

Sentential and possibly subsentential modification: the ambiguity of Collins conjunctions

Elizabeth Bogal-Allbritten, University of Gothenburg

Andrew Weir, NTNU – Norwegian University of Science and Technology

This paper considers strings like (1), in which the second conjunct is ‘interrupted’ by certain attitude verbs or epistemic adverbs (Collins 1988, Schein 1992, Vicente 2013). Following Vicente, we refer to these verbs or adverbs (bolded) as the ‘Interrupting Category’ (IC) and sentences like (1) as ‘Collins Conjunctions’ (CCs). ICs seem to be in subclausal position but expressions that can be ICs are normally clause-adjoined or clause-embedding: even in CCs, ICs exhibit properties that suggest hidden clausal structure, e.g. the obligatory presence of Spanish complementizer *que* in (1b).

- (1) a. Ted ate salad and { **I think / John thinks / possibly** } the best pizza in town.
b. Los judíos no pueden llevar ropa hecha de lana y **creo que** lino.
Jews cannot wear clothes made of wool and **I.think** (*that) linen. (Vicente 2013)
c. John and **I believe** Mary left early. d. A doctor and **I think** a nurse are in the office.

However, previous analyses of CCs argue that despite the suggestion of hidden clausal structure, cases like (1) do not involve clausal ellipsis. We argue that CCs are in fact ambiguous between two structures, and cases which appear to challenge the clausal ellipsis analysis reflect an alternative parse. We make the following contributions. First, we show that CCs are ambiguous in a way previously unobserved in the CC literature: the bolded ICs in (1) can either have scope over material in the main clause (*sentential scope*), or just over material pronounced in the second conjunct (*subsentential scope*). Second, we investigate the syntactic structures that give rise to each reading. *Subsentential scope* arises when the second conjunct is a nominal which contains unpronounced relative clause structure (Bogal-Allbritten 2013); *sentential scope* involves clausal conjunction plus ellipsis in the second conjunct, a variant on classic ‘conjunction reduction’ analyses. Third, we consider how our analysis handles prior arguments against ellipsis-based accounts of CCs.

1. The ambiguity of CCs: Previous authors only recognize the *sentential scope reading* for CCs, shown in (2a): *I think* takes scope over *ate the best pizza in town*, such that (1a) can be true if Ted only ate *the salad*. We also recognize the *subsentential scope reading* given in (2b) for (1a). In this reading, *I think* indicates uncertainty about the aptness of the description in the DP. This reading can be diagnosed by an existence entailment: it is only true if Ted ate both his salad and something else.

- (2) a. *Sentential Scope of (1a)*: Ted definitely ate salad. I think he also ate the best pizza in town.
b. *Subsentential Scope of (1a)*: Ted ate: (i) salad and (ii) what I think is the best pizza in town.

Note that subsentential scope does not require the presence of conjunction, but sentential scope does.

(3) entails that Ted (definitely) ate something; that something may be the best pizza in town.

- (3) Ted ate possibly/I think the best pizza in town.

2. The syntax of subsentential scope: Our treatment of the subsentential scope reading adapts Bogal-Allbritten’s (2013) analysis of sentences like (3). A simplified version of this analysis is given in (4), building on Grosu’s (2003) analysis of Transparent Free Relatives (TFRs, e.g. Ted ate [what is possibly the best pizza in town]). Like TFRs, (4) contains a ‘nucleus’ (underlined) that determines the category of the entire relative structure (Grosu 2003). A specificational copula (overt in TFRs, covert in CCs) applies to the nucleus to yield a $\langle e, st \rangle$ property that takes as argument a relative pronoun (*what* in TFRs, PRO in CCs). The IC (*I think*) composes with the resulting type $\langle st \rangle$ expression. Abstraction over the relative pronoun produces a type $\langle e, st \rangle$ property that then combines with a (covert) entity-returning choice function (CF) (see Bogal-Allbritten (2013) for detail). (5) shows composition of a CC with subsentential scope. *I think* only scopes over the (covert) specificational clause: (5) is true iff Ted ate salad and some y that the speaker thinks is the best pizza in town.

- (4) $[[[_{DP} I \text{ think } \underline{\text{the best pizza in town}}]]] = \lambda y [I \text{ think } [\langle st \rangle \text{ PRO}_y \text{ BE } \underline{\text{the best pizza in town}}]]$

- (5) Ted ate $[\langle e \rangle \text{ salad}]$ and $[\langle e \rangle \text{ CF } [\langle e, st \rangle \lambda y [\langle st \rangle I \text{ think } [\langle st \rangle \text{ PRO}_y [\langle e, st \rangle \text{ BE the best pizza in town}]]]]]$

3. The syntax of sentential scope: We argue that sentential scope of the IC arises from clausal conjunction plus ellipsis, a variant on classic ‘conjunction reduction’ analyses. We start by noting that verbal ICs can only be those verbs that also embed *fragment answers* (Vicente 2013); roughly, bridge verbs (de Cuba & Macdonald 2013, Temmerman 2013, Weir 2014).

- (6) a. A: Who left? B: I {think/suspect/believe/hope/??found out/??know/*am surprised} John.
b. John and I {think/believe/suspect/hope/??found out/??know/*am surprised} Mary left early.

In addition, Vicente observes a correlation between languages that require a complementizer in embedded fragments, and those that require it in CCs; Vicente makes this point this for Spanish (7), Polish and Hungarian (not shown). English, by contrast, bans complementizers in both positions:

- (7) a. ¿Quién salió? – Creo *(que) Juan. | *Lit.* Who left? – I think (*that) Juan.

[Type here]

b. Ana y creo *(que) Blas han salido de casa. | *Lit.* A. and I think (*that) B. have left home.

We argue that these parallels demonstrate that CCs with sentential scope arise via the same clausal ellipsis mechanism at work in fragment answers (Merchant 2004). In examples where the CC is utterance-final (8), we assume Merchant 2004's syntax for fragments (see Weir 2014 for discussion of embedded fragments); a phrase moves to a right-peripheral position, followed by clausal ellipsis:

(8) John gave Mary some flowers and I think some chocolates.

= [_{CP} John gave Mary some flowers] and [_{CP} I think [_{CP} some chocolates [~~John gave Mary t~~]]]

To accommodate initial or medial examples of CCs, a more complicated treatment is necessary: rightmost material shared between the two conjuncts (9a) undergoes Right Node Raising (9b) followed by movement and ellipsis within the second clause (9c):

(9) John gave Mary and I think Sue some flowers.

a. **Underlying clausal conjunction:**

[_{CP} John gave Mary some flowers] and [_{CP} I think [_{CP} John gave Sue some flowers]]

b. **Right Node Raising:**

[_{CP} John gave Mary ____] and [_{CP} I think [_{CP} John gave Sue ____]] some flowers

c. **Movement of Sue and ellipsis in the second conjunct:**

[_{CP} John gave Mary ____] and [_{CP} I think [_{CP} Sue [~~John gave t ____~~]]] some flowers

Evidence for this treatment comes from the fact that elements which cannot undergo the movement step in (9c) – i.e. which cannot be fragment answers – also cannot be the ‘second conjuncts’ in CCs. For example, NPs cannot be moved out of their DPs, leading to the ungrammaticality of the NP fragment answer in (10a); but such ‘bare’ NPs also cannot be ‘conjuncts’ in CCs (10b), even though NPs can be conjoined below determiners and adjectives in general (10c).

(10) a. Was he wearing a red COAT? – No, I think a red SCARF. / *No, I think SCARF.

(because *[scarf [he was wearing [_{DP} a red t]])])

b. ??He was wearing a red COAT and I think SCARF. (OK: ...and I think a red SCARF)

c. He was wearing a red coat and scarf.

A clausal conjunction analysis also captures the fact that only elements that allow for clausal conjunction – i.e. *and* or *or* – allow for CCs with sentential scope for the modal. Comitative *with*, which only connects DPs, not clauses, only allows for subsentential scope for the modal.

(11) John likes tea with I think honey. = There's something John likes with his tea: I think it's honey.
≠ John likes tea, and I think he likes honey with it.

4. Advantages of an ambiguity account: An ambiguity analysis allows us to capture several puzzling attributes of CCs. First, as Vicente discusses, CCs exhibit plural verb agreement (e.g. (1d)). Plural agreement is expected under the subsentential parse – two DPs are being conjoined – but also under the sentential parse if RNR is assumed, given the grammaticality of plural agreement in (12).

(12) I know that John __, and I suspect that Mary __, **are** in the office. (after Grosz 2015)

Second, Schein (1992) and Vicente (2013) argue that ellipsis-based clausal conjunction analyses of CCs undergenerate; e.g. (1b) is not equivalent to (13) (Vicente 2013):

(13) Jews can't wear clothes made of wool and I think Jews can't wear clothes made of linen.

However, we argue that (1b) is an instance of the subsentential parse, and that a clausal conjunction parse for it is also available. Subsentential scope is only available if the IC appears DP-internally; if it introduces a PP, for example (14), only the sentential scope (i.e. the meaning in (13)) is available (and the sentence is false given that the prohibition is only on mixing fabrics in one garment):

(14) Jews can't wear clothes made of wool and I think of linen.

5. Conclusion: Previous analyses of Collins conjunctions have argued that a conjunction reduction/clausal ellipsis analysis is insufficient to capture all of the data. We agree, but argue in this paper that cases which appear to challenge the clausal ellipsis analysis reflect an alternative parse, in which two DPs are conjoined, but the modal modifies a covert copular clause within a Transparent Free Relative-like structure within the second DP. However, a conjunction reduction-style analysis (in which two clauses are conjoined and the modal takes scope over the second clause) is *also* available – giving us an obvious way to capture the reading where the modal takes sentential scope.

Selected references. Bogal-Allbritten 2013. Modification of DPs by epistemic... Amsterdam Colloq. • Collins 1988. Conjunction adverbs. Ms., MIT • Grosu 2003. A unified theory of ‘standard’ and ‘transparent’ free relatives. *NLLT* 21 • Merchant 2004. Fragments and ellipsis. *L&P* 27 • Schein 1992. Conjunction reduction redux. Ms., USC • Vicente 2013. In search of a missing clause. DGfS presentation