

“DP conjunction” as vP conjunction: a case for conjunction reduction

Overview. The analysis of apparent non-clausal conjunction has long been a locus of debate. This paper takes as its testing ground examples where the conjunction *and* occurs linearly between object DPs. Does *and* in (1) conjoin DPs (the **DP analysis**), or does it conjoin larger constituents of type *t* (**Conjunction Reduction, CR**), a fact obscured in the surface string by ellipsis?

(1) John saw every student and every professor.

This paper supports the CR analysis by providing a series of data which CR can account for, but the DP analysis cannot. Data from scope (Case 1) and licensing of VP ellipsis (Case 2) demonstrate that CR must at least be a *possible* analysis, and further scope data (Case 3) argue that CR is the *only* available analysis. Building on ideas in Wilder (1997) and Schwarz (2000), I propose a syntactic mechanism for CR in the examples discussed which extends a mechanism independently proposed for **gapping**.

From gapping to CR. Johnson (1996, 2009) analyzes gapping in (2) as a conjunction of vPs below a shared T. *John* in the left conjunct moves to spec-TP. For concreteness, I adopt a derivation of the surface string after Coppock (2001): in the right conjunct, *every professor* evacuates the VP at PF (cf. Weir 2014), and the VP elides (licensed after Merchant 2001), with *Mary* and *every professor* remnants.

(2) [_{TP} John_k T [_{VP} *t_k* saw every student] [and [_{VP} Mary [_{VP} ~~saw *t_j*~~] every professor_j]]]

Given (2), CR is *predicted* to be available: instead of *John* moving to spec-TP out of the left conjunct, *John* should be able to ATB move to spec-TP out of both conjuncts, delivering the surface string in (1):

(3) [_{TP} John_k T [_{VP} *t_k* saw every student] [and [_{VP} *t_k* [_{VP} ~~saw *t_j*~~] every professor_j]]]

Case 1: Split scope. The example in (4a) has a reading equivalent to (4b):

- (4) a. John refused to eat any grape and any cherry.
b. John refused to eat any grape, and he refused to eat any cherry.

On this reading, the existentials *any grape* and *any cherry* each scope below *refuse* (as is required for the NPIs to be licensed), while *and* scopes above *refuse*: it is not that what John refused was to eat both grapes and cherries together (*refuse* > *and*), but rather that he refused to eat grapes at all and that he refused to eat cherries at all (*and* > *refuse*). Hence, scope is “split”: *and* > *refuse* > *any grape*, *any cherry*.

Some speakers report a preference to convey the split scope reading with *or*, as in (5), instead of *and*. There are, however, ways of bringing out the split scope reading in (4a): (i) adding an *of*-phrase, after Szabolcsi & Haddican (2003), (6a); (ii) adding *possibly* after *and*, (6b); and (iii) introducing a prosodic boundary before *and* (related to prosodic observations in Wagner 2010:283ff), (6c).

- (5) John refused to eat any grape or any cherry.
(6) a. Of the fruit on the table, John refused to eat any grape and any cherry.
b. John refused to eat any grape and possibly any cherry.
c. John refused to eat any grape || and any cherry.

If *any grape and any cherry* in (4a) is analyzed as a conjunction of DPs, split scope cannot be derived: if the conjunction QRs above *refuse*, both *and* and the quantifiers scope above, and vice versa if the conjunction QRs below *refuse*. There must be a mechanism for *and* to scope independent of the quantifiers – and CR is such a mechanism. In (7), the vPs *refuse to eat any grape* and *refuse to eat any cherry* are conjoined, so *and* scopes above *refuse*. *John* ATB moves out of both vPs to spec-TP, and at PF, *any cherry* escapes the VP in the right conjunct, which elides (not shown). At LF, *any grape* and *any cherry* remain below *refuse* within their respective conjuncts, hence split scope.

(7) [_{TP} John_k T [_{VP} *t_k* refused to eat any grapes] [and [_{VP} *t_k* refused to eat any cherries]]]

The phenomenon is not restricted to NPIs, but recurs with a wide range of embedded nominals:

- (8) a. John refused to talk to more than three students and more than six professors.
b. This plant is easy to take care of! It needs little water and little sunlight.

The profile of (8a) is similar to (4a). In (8b), *little* decomposes into negation and *much*, and a natural

reading of (8b) has the *much* component of *little* scope below *need* while *and* scopes above. The reading is paraphrased: *this plant does not need much water and this plant does not need much sunlight*.

Case 2: Antecedent for ellipsis. VP-ellipsis is licensed in (9a), where the elided VP in the *though*-clause (Δ) is interpreted as *resembles his father*, per the paraphrase in (9b) – but, where is the antecedent for Δ ?

- (9) a. John resembles his mother and, though he would rather not Δ , his father.
 b. John resembles his mother and his father, though he would rather not resemble his father.

Under CR, the left conjunct contains the VP *resembles his mother* and the right conjunct the VP *resembles his father*, (10). The VP in the right conjunct is thus an appropriate antecedent for Δ . The example in (9a) is then parallel to the gapping example in (11).

(10) [_{TP} John_k T [_{vP} t_k resembles his mother] [and [_{vP} t_k resembles his father]]]

(11) John resembles his mother and Mary her father, though she would rather not Δ .

If *his mother and his father* in (9a) were just a conjoined DP, the VP *resembles his father* would not be present in the right conjunct, and there would be no antecedent for Δ . Since CR, but not the DP analysis predicts an antecedent, VP ellipsis in (9a) supports the possibility of CR.

Case 3: Missing scope reading. Example (12a) has a reading where some one person read both more than one poem and more than one essay (*someone > and*), but lacks a reading like the one paraphrased in (12b), where someone read more than one poem and someone potentially different read more than one essay (*and > someone*) (after Rooth & Partee 1982, e.g. 21a; Larson 1998:260ff).

- (12) a. Someone read more than one poem and more than one essay.
 b. Someone read more than one poem and someone read more than one essay.

If *more than one poem and more than one essay* in (12a) were a conjunction of DPs, the unavailable reading could be derived by QRing the conjunction above *someone*, (13). The conjunction has a quantificational meaning, and (13) is true iff the extension of $\lambda x . \exists y [y \text{ read } x]$ contains a plurality of poems and a plurality of essays, i.e. iff someone read more than one poem and someone read more than one essay (*and > someone*).

(13) [more than one poem and more than one essay] λx [someone λy [y read x]]

The data are predicted if the DP analysis is *not possible* – and the gapping-like analysis of CR is *the only option*. *And* conjoins vPs and *someone* ATB-moves to spec-TP, so there is a single occurrence of *someone* scoping over the conjunction (*someone > and*):

(14) [_{TP} someone_k T [_{vP} t_k read more than one poem] [and [_{vP} t_k read more than one essay]]]

The unavailable reading could still be derived by ATB reconstructing *someone* into each vP to yield a separate occurrence of *someone* in each conjunct (*and > someone*). However, ATB reconstruction is blocked in the configuration in (14), as is clear from (15) where conjunction is of overt vPs, and again there is no reading where potentially different people read poems and essays (Fox 1995, 2000).

(15) Someone read more than one poem and read more than one essay.

Implications. This paper has identified cases showing that CR must be a *possible* analysis of apparent DP conjunction, and cases showing that CR is the *only* analysis. These results are in line with recent work by Schein (1997, 2015), which proposes ways to resolve longstanding challenges for CR (e.g. the contrast between *John and Mary met* and **John met and Mary met*). In generalizing the results of the present study, additional CR mechanisms must be employed (e.g. Right Node Raising for apparent conjunction of subject DPs, cf. Schein 2015). The laws governing the full set of CR possibilities and constraints on their distribution, both in English and cross-linguistically, is a domain left for future research.

References (selected): Coppock, E. 2001. Gapping: in defense of deletion. *CLS* 37. • Johnson, K. 2009. Gapping is not (VP) Ellipsis. *Lingua* 122. • Schein, B. 2015. *And: conjunction reduction redux*. Ms, USC. • Rooth, M. & B. Partee. 1982. *WCCFL*. • Schwarz, B. 2000. On the syntax of either ... or. *NLLT* 17. • Wilder, C. 1997. Coordination, ATB, and ellipsis.