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Feature conflicts, feature resolution, and the structure of *either…or*

In this paper, we discuss the asymmetry in agreement between conjunction and disjunction, and consider possible reasons for 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.

Key words: conjunction; disjunction; agreement; ellipsis.

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

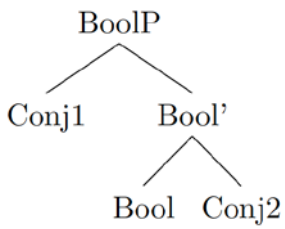
On the one hand, this makes a lot of sense: the meaning of a conjunction is that the

two singular structures combined are 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 it involves two individuals, and the meaning (on the relevant reading) is akin to 'two creatures are playing with a bee'. Thus, plural agreement makes sense; although derived by the combination of two singulars, the subject is plural.

On the other hand, 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.

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:[1]

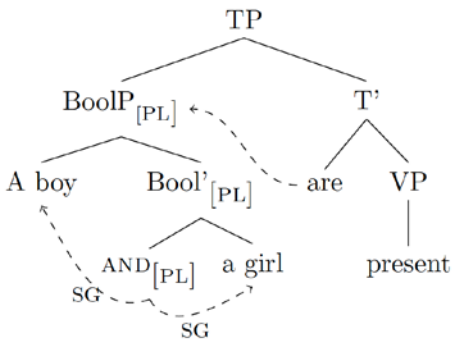
(2)



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. This is visualised in (3):

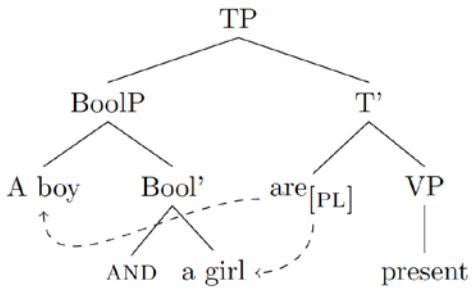
[1] Munn (1993) assumes a structure whereby BoolP is adjoined to the first conjoint, rather than the first conjoint being in the specifier position of BoolP. We use the structure in (2) for simplicity of representation, but note that amongst those who assume an asymmetric structure for coordination, there are various differing approaches as to the exact structure.

(3)



The second option, as schematised in (4), 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)



1.2. *The conjunction/disjunction asymmetry*

In terms of agreement, disjunction sentences are well known for differing from conjunctions; 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 examples 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 have 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 have been to the cinema.'

This asymmetry appears to be quite general, and can be formulated as follows:

(7) **Conjunction/disjunction asymmetry in agreement**
Conjunctions show resolved agreement in number, while 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. Closest agreement has been noted in a variety of circumstances.[2] Firstly, in English we observe closest agreement when 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.*
(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 Willer Gold et al. (2017) and references therein for further discussion.[3]

[2] We do not discuss the reasons why closest agreement should hold; for more detail the reader is invited to consult the above-cited references.

[3] First conjunct agreement is also possible, see Section 3.2. for further discussion.

(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 to treat it as a genuine point of divergence between conjunction and disjunction.

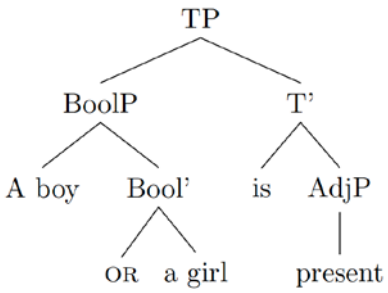
Obviously, we would like to understand why this asymmetry holds, and specifically, why disjunctions do not seem to show the same agreement possibilities as conjunctions. We see a few possible avenues to pursue to understand this asymmetry. Firstly, conjunctions and disjunctions have a fundamentally different syntax. While conjunction sentences have a syntax like (2) above, i.e. a syntax that facilitates resolved agreement, disjunction may lack this. One way 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.[4]

(12)



[4] In this paper, we do not distinguish between *either…or* constructions and regular *or* constructions (without *either*); we assume 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 is 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).

Put differently, 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*, while 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, while 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. Various arguments have been advanced that support our position, but we believe our argument to be somewhat novel. Ultimately, we believe that the third position is correct. That is to say, conjunction and disjunction are not fundamentally different in their syntax nor are the heads that different. However, while disjunction has the potential to show resolved agreement, it usually fails to do so. This predicts that there will be scattered effects of resolution, a prediction that we show is borne out.

This paper is structured as follows. In Section 2, we discuss Schwarz (1999), an approach which claims that disjunction contexts are derived through ellipsis, in the manner we suggested above. We also provide a counter argument 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 new 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 that it offers a programme for future research. Section 5 concludes the paper.

2. Syntactic approaches to *either … or*

Disjunctive coordinations containing the complex disjunction *either…or* present 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 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 attach to all kinds of coordinated constituents. In (14) *either* adjoins to a DP-coordination, in the examples in (16), it adjoins to a coordinated PP, VP, and IP, respectively.

(16) a. *John travelled either [to Paris or to Lyon]*.
b. *John has either [bought a house boat] or [rented a loft] in Amsterdam*.
c. *Either [John ate rice] or [he ate beans]*.

Either may also be embedded within the first conjunct, in which case it is – linearly spoken – further to the right compared to its assumed base-position adjacent to the disjunctive coordination, compare (16c) to (17). Again, following den Dikken

(2006) we refer to such constructions as "right-*either*".

(17) *[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* coordinations. He shows that these structures exhibit properties typical of Gapping. Acting on the assumption that Gapping is derived by phonological ellipsis of the finite verb (including eventually additional constituents) in the second conjunct, Schwarz (1999) transfers the ellipsis account of Gapping to left-*either* coordinations as well. According to the ellipsis approach, *either* is always positioned adjacent to the disjunctive coordination, see (18).[5]

(18) 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 the ellipsis of additional constituents apart from the finite verb. This is also possible in *either…or* constructions, as can be seen in the following examples. Example (19) illustrates ellipsis in Gapping; example (20) shows the corresponding pattern in the *either…or* construction. In both examples, the elided constituents do not have to be adjacent.

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

(20) *[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. Gapping requires remnant constituents to have correlates in the first conjunct, see (21). Schwarz observes that *either … or* constructions exhibit the same structural condition, as shown in (22) and (23). 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 conjunct in both examples.

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

(21) *John dropped the coffee and Mary (*clumsily) ~~dropped~~ the tea.*
(22) *Either [they answered my question] or [~~they~~ (?correctly) ~~answered~~ yours].*
(23) ??*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 (24a) excludes a negation in the second conjunct. This is why (24c) must be the source of (24a), but not (24b).

(24) 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].*

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.[6]

(25) ??*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; see (26) for an illustration of the Complex Noun Phrase Constraint (CNPC) (Neijt 1997: 138).

(26) **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 (27) for the CNPC.

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

2.2. *The Phrase Structure approach*

Despite the arguments for the Ellipsis Approach, there are convincing arguments showing that this account cannot be the whole story. For example, den Dikken

[6] Schwarz notes that the ungrammaticality of the assumed source of (25), given in (i), is due to a violation of the left bracket thesis. The left bracket thesis 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].*

(2006) points out that the ellipsis analysis falls short of accounting for the right-*either* constructions in (28). In (28), *either* is embedded within the first disjunct and, therefore, fails to be left-attached to the disjunction coordination.

(28) *John either ate rice or he ate beans*.

In addition, right-*either* appears to allow "dangling" particles in the second conjunct, as in (29), but such dangling constituents are disallowed in Gapping. The fact that they are possible in *either...or* constructions disturbs the parallelism between the two constructions, a parallelism that is a basic assumption of the Ellipsis Approach.

(29) (?)*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 (30a), or to the first/second contrastive focus (30b), or to a phrasal node on the θ-path[7] projected from the contrastive focus (30c) (den Dikken 2006: 707). Capitals indicate accent, boldface indicates semantic focus.

(30) a. *John ate either **RICE** or **BEANS***.
b. 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*.
c. *<Either> John <either> will <either> read **CHAPTER 3** or **CHAPTER 4***.

The Phrase Structure Approach accounts not only for left-*either* (cf. 30c) but also for right-*either*. Example (31), repeated from (17), is compatible with contrastive focus on the object (31a) and the VP (31b), but not on the IP (31c), because *either* would be contained within the contrastively focused constituent, which is syntactically ruled out.

(31) *[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 on *either…or* constructions first described in Larson (1985) and later discussed in Schwarz

[7] "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).

(1999) in the following way: an island may not intervene between *either* and *or* because it would interrupt the θ-path that defines possible adjunction sites for *either*.

To summarize 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*. The latter 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 above arguments provided by den Dikken, in this section we present arguments from agreement against an Ellipsis Approach to disjunction. We present two types of evidence, which both converge on the observation that the two disjuncts jointly influence the agreement on the verb; i.e. there must be a single verb that sees both disjuncts, and not two instances of local agreement with one of the verbs 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 patterns in disjunction similar to how agreement in conjunctions gets computed, namely, resolved agreement, 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.[8] For example in (32), the copular verb tries to spell out the competing features (3rd person plural from *they* and 1st person singular from *I*), but cannot do so. The example in (33) shows that syncretism of the verb forms can save the ineffability.

[8] Note that this does not hold for all speakers. As Pullum & Zwicky (1986) point out, some speakers are able to produce the sentence with agreement taking the value from the closest disjunct. For these speakers example (32) can be uttered as follows:

(i) *Either they or I am going to go*.

This is presumably a case of closest disjunct agreement (see below). The point that we are trying to make is not that the sentence is always ineffable, but that for some speakers it is. The fact that there are speakers for whom the sentence is improved by syncretism is evidence in favour of feature resolution. Namely, verbal agreement is sensitive to the features of both disjuncts, and, as such, cannot be a case of local agreement on the verb.

(32) *Either they or I {*are/*am/*is} going to have to go.*
(33) *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 (32) makes little sense on the ellipsis analysis, because no interaction is predicted 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*.[9] 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 this reinforces the point that both members of the disjunct are involved. In contrast, the ellipsis analysis would predict the disjunction of 'spider' and 'basket' to be compatible with the last disjunct, contrary to the fact.

Table 1. Ineffability in Guébié disjunction

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

Furthermore, 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), among others. That this pattern is also seen in disjunction indicates that there is a common syntax between conjunction and disjunction.

[9] We abstract away from the question of whether the pronoun is derived morphosyntactically or phonologically; see Sande (2017) for discussion.

3.2 *Other strategies to fix a clash*

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

Slovenian has been shown to show both highest (34a) and closest (34b) conjunct agreement (Marušič et al. 2015):

(34) 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.'

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

(25) a. *Entweder* *wir* *oder* *ihr* *seid/*sind* *gekommen*.
either we or you.PL be.2PL/*be.1PL come.PAST
'Either we or you came.'

b. *Entweder* *ihr* *oder* *wir* *sind/*seid* *gekommen*.
either you or we be.1PL/be.2PL come.PAST
'Either you or we came.'

We are not aware at this point of clear cases of highest disjunct agreement. Arguably, a case of highest disjunct agreement comes from Iraqw (Mous 2004), a Cushitic language. Mous claims that both highest disjunct agreement and closest disjunct agreement are found in Iraqw. As shown in (36), the verb undergoes (subject) agreement with the first/highest disjunct, which is masculine, with the result that masculine agreement is shown on the verb.

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

This can be contrasted with object agreement, as in (37), where we observe a closest disjunct agreement strategy.

(37) *kwahlaahli* *laqáa* *mahaangw*
bead.FEM or arrow.MSC
g-u-n *haniis*.
OBJ.3-OBJ.MSC-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 (37). Mous (1993) shows that object agreement is complex and located on the copular, in this sentence *n*.[10] 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 (37) is not agreement that expresses the features of both. As such it seems to be a closest strategy. If the object is a conjunction and causes agreement, then we see resolved agreement as in the following:[11]

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

While Mous (2004) claims that the disjunction examples are highest and closest strategies respectively, it is also possible that the agreements seen in the disjunction sentences represent default agreement.[12] Both of the agreements are masculine singular, which is arguably what one would expect of a default agreement. However, even if this is the case, the data still support our overarching point here without necessarily providing us with such a strong parallel to conjunction agreement. The fact that default agreement arises in disjunctions suggests that there is some interaction between the features of the two disjuncts. It could also be that the structure of disjunction is more complex than that of conjunction. At any rate, the fact that de-

[10] 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. We refer again to Mous (1993) for discussion of the relevant factors.

[11] The glosses indicate that the nouns are plural. However, both of these nouns are feminine in Iraqw in terms of the agreement that they give to the verb. As such, for the purposes of agreement, they are effectively singular and not treated like plural forms (plural forms give rise to neuter agreement on the verb).

[12] We thank the anonymous reviewers for making us consider this possibility in more detail.

fault agreement arises is surprising if disjunction were to involve ellipsis in the first conjunct. We do not have the necessary data in hand to test the structure of disjunction and how this relates to agreement in Iraqw in greater detail. This is left for future research.

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 involved the same structure. Crucially, however, only the closest conjunct agreement facts are expected on an 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 controllers that are further away. 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 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) notes that in German, when the disjunction with *weder …noch* 'neither …nor' functions as the subject, plural agreement on the verb is more frequent even though both singular and plural agreement are possible. Sentence (39) is 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.

(39) *In Bonn waren sich weder Kabinett*
in Bonn was.PL self neither Cabinet
noch Regierungsfraktionen einig.
nor parliamentary.party.PL united
'In Bonn, neither the Cabinet nor the party were united.' (Die Zeit)

Agreement resolution under negative disjunction also shows up in other languages. For example in Darghi (Nakh-Daghestanian), object agreement with a disjunctive object can show resolution, as in (40). In Passamaquoddy (Algonquian) subject agreement, the same pattern shows up, as can be seen in (41).

(40) *[…] ya pulaw, ya ʕärʕä 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)

(41) *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 (42), 14/20 speakers preferred singular agreement. Only 4/20 preferred plural.

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

At the same time, in (43), which is clearly an inclusive context, 13/20 preferred plural agreement, and only 7/20 preferred singular.

(43) *I jineka I to pedi exun protereotita*
the woman.SG or the child.SG have.PL priority
ja to emvolio jata tis gripis.
for the vaccine 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.

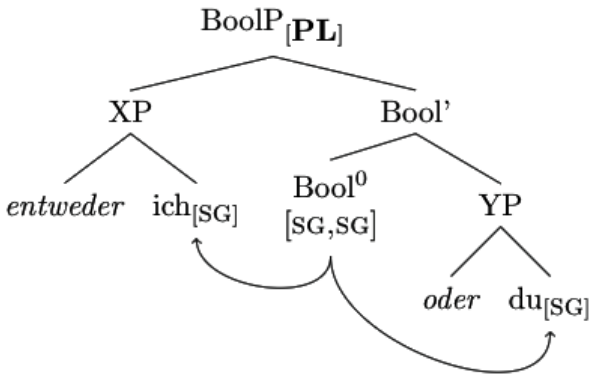
Finally, there are cases of agreement resolution in disjunction that seem to be arbitrarily licensed. In German, the disjunction of two singulars will yield plural agreement in (44).

(44) a. *Entweder der Junge oder das Mädchen sind/%ist gekommen.*
either the boy or the girl are/is come.PTCP
'Either the boy or the girl came.'

b. *Entweder ich oder du sind gekommen.*
either I or you are come.PTCP
'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 (45).

(45)



Resolved agreement is not the general pattern in German, since it sometimes requires closest disjunct agreement as is shown in (46).

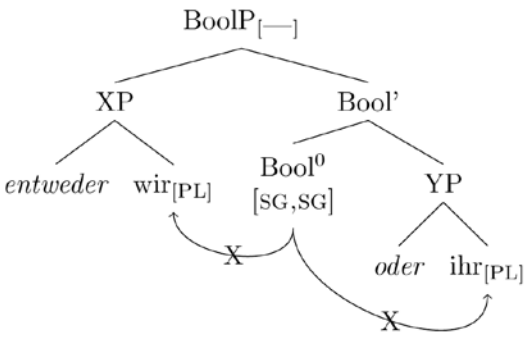
(46) a. *Entweder wir oder ihr seid/*sind gekommen.*
either we or you.PL be.2PL/*be.1PL come.PTCP
'Either we or you (pl) came.'

b. *Entweder ihr oder wir sind/*seid gekommen.*
either you. PL or we be.1 PL /*be.2 PL come.PTCP
'Either you (pl) or we came.'

For the moment, we leave *neither…nor* and inclusive disjunction for the next section. In order to capture the closest disjunct agreement, as in (46), 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. This is visualised in (47). The verb then 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.[13]

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

(47)



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 of capturing these patterns, which strongly indicates a structural similarity between conjunction and disjunction.

4. When disjunction allows resolution

The arguments laid out in the previous section have shown that despite the widespread asymmetry between agreement in conjunctions and disjunctions, there is also evidence from agreement that the underlying structure of conjunctions and disjunctions is the same. That is, while an analysis of the asymmetry appealing to ellipsis is viable for standard cases, it is not enough to capture certain patterns that arise in disjunction agreement. The modifications that allow for an analysis of such disjunctive patterns also face substantial challenges. With this established, we have fulfilled the narrow aim of our paper, viz. to argue against the claim that ellipsis underlies the conjunction-disjunction asymmetry.

Before concluding the paper, it is worth looking a little more closely into 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. They offer some insight into the nature of agreement resolution. We should stress at the outset that our discussion is very preliminary

and somewhat speculative. However, we believe that our proposals could 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 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 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 of the head of BoolP, it is difficult to draw the line between the two.

With this said, we return to the question of what the relevant distinction between conjunction and disjunction is. While we believe that the difference between the 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 argue that AND can resolve agreement, but OR cannot.

Rather, if we look at the commonalities between conjunction, *neither…nor* sentences, and inclusive disjunction, what they seem to have in common is (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.

(48) *The duck and the goose are in the pond*.

In a parallel manner, when using the *neither…nor* construction, the negative element appears to take scope over the entire disjunction. Thus, a sentence like (49), with *neither…nor* in the subject position, is true only if both the duck and the goose are not in the pond.

(49) *Neither the duck nor the goose is in the pond*.

Put differently, *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'. Indeed, logically by De Morgan's law ¬ (X∨Y)=(¬A)∧(¬B).

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

(50) 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 can be presented as proof of ID*.

In (50a), 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 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 (49), where the agreement is singular. Our claim is, instead, 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. This means that the interpretation of the coordinating head plays a role in agreement determination and we do not have to list heads that will either resolve agreement or not.[14] There are potentially various other factors at play here, most obviously the form. In the English case of *neither…nor*, there is still a mismatch between the meaning and the form.

[14] That is, we do not need to assume that the head for exclusive disjunction is different from that of inclusive disjunction.

While *nether … nor* may have the meaning of a conjunction, it remains transparently derived from the disjunction form *either…or*. The fact that it transparently derives from the disjunction form could lead to an indeterminancy in agreement patterns.

At this stage there are various open questions that we do not have answers to. Furthermore, it could well be that the connection between conjunction and these disjunction environments is tenuous. Yet, we believe that it is at least a fruitful area to investigate; one with much potential to inform about the nature of the feature resolution mechanism.

5. Conclusion

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 as ellipsis. 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 conditions under which we see resolved agreement in disjunctions, and to discuss why, given that resolved agreement is possible, it is so often the case that disjunctions show asymmetry with conjunctions. We have shown that cases of resolution in disjunction often involve an interpretation analogous to conjunction: in the *neither…nor* instances, what is a morphological disjunction in fact seems to be semantically a conjunction of sorts. Secondly, inclusive disjunction has been shown to increase the likelihood of resolved agreement. We have suggested that this could potentially be related to the above, namely, that inclusive disjunction includes a reading of coordination. Finally, we have shown that some instances of resolved agreement in disjunctions appear to be just random, and suggested a way – admittedly somewhat of a brute force mechanism – in which these could be handled.

Summing up, we have seen that both *neither…nor* sentences and inclusive disjunction have the same semantic interpretation as 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, under certain configurations, resolved agreement can be shown with disjunctions. Rather,

we hope to have demonstrated, at least in a preliminary manner, 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 of features. Rather, there needs to be room for semantics, playing a role even beyond the more familiar cases of 'semantic agreement' hitherto discussed in the literature (e.g. Smith 2015; 2017; Shen 2017, etc.).

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MERKMALSKONFLIKTE, MERKMALSRESOLUTION UND DIE STRUKTUR VON *EITHER… OR* 'ENTWEDER … ODER'

In diesem Aufsatz diskutieren wir Kongruenzasymmetrien in Konjunktion und Disjunktion. Wir erwägen verschiedene Faktoren für das Phänomen, dass Kongruenz zwischen den Subjekten und einem gemeinsamen Prädikat zwar in Konjuktionen prinzipiell möglich ist, jedoch nicht immer in Disjunktionen. Dann zeigen wir anhand von Kongruenzdaten, dass Disjunktionen nicht durch lokale Kongruenz und Ellipse abgeleitet werden können, und argumentieren anstattdessen für eine symmetrische Struktur von Konjunktion und Disjunktion, indem wir dafür argumentieren, dass gelöste Kongruenz in manchen Disjunktionen tatsächlich möglich ist.

Schlüsselwörter: Konjunktion; Disjunktion; Kongruenz; Ellipse.