

# Agreement Asymmetries in Coordinate Structures<sup>\*</sup>

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## 1. Puzzle

This paper, drawing on data primarily from Polish, provides a new account of a familiar phenomenon, referred to in the literature as first conjunct agreement. An example of first conjunct agreement is given in (1), in which the verb agrees in number, gender and person only with the first conjunct of the coordinate subject.<sup>1</sup>

- (1) Do pokoju weszła młoda kobieta i chłopiec.  
to room entered-f.sg young woman and boy  
'Into the room walked a young woman and boy.'

'Standard' plural agreement is also possible; agreement with the second conjunct, however, results in ungrammaticality:

- (2) a. Do pokoju weszli kobieta i chłopiec.  
to room entered-pl woman and boy  
b. \* Do pokoju wszedł kobieta i chłopiec.  
to room entered-sg.masc woman and boy

<sup>\*</sup> I would like to thank FASL 12 audience, in particular Masha Babyonyshev, John Bailyn, Steven Franks, and Gereon Mueller, for many useful comments and suggestions. Special thanks to two anonymous FASL reviewers for very detailed and thoughtful comments. All the errors and omissions are mine.

<sup>1</sup> The Polish examples in this section are modeled on Babyonyshev's (1996) Russian examples. First conjunct agreement is not limited to Slavic languages. It has also been noted in Arabic ((Aoun, Benmamoun, Sportiche 1994, 1999, Munn 1999), Irish (McCloskey 1986).

Furthermore, first conjunct agreement is possible only with postverbal subjects. Preverbal subjects allow only plural agreement:

- (3) Młoda kobieta i mały chłopiec weszli/\*weszła do pokoju.  
young woman and small boy entered-pl/\*sg to room  
'A young woman and a small boy entered the room.'

Existing analyses of first conjunct agreement focus on what makes it possible. From the perspective of the minimalist program, which strives to eliminate optionality from the grammar (optional movement/scrambling (Miyagawa 1997, Bailyn 2001), optional Quantifier Raising (Fox 1999), optional Left Branch Extraction and Quantifier Float (Bošković 2002a and 2002b)), a more important question is what makes both patterns of agreement possible. Another important question is why first conjunct agreement is sensitive to word order.<sup>2</sup>

<sup>2</sup> The generalization that first conjunct agreement is only possible with postverbal has exceptions. In Frisian, for example, complementizers can agree with the first conjunct of a preverbal subject:

- (i) Dats do en Marie it fan elkoar te witten yn Rome  
that-2sg you-sg and Marie without it from each other to know in Rome  
west ha  
been have  
'That you and Marie have been in Rome without knowing it from each other.'

The Frisian data fit the Slavic pattern on the assumption that the agreeing conjunct simply has to follow the element it agrees with. Furthermore, cases of first conjunct agreement with preverbal subjects exist even in Slavic. They are very rare, however. Kallas (1974) in a corpus study of Polish found only 8 instances of singular agreement out of 73 instances of Subject Verb word order. They typically involved a situation in which the two conjoined nouns referred to the same individual:

- (ii) Kierownik zaś i inicjator tej imprezy został doradcą Białego Domu.  
director and initiator this event became-sg advisor White House  
'The director and initiator of this event became a White House advisor.'

## 2. Previous Accounts

### 2.1 Conjunction Reduction

Aoun, Benmamoun, and Sportiche (1994) and (1999) develop a conjunction reduction (CR) analysis of first conjunct agreement in Arabic. On their view, it underlyingly involves two clauses with singular subjects and singular verb agreement. The appearance of subject coordination is the result of deletion under identity inside one of the clauses, as shown in (4).

- (4) a. [TP ...V<sub>sg</sub> DP<sub>sg</sub>] and [TP ...V<sub>sg</sub> DP<sub>sg</sub>]  
b. [TP V<sub>sg</sub> DP<sub>sg</sub>] and [TP ~~V<sub>sg</sub>~~ DP<sub>sg</sub>]

One of the strongest arguments in favor of the CR analysis comes from the distribution of the elements such as *together* or *each other*, which can only appear in plural environments. I will refer to such elements as Number Sensitive Items (NSI). NSIs are incompatible with first conjunct agreement. For example, *razem* ‘together’ is only possible with plural agreement:

- (5) a. \* Do pokoju razem weszła Maria i Jan.  
to room together entered-sg Maria and Jan  
‘Mary and John entered the room together.’  
b. Do pokoju razem weszli Maria i Jan.  
to room together entered-pl Maria and Jan  
‘Mary and John entered the room together.’

On the CR analysis presented in (4) above, the ungrammaticality of (5a) reduces to the ungrammaticality of (6a-b).

- (6) a. \* Do pokoju razem weszła Maria.  
into room together entered-sg Maria  
‘Maria walked into the room together.’

- b. \* Do pokoju razem wszedł Jan.  
 into room together entered-sg Jan  
 ‘Jan walked into the room together.’

Similarly, the incompatibility of plural reflexives and reciprocals with first conjunct agreement follows from their incompatibility with singular subjects, as shown in (7a-b).

- (7) a. \* Bardzo lubi się nawzajem Maria i Zosia.  
 very-much like-sg REFL Maria and Zosia  
 ‘Maria and Zosia like each other.’  
 b. \* Bardzo lubi się nawzajem Maria.  
 very-much like-sg REFL Maria  
 ‘Maria likes each other.’

Even though the CR analysis is intuitively very plausible, it faces some problems. First, it has to allow deletion without total identity between the two conjuncts. In (8a), for example, which is the source of (8b), the verbs in the two conjuncts are not identical.

- (8) a. Do pokoju weszła Maria i do pokoju wszedł Jan.  
 to room entered-fem M. and to room entered-ms J.  
 b. Do pokoju weszła Maria i Jan  
 to room entered-fem Maria and Jan  
 ‘Into the room walked Maria and Jan.’

Another argument against CR, due to Munn (1999), comes from its failure to distinguish between syntactic and semantic plurality. This distinction is shown by the existence of semantically plural, syntactically singular elements such as *grupa* ‘group’, *rodzina* ‘family’,  *tłum* ‘crowd’ on the one hand, and

syntactically plural, semantically singular elements such as *nożyczki* ‘scissors’ or *spodnie* ‘pants’ on the other.<sup>3</sup>

- (9) a. Nasza grupa wyjeżdża jutro.  
our group leave-sg tomorrow  
‘Our group is leaving tomorrow.’
- b. \* Nożyczki spotkają się jutro.  
scissors meet-pl refl tomorrow  
‘The scissors are meeting tomorrow.’

The CR analysis predicts that elements requiring only semantic plurality should be impossible with first conjunct agreement. The distribution of distributive *po*-phrases shows that this prediction is not met. First, *po*-phrases can be licensed by conjoined noun phrases.<sup>4</sup>

- (10) Po jabłku zjedli Janek i Tomek.  
PO apple ate-pl Janek and Tomek  
‘Janek and Tomek ate an apple each.’

*Po*-phrases can also be licensed by semantically singular, syntactically plural elements such as *rodzina* ‘family.’

- (11) Po jabłku zjadła cała rodzina.  
PO apple ate-sg whole family  
‘The family ate an apple each.’

<sup>3</sup> Some Number Sensitive Items, such plural reflexives and reciprocals, require both syntactic and semantic plurality. This is shown by their incompatibility with syntactically singular but semantically plural nouns such as *group*:

- (i) \* The group likes each other.  
(ii) \* The group is keeping themselves in shape.

<sup>4</sup> For the purposes of this paper, other factors that can license *po*-phrases are irrelevant.

The grammaticality of (12a) provides a crucial argument against the CR analysis, which predicts that (12a) should be just as ungrammatical as (12b).

- (12) a. Po jabłku zjadł Janek i Tomek.  
PO apple ate-sg Jan and Tomek  
'Jan and Tomek ate an apple each.  
b. \* Po jabłku zjadł Janek.  
PO apple ate-sg Janek  
'Janek ate an apple each.'

The distribution and interpretation of the lexical item *różny* 'different' provides yet another argument against the CR analysis. I will be concerned here with only one of its readings, the so-called NP-dependent reading. It is illustrated in (13), which means that the book Mary read is different from the book John read.<sup>5</sup>

- (13) Jan i Maria przeczytali różne książki.  
Jan and Maria read different books  
'John and Mary read different books.'

The NP-dependent reading is possible with singular agreement. (14), for example, can mean that each member of the group wears a hat that is different from the hat worn by every other member of the group.

- (14) Nasza grupa nosiła różne kapelusze.  
Our group wore different hats  
'Our group wore different hats.'

<sup>5</sup> *Different* has two other readings that are irrelevant for our purposes: a discourse anaphoric reading (different from some other discourse salient element), and a reciprocal reading (different from each other). For a semantic analysis of different, see Beck (2000).

The NP-dependent reading is impossible with singular subjects; (15) only allows the so-called reciprocal reading, in which the articles that Tom read were different from each other.<sup>6</sup>

- (15) Tomek przeczytał różne artykuły.  
Tom read-sg different articles  
'Tom read different articles.'

Crucially, the NP-dependent reading is available with first conjunct agreement:

- (16) Różne artykuły przeczytał Tomek i Piotrek.  
different articles read-sg Tom and Peter  
'Tom and Peter read different articles.'

The availability of this reading is a puzzle for the CR analysis, which predicts that (16) should parallel (15).

The CR analysis also incorrectly predicts that (17a) should be ungrammatical, since it is derived from the ungrammatical (17b).<sup>7</sup>

- (17) a. Razem wyszliście wy i ja  
together left-2pl you-pl and I  
'You and I left together.'

<sup>6</sup> Polish is like German and unlike English in that it uses a different lexical item to represent a discourse anaphoric reading of *different*, in which the articles Tom read are different from some other set of contextually salient articles.

- (i) Tomek przeczytał inne artykuły.  
Tom read-sg different articles  
'Tom read different articles.'

<sup>7</sup> The 'standard' agreement for the coordination of a second person plural pronoun and a first person singular pronoun is first person singular, as shown in (i), which shows that (17a) is indeed a case of first conjunct agreement.

- (i) Wy i ja wyszliśmy razem.  
You-pl and I left-1pl together  
'You and I left together.'

- b. \* Razem wyszliście wy i razem wyszłam ja.  
 together left-2pl and together left-1sg I  
 ‘You left together and I left together.’

Variable binding, on the other hand, seems to provide an argument in favor of the CR analysis. Since variable binding across clausal conjuncts is impossible, as shown in (18a), the CR account predicts that it should also be impossible with first conjunct agreement. This prediction is confirmed, as shown in (18b).<sup>8</sup>

- (18) a. \* Każdy<sub>i</sub> student był na zebraniu i jego<sub>i</sub> promotor  
 every student was at meeting and his advisor  
 był na zebraniu.  
 was at meeting  
 ‘Every student and his advisor was at the meeting.’
- b. \* Na zebraniu był każdy<sub>i</sub> student i jego<sub>i</sub> promotor.  
 at meeting was every student and his advisor  
 ‘Every student and his advisor was at the meeting.’

<sup>8</sup> The ungrammaticality of (19) can be linked to the availability of a bound reflexive pronoun, illustrated in (i):

- (i) Każdy<sub>i</sub> student ze swoim<sub>i</sub> promotorem był na zebraniu.  
 Every student with self's advisor was at meeting  
 ‘Every student with his advisor was at the meeting.’

In languages in which there is no such interfering factors, such as Arabic, variable binding across the two conjuncts with singular agreement is possible, which is problem for the CR account (Aoun, Benmamoun, Sportiche 1999):

- (ii) Dəhku kull ražəl w wəld-u  
 laughed-sg each man and child-his  
 ‘Each man and his child laughed.’

This argument in favor of the CR account is only apparent, since variable binding across DP conjuncts in Polish is also ungrammatical.<sup>9</sup>

- (19) \* *Każdy<sub>i</sub> student i jego<sub>i</sub> promotor byli na zebraniu.*  
every student and his advisor was at meeting  
'Every student and his advisor was at the meeting.'

To sum up the discussion so far, we have seen that the distribution of *po*-phrases, the interpretation of the lexical item *różny* 'different', and the agreement with conjoined pronominal subjects are a problem for the CR analysis. The alternative I will develop in Section 2.3. avoids these problems. It will preserve one insight of the CR analysis; the idea that first conjunct agreement and plural agreement involve distinct structures.

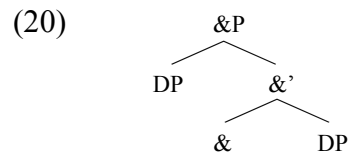
## 2.2. Phrasal Coordination Accounts

If first conjunct agreement does not involve clausal coordination, it must involve DP coordination. This is indeed the way Babyonyshev (1996) and Johannessen (1996) analyze first conjunct agreement. They assume a standard asymmetric structure for coordination, given in (20), in which the conjunction phrase is headed by the conjunction and the first conjunct c-commands the second one.<sup>10</sup>

<sup>9</sup> The 'standard' agreement for the coordination of a second person plural pronoun and a first person singular pronoun is first person singular, as shown in (i), which shows that (17a) is indeed a case of first conjunct agreement.

(i) *Wy i ja wyszliśmy razem.*  
You-pl and I left-1pl together  
'You and I left together.'

<sup>10</sup> For the purposes of this paper, other asymmetric approaches to coordination would also work.



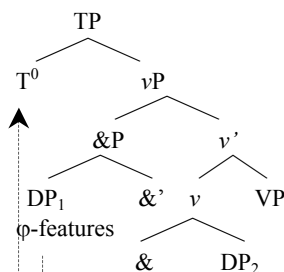
Johannessen (1996) analyzes first conjunct agreement as a straightforward consequence of specifier-head agreement. The first conjunct in (21) agrees with the conjunction head, and the agreement features of the conjunction head percolate up to the phrasal level. As a result of this feature percolation, the conjunction phrase shares its features with the first conjunct, and the verb gets singular agreement.



There are two problems with Johannessen's (1996) analysis. First, it does not account for the plural agreement pattern, which is much more common from a crosslinguistic perspective. Johannessen notes this problem, and suggests that plural agreement is simply a reflex of semantic agreement. Second, it does not capture the correlation between word order and first conjunct agreement. It is not clear why the same specifier-head agreement mechanism should be unavailable with preverbal subjects.

Babyonyshev's (1996) account captures the correlation between first conjunct agreement and word order. Babyonyshev analyzes first conjunct agreement as arising through covert movement of the phi-features of the first conjunct to T.

(22)



Babyonyshev (1996) derives the correlation between first conjunct agreement and word order from the Coordinate Structure Constraint (CSC). In (22) above, overt movement of the first conjunct would violate the CSC. Thus, only the entire coordinate subject can move, triggering ‘standard’ plural agreement. Since covert movement from the post-verbal position is feature movement, it can affect only features of the first conjunct.

There two questions that covert feature movement analysis raises. First, it relies crucially on the assumption that feature movement, more generally covert movement, is not subject to the CSC. This assumption is empirically problematic, since other well-studied instances of covert movement do not allow violations of the CSC. The ungrammaticality of (23), for example, shows that covert wh-movement is subject to the CSC.

(23) \* I wonder who [took what from Mary] and [gave a book to Jeremy].

Quantifier raising is also subject to the CSC, which is shown by the lack of a wide scope reading for the universal quantifier in (24). (Fox 1999, Lin 2002):<sup>11</sup> The example given in (24) can only

<sup>11</sup> This argument holds irrespective of whether the CSC is viewed as a constraint on representations or derivations. The grammaticality of the following points towards the latter conclusion:

- (i) I wonder who took what from Mary and gave it to Jeremy.

mean that a single student likes all the professors and hates the dean.

(24) A student [likes *every professor*] and [hates the dean].

In Babyonyshev's account, the availability of both singular and plural agreement follows from equidistance. She assumes that in (22) above, &P and DP<sup>1</sup> are equidistant from T, since neither c-commands the other (Babyonyshev 1996:83). Therefore, T can agree either with the entire conjunction phrase or with the first conjunct. This, however, is not a standard view of equidistance, since it requires the equidistant elements not to c-command each other rather than to be in the same minimal domain. On the standard approach to equidistance, since both conjuncts are within the same minimal domain, they should be equidistant from T. This incorrectly predicts that agreement with the second conjunct should also be possible.

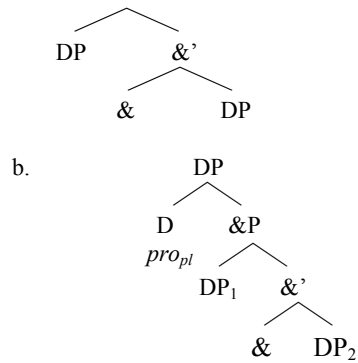
The CSC, equidistance, the ungrammaticality of second conjunct agreement, and the availability of plural agreement are a problem for the phrasal analyses of first conjunct agreement outlined in this section. The alternative analysis I develop in the next section does not face these problems, since it derives the availability of both first conjunct agreement and plural agreement from the structural ambiguity of coordinate DPs.

### 3. Proposal: Structural Ambiguity

I propose that coordinate DPs are ambiguous between the following two structures: the Bare &P structure and the Plural Pronoun &P structure. The two are given in (25a) and (25b), respectively.

(25) a. &P

(ii) A publisher will publish every book and write its author a check.



Both structures have been argued for independently; (25a) is a familiar kind of asymmetric structure for coordination. (25b), which involves the empty plural pronoun taking the conjunction phrase as its complement, is similar in spirit to the structure proposed by Progovac (1998). Some empirical support in its favor comes from the fact that the empty plural pronoun can be overtly realized, as shown in (26).

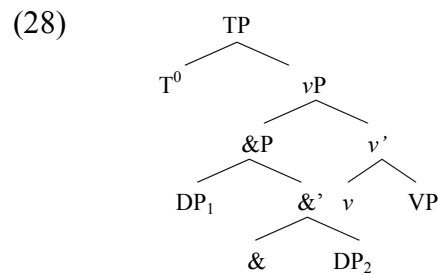
- (26) oni, Jan i Maria...  
 they, John and Mary,...

Further support comes from the so-called plural pronoun comitatives, illustrated in (27a), which can be thought of as involving the structure in (27b).

- (27) a. My s Jankiem tańczyliśmy  
 we with Jan-Instr danced-pl  
 'We (=I and Jan) danced.'  
 b. [DP we [&P pro.1sg and/with John] ]

The novelty of the present proposal lies in the claim that both the Bare &P structure and the Plural Pronoun &P structure are in principle available, and as we will see shortly, that they correlate with different agreement patterns.

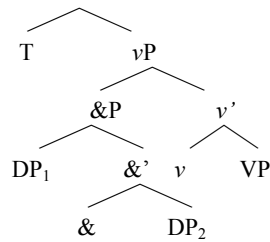
Following Chomsky (2000, 2001), I assume that covert movement (either phrasal or featural) does not exist. It is replaced by an *Agree* operation that establishes a feature matching and feature valuation relationship between two elements: a Probe and a Goal. Chomsky (2001) also eliminates equidistance from the grammar on the grounds that it is not conceptually necessary. With no equidistance, the Probe always has to agree with the closest Goal. Eliminating equidistance adds another problem for the phrasal accounts of first conjunct agreement. Consider the structure given in (28).



Agreement with the closest DP, DP<sub>1</sub> in this case, yields first conjunct agreement. A natural way to get plural agreement is to assume that the conjunction head itself is plural. If agreement with &P is possible, however, agreement with only one conjunct should never be an option, since &P is always going to be closer to T than the first conjunct. Without equidistance, there does not seem to be any way to account for both plural and first conjunct agreement with a single structure.

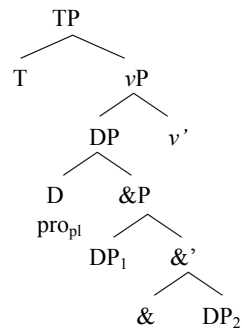
The problem does not arise on the assumption that the two different agreement patterns correspond to two different structures. First conjunct agreement involves the Bare &P structure given in (29). There is no feature percolation, the T head simply agrees with the phi-features of the closest nominal element, the first conjunct.





Plural agreement, on the other hand, involves the Plural Pronoun &P structure, repeated below.

(30)



Again, the T head agrees with the closest nominal element. In this case, however, it is the null plural pronoun rather than the first conjunct.

The idea that null pronouns play a role in agreement is also neither new nor unique to the present proposal. Den Dikken (2001) pursues a very similar idea in order to explain why singular collective nouns can trigger plural agreement. An example of such a noun from British English, which den Dikken refers to as a pluringular, is given in (31).

(31) The committee have decided to do it.

On den Dikken's analysis, (31) involves the structure in (32), in which the nominal *the committee* is the complement of the plural *pro*:

(32) [DP *pro*<sub>pl</sub> [DP *the committee* ] ]

This account predicts that plural agreement should be impossible if the Plural Pronoun structure is unavailable. The ungrammaticality of (33), in which the null pronoun of the Plural Pronoun &P structure is overtly realized, suggests that such a structure is impossible with quantified noun phrases:

(33) \* *Oni, każdy lekarz i każdy farmaceuta wyszli.*  
they every doctor and every pharmacist left  
'Every doctor and every pharmacist left.'

The ungrammatical status of (33) makes a prediction that plural agreement should be impossible with quantified coordinate subjects. This prediction is indeed confirmed; only singular agreement is possible in (34).

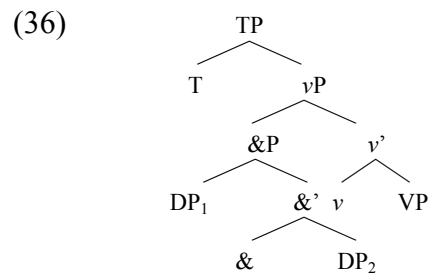
(34) *Każdy lekarz i każdy farmaceuta wie/\*wiedzą o tym.*  
every doctor and every pharmacist know-sg/\*pl about it  
'Every doctor and every pharmacist knows about it.'

#### **4. Conclusions and Consequences**

To conclude briefly, I have argued in this paper for a new analysis of first conjunct agreement. The analysis, which derives the availability of two patterns of agreement with postverbal coordinate subjects from the availability of two distinct structures, repeated in (35), avoids the problems faced by the alternative accounts.

- (35) a.  $[_{\text{andP}} \text{DP}_1 [_{\text{and}'} \text{and DP}_2] ]$   
 b.  $[_{\text{DP}} \text{they} [_{\text{andP}} \text{DP}_1 [_{\text{and}'} \text{and DP}_2]]]$

There is one question that the current analysis raises that I can consider only briefly here. It concerns the correlation between word order and first conjunct agreement. We have seen above that with the exception of quantified noun phrases, first conjunct agreement is impossible with preverbal subjects. On the current analysis, this has to follow from the unavailability of the Bare &P structure with preverbal subjects. In other words, it has to follow from the unavailability of the derivation schematized in (36), in which T first agrees with the first conjunct and then the entire &P raises to [Spec,TP].



Such a derivation can be ruled out on a natural assumption that movement is contingent on the *Agree* operation. Only elements first targeted by *Agree* can subsequently undergo movement. In an intuitive sense, the movement of the entire &P to [Spec,TP] in (36) violates economy, since it involves superfluous pied-piping.<sup>12 13</sup>

<sup>12</sup> The unwanted derivation is similar to a derivation of a simple transitive sentence, in which T agrees with the subject in [Spec,vP] and then the entire vP, rather than just the subject moves to [Spec,TP].

<sup>13</sup> Alternatively, we may ask what rules out the Plural Pronoun &P structure with first conjunct agreement. The answer is simple; in such a structure the plural pronoun would always intervene between the Goal and the Probe.

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