.PL AUX.PL REFL sold-F.PL the.best

      b. Radirke   in   peresa   so   se   prodajal-a najbolje
          erasers.F.PL and pens.N.PL AUX.PL REFL sold-N.PL the.best
          'Erasers and pens sold the best.'

With regards to disjunction, as we have mentioned above, agreement is quite often with the closer of the two disjuncts. This can be seen in the German sentences below:

(34) a. Entweder wir oder ihr   seid/*sind   gekommen
          either   we or   you.PL be.2PL/*be.PL come.PAST
          'Either we or you came.'

      b. Entweder ihr oder wir sind/*seid   gekommen.
          either   you or   we be.PL/be.2PL come.PAST
          'Either you or we came.'

Mous (2004) claims that both highest disjunct agreement and closest disjunct agreement are found in Iraqw (Cushitic). As is shown in (35), the verb undergoes (subject) agreement with the first/highest disjunct, which is masculine, with the result that there is masculine agreement shown on the verb.

(35) baabúu-w-ós   laqáa aayo-r-ós   'i-n
      father-MSC-POSS.3SG or   mother-FEM-POSS.3SG SUBJ3-PROG
      daqáy
      go.3.SG.MSC
      'Its father or its mother will be going.'

This can be contrasted with object agreement, as in (36), where we observe a closest disjunct agreement strategy.

(36) kwahlaahli laqáa mahaangw g-u-n   haniis
      bead.FEM   or   arrow.MSC OBJ.3-OBJ.M-PROG give.3.SG.MSC.PRES
      'He will give him a bead or an arrow.'

Since this refers to agreement with the object, we should comment on this pattern a little further. Relevant for our purposes is *gun* in (36). Mous (1993)

shows that object agreement is complex, and located on the copular, which for this sentence is n.[8] The agreement marker prefix *gu-*, is made up of two parts, a *g-* prefix that appears with third person objects, and a vowel that expresses gender agreement. For third persons, masculine singular objects cause *gu-* to be prefixed, feminine singular objects give rise to the prefix *ga-*, and plural objects result in *gi-* (plural is referred to as neuter gender in Mous, 1993). Note that the agreement in (36) is not agreement that expresses the features of both, and as such is clearly a closest strategy. If the object is a conjunction and causes agreement, then we see resolved agreement, as in the following:

(37) loosí   nee kasiis   'i-na   ay-áan
      beans.F and potatoes.F OBJ.PL-PAST eat-1PL
      'We have eaten beans and potatoes.'

The fact that conjunction and disjunction share the same set of repair strategies to fix a clash, e.g. syncretism, highest conjunct agreement, and closest conjunct agreement, would come naturally if they involve the same structure. Crucially however, only the closest conjunct agreement facts are expected on the ellipsis account where agreement relations are computed locally. On the ellipsis account, the syncretism facts are unexpected, given that there is no reason that the verb should be influenced by the features of the further away controller. Furthermore, highest conjunct agreement is unexpected, because the verb should not take its features from the further away of the controllers. It is hard to see how this could be derived in an approach that assumes local agreement plus ellipsis.

3.3   Resolution in Disjunction

Finally, we show that agreement resolution is also present in disjunction. Here we show three cases of agreement resolution in disjunction, which again indicates its connection to conjunction.

The first case of agreement resolution in disjunction is observed in negative disjunctions. Durrell (2002), a reference grammar of German, notes that in German, when having the disjunction with *weder . . . noch* 'neither . . . nor' as the subject, although both singular and plural agreement are possible on the verb, the plural is more frequent. (38) shows an example of the resolution. The ellipsis analysis would not predict agreement resolution since plural agreement would not be generated in the first place according to the analysis.

(38) In Bonn waren sich weder   Kabinett noch Regierungsfraktionen
      In Bonn was.PL self neither Cabinet   nor parliamentary.party.PL
      einig.
      united

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[8]Iraqw has a very complex morphology, with many different forms for the copular. We do not attempt to discuss this further, but see Mous (1993) for an in-depth discussion. Note also that object agreement is not always present, and we refer once more to Mous (1993) for discussion of the relevant factors.

'In Bonn, neither the Cabinet nor the party were united.' (Zeit)

Agreement resolution under negative disjunction also shows up in other languages. For example in Darghi (Nakh-Dagenstanian), object agreement with a disjunctive object can show resolution in (39). In Passamaquoddy (Algonquian) subject agreement, the same pattern shows up as in (40).

(39)   [...] ya pulaw,   ya ˁär̥ˁä   ħe-**d**-arg-i-ra
              or pilaf(ABS) or hen(ABS) NEG-**pl**-find-AOR-1
       'Neither the pilaf nor the chicken was there.'
       [Darghi, van den Berg, 2006]

(40)   Cihpolakon kosona kuhas ma=te   n-kisi-maton-**oq**
       eagle   or   hawk NEG=EMPH 1-PERF-fight-INV-NEG-**3pl**
       '(Neither) and eagle (n)or a hawk attacked me.'
       [Passamaquoddy, Bruening, 2002]

Agreement resolution in disjunction is also observed in the inclusive disjunction reading. Kazana (2011) shows that the inclusive disjunction reading increases the likelihood of resolution in disjunctions in Modern Greek. Her results are based on a questionnaire survey asking for preferences for singular or plural agreement on the verb. In the exclusive context in (41), 14/20 speakers preferred singular agreement. Only 4/20 preferred plural.

(41)   O   kostas   i i   Maria   tha me pari   me to
       the.SG Kostas.SG or the.SG Maria.SG will me pick.up.SG with the
       aftokinito
       car
       'Kostas or Maria will pick me up with the car.'

At the same time in (42) which is clearly an inclusive context, 13/20 preferred plural agreement, and only 7/20 preferred singular.

(42)   I   jineka   i to pedi   exun   protereotita ja to emvolio
       the woman.SG or the child.SG have.PL priority   for the vaccine
       jata   tis gripis
       against the flu
   'The woman or child have priority for the flu-vaccine.'

Kazana also finds a strong effect of the *neither...nor* construction favouring plural agreement.

Finally, there are cases of agreement resolution in disjunction that seem to be arbitrarily licensed. In German, the disjunction of two singulars will yield plural agreement in (43).

(43)   a. Entweder der Junge oder das Mädchen sind/$^{\%}$ist gekommen.
          either   the boy   or   the girl   are/is   come.past
          'Either the boy or the girl came.'

b. Entweder ich oder du sind gekommen.
   either   I   or   you are come.past

   'Either you or I came.'

The resolved agreement in the sentences above seems to be exceptional in German. We assume that the disjunctive head in German is prespecified with two singular features. These features are uninterpretable, and must be licensed by singular features on the disjuncts. If they are, then the combination of [SG+SG] is resolved to plural as shown in (44).

(44)
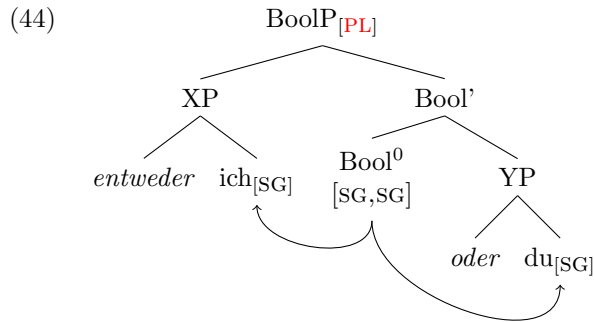
Resolved agreement is not the general pattern in German, since it sometimes requires closest disjunct agreement as is shown in (45).

(45)   a. Entweder wir oder ihr   seid/*sind   gekommen.
          either   we or   you.PL be.2PL/*be.PL come.PAST

          'Either we or you (pl) came.'

       b. Entweder ihr   oder wir sind/*seid   gekommen
          either   you.PL or   we be.PL/*be.2PL come.PAST

          'Either you(pl) or we came.'

Leaving *neither... nor* and inclusive disjunction to the next section, in order to capture the closest disjunct agreement, we assume that if the singular features on the disjunctive head are not licensed, they get deleted, rendering no feature at the phrasal level of the subject. The verb resolves to agreeing with the closest disjunction. We acknowledge the arbitrariness of the analysis, however, the distribution of resolved agreement in German disjunction itself seems arbitrary.[9]

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[9]We hope that future work will provide a more satisfactory analysis of this phenomenon.

(46)

BoolP[—]

XP   Bool'

entweder   wir[PL]   Bool⁰ [SG,SG]   YP

X   *oder*   ihr[PL]

X
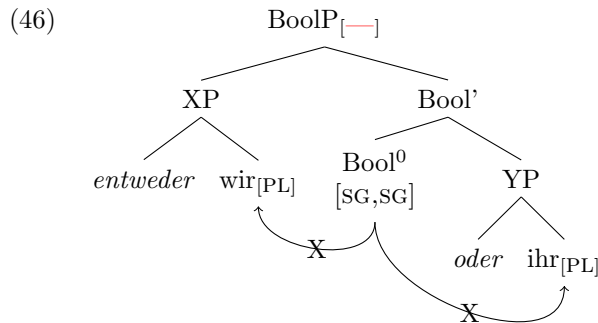
    In this section we have shown three arguments against the ellipsis analysis for disjunction from agreement patterns: ineffability under feature clash, strategies available to repair the clash, and agreement resolution in disjunction. We argue that the ellipsis analysis falls short in capturing these patterns which strongly indicates a structural similarity between conjunction and disjunction.

4   When disjunction allows resolution

The arguments in the previous section have shown that despite the widespread asymmetry between agreement in conjunctions and disjunctions, there is evidence from agreement that the underlying structure of conjunctions and disjunctions are the same. That is, whilst an anlaysis of the asymmetry by appealing to ellipsis is viable for the standard cases, it is not enough to capture certain patterns that arise in disjunction agreement, and faces susbstantial challenges in being modified for it to do so. With this establised, our narrow aim in the paper is complete: to argue against ellipsis as underlying the conjunction-disjunction asymmetry noted at the outset.

    Before concluding the paper, it is worth looking a little more at the cases of agreement resolution in disjunction laid out in the previous section. There, we saw that resolution happens in the following scenarios:

1. *Neither. . . nor* contexts (German, Passamaquody, Darghi)

2. Inclusive disjunction (Greek)

3. Other (German)

    We leave aside the final case, having discussed how resolution in this instance could happen in the previous section. However, the first two are potentially instructive in a very interesting way that offers some insight into the nature of resolution. We should stress at the outset that our discussion is very preliminary and a little speculative. However, we believe that what we discuss has the potential to be illuminating from an agreement perspective.

    At the outset of the paper, we noted that there is some mechanism in conjunction that allows the combination of certain sets of features to be resolved to

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some value. In the case of two singular features, the output on the conjunction as a whole is plural. We suggested that there are a number of possible ways that this could be implemented. Firstly, the conjunction head could work as an intermediary, and itself resolve the agreement of the two singulars to plural. The verb would then agree with BoolP, from which it receives plural. Secondly, the structure of BoolP could result in the verb independently probing both conjuncts to receive two feature values, which are then resolved to plural by the verb.

The first option carries with it a number of advantages, that to our mind make it preferable to the second. Firstly, given that we have argued that conjunction and disjunction share a common syntactic structure, the difference in agreement patterns between the two can be localised to the different heads that occupy the head of BoolP as a whole. Put simply, AND can possess some property, such that when it is located in $Bool^0$ it will take the features from its conjuncts and resolve them. On the other hand, OR can lack this property of resolution. This is not to say that OR does not first check the features of the disjuncts — we have surveyed evidence that it does — but the point is that the question of whether it resolves agreement or not is localised to the head.

By way of contrast, if the verb agrees directly with the arguments of the coordination, then it is difficult to see how to know whether to apply resolution in the case of conjunction, but (usually) not in the case of disjunction. Without the mediating role that the head of BoolP plays, it is difficult to draw the line between the two.

With this said, we return to what is the relevant distinction between conjunction and disjunction. Whilst we believe that the difference between two coordinations should be localised to the coordination head,since we have seen numerous cases of resolution throughout this paper it is too simplistic to state simply that AND can resolve agreement, but OR cannot.

Rather, if we look at the commonalities between conjunction, *neither. . . nor* sentences and inclusive disjunction, what is common across them appears to be (at least the possibility of) a conjunction-like reading where the coordination is true of both arguments. When using a conjunction, the sentence as a whole is judged as true if both of the conjuncts satisfy the predicate. In the following, if both *the duck* and *the goose* are in the pond, then the sentence as a whole is true. If either of them is not in the pond, then overall the sentence cannot be true.

(47)   The duck and the goose are in the pond.

In a parallel manner, when using the *neither. . . nor* construction, the negative element appears take scope over the entire disjunction. Thus, for a sentence like the following, with *neither. . . nor* in the subject position, then it is true only if both the duck and the goose are not in the pond.

(48)   Neither the duck nor the goose is in the pond.

Put another way, *neither. . . nor* appears to have a conjunction meaning,

in that the predicate must be false of both of the disjuncts: *neither. . . nor* is paraphrasable as 'not X' AND 'not Y'.

Secondly, we turn to inclusive disjunction. Whilst exclusive disjunction requires that only one of the two disjuncts satisifes the opredicate, with inclusive disjunction, the sentence can also be true if only one satisfies the predicate, but crucially also if both do.

(49)   a. If you win you get your choice of one prize. A car or a boat will be your prize!

         b. A passport or a driving license is sufficient to prove your identity.

In (49a), the meaning is clearly that one cannot win and take both a car and a boat as the prize. The sentence would be infelicitous under this meaning. However, in the second sentence, this is not the case. Someone who wishes to prove their identity and has presented both their passport and their driving license is unlikely to be turned away. Thus, the sentence can be true if the predicate is true of both of the disjuncts.

Note that we are not claiming that a conjunctive-meaning necessarily leads to resolved agreement. This is transparently false, as can be seen from the English example in (48), where the agreement is singular. Our claim instead is that it appears to be the case that heads of coordinations that are consistent with a conjunction-like reading are better able to express resolved agreement. There are potentially various factors that play a role, most obviously the form. In the English case of *neither. . . nor*, there is still a mismatch between the meaning and the form. Whilst it may have the meaning of a conjunction, it remains transparently derived from the disjunction form *either. . . or*.

At this stage there are a variety of open questions that remain that we do not have the answers to. Furthermore, it could well be the case that the connection between conjunction and these disjunction environements is tenuous. Yet, we believe that it is at least a fruitful area to investigate, which has the potential to inform greatly about the nature of the feature resolution mechanism.

5   Conclusions

In this paper we have discussed the apparent asymmetry between agreement with conjunctions and agreement with disjunctions. We have used agreement, and specifically instances of resolved agreement, in disjunctions to add another argument against the syntactic structure of disjunctions being one of ellipsis. Rather, by drawing parallels to conjunction agreement, we have argued that the instances of resolved agreement in disjunctions provide further evidence that the syntax of disjunctions should be treated on a par with the syntax of conjunctions.

The second aspect of our paper has been to discuss under what conditions we see resolved agreement in disjunctions, and why, given that resolved agreement is possible, it is so often the case that disjunctions show the asymmetry with conjunctions. We have shown that in cases of resolution in disjunction

arising, this often involves an interpretation analogous to conjunction: in the *neither... nor* instances, what is a morphological disjunction in fact semantically seems to be a conjunction of sorts. Secondly, inclusive disjunction has been shown to increase the likelihood of resolved agreement, and we have suggested that this could be potentially related to the above, namely that inclusive disjunction has a reading within it of coordination. Finally, we have shown that some instances appear to just be random, and suggested a way — admittedly somewhat of a brute force mechanism — in which these could be handled.

So, what is the conclusion to be taken away from all of this? Summing up, we have seen that both *neither... nor* sentences and inclusive disjunction share a common semantic interpretation to conjunction. As we have pointed out throughout the paper, in response to the asymmetry in agreement between conjunctions and disjunctions, it is not sufficient to claim that *and* has an exceptional ability to resolve features that *or* lacks. This misses the generalisation that resolved agreement can be shown with disjunctions, under certain configurations. Rather, what we hope to have demonstrated, at least in a preliminary manner, is that the interpretation of coordination as a whole seems to have an effect on whether agreement will be resolved. To the extent that this turns out to be correct, a number of consequences would arise: most notably, agreement relations go beyond simply matching probe and goal and copying the features. Rather, there needs to be room for the semantics to play a role, even beyond the more familiar cases of 'semantic agreement' that have been hitherto discussed in the literature Smith (2015, 2017); Shen (2017).

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