

## The absence of coreferential subjects in TP coordination

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Since Ross (1967) much work on the syntax of coordination has been concerned with the conditions governing optionally “shared” material between two conjuncts. Much less attention has been given, however, to cases in which such sharing is obligatory. This paper investigates a requirement of this kind, previously undiscussed in the literature, governing the availability of coreferential subjects in coordinated clauses. I argue that this requirement arises due to conditions governing the linearization of multidominant structures for coordination.

**Puzzle:** As (1a) shows, English generally allows coordinated clauses to have coreferential subjects, though coordination below a single subject, as in (1b), is sometimes preferred.

- (1) a. [Alice<sub>i</sub> always wanted a car] and [she<sub>i</sub> finally bought one last year.]  
b. Alice [always wanted a car] and [finally bought one last year.]

Strikingly, such coreferential subjects become ungrammatical no longer available in a question is formed by Across-the-Board (ATB) *Wh*-movement, as in (2a). Coordination of a smaller constituent, as in (2b), becomes the only available structure.

- (2) a. \*What<sub>k</sub> did [Alice<sub>i</sub> always want *t<sub>k</sub>*] and [she<sub>i</sub> finally buy *t<sub>k</sub>* last year]? (cf. (1a))  
b. What<sub>k</sub> did Alice [always want *t<sub>k</sub>*] and [finally buy *t<sub>k</sub>* last year]? (cf. (1b))

We find the same ban on coreferential subjects in coordination embedded below an obligatory complementizer, as in (3), demonstrating that this restriction cannot be attributed simply to properties of ATB movement. The embedding environment allows us to see also, moreover, that though coreferential subjects are excluded below a single shared complementizer in (3a), they are once more possible when the complementizer is also repeated, as in (3c).

- (3) The TSA asks...  
a. \*that [passengers<sub>i</sub> remove their shoes] and [they<sub>i</sub> move quickly through security].  
b. that passengers [remove their shoes] and [move quickly through security].  
c. [that passengers<sub>i</sub> remove their shoes] and [that they<sub>i</sub> move quickly through security].

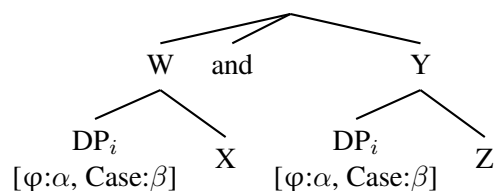
These data cannot be accounted for by a general requirement that conjuncts be as small as possible: such a restriction would be unable to account for the grammaticality of either (1a) or (3c), in which both conjuncts contain identical or coreferential material at their left edge. What unifies the ungrammatical sentences in (2a) and (3a) is that both exhibit coreferential subjects below a single shared element in  $C^0$  (an inverted auxiliary in (2a), and *that* in (3a)). In other words, it is the subjects of coordinated **TPs** that cannot corefer.

**Proposal:** I argue that this restriction on coreference can be accounted for by independent conditions on linearization, specifically the linearization of multidominant structures. The limitation of the ban to TP conjuncts, meanwhile, can be attributed to the cyclic nature of linearization (Fox and Pesetsky, 2005, a.o.).

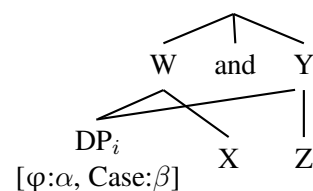
First, the ban on coreference itself. Multidominant representations, in which a single constituent occupies two (or more) distinct syntactic positions, neither of which c-commands the other, have been argued to exist in coordinate structures at least since Moltmann (1992). ? proposes that multidominant representations are constrained, however, by whether they can be linearized. More specifically, Citko proposes that a multiply-dominated element cannot be linearized *in situ*, and thus is only grammatical when it undergoes subsequent movement to some higher position – as in ATB *Wh*-movement.

The ungrammaticality of (2a) and (3a), can be explained by Citko’s proposal, if we make the single assumption that coreferential subject DPs in coordinated clauses are representationally equivalent to a single multiply-dominated subject DP. In other words, the process of linearization cannot distinguish the representation in (4a) from the representation in (4b):

(4) a.



b.



If coreferential subjects in coordinated clauses are representationally equivalent to a single multiply-dominated DP, it follows that they, like other multiply-dominated constituents, will be unlinearizable. This idea recalls proposals made by Alexiadou and Anagnostopoulou (2001) and Richards (2001), independently investigating cases in which more than one DP cannot occurring within a single local domain. Richards, in particular, proposes that such bans arise from the impossibility of linearizing two DPs that are not distinguished by Case features.

If it is the unlinearizability of coreferential subjects that accounts for the ungrammaticality of sentences such as (2a) and (3a), what remains is to account for the converse grammaticality of sentences such as (1a) and (3c), where coreferential subjects are licit. I argue that the possibility of coreference in these examples should be attributed to the larger size of these conjuncts – CPs, rather than TPs – and to the status of CPs as phases (Chomsky, 2001, et seq.). Fox and Pesetsky (2005) propose that linearization is a component of cyclic spell-out, occurring phase by phase. In their approach, sub-constituents of an already-spelled-out domain are not directly referenced by later linearization statements. That is, once the terminals of a phase XP have undergone linearization, subsequent spell-out will linearize only XP as a whole, not subconstituents of XP.

CP conjuncts, as phases, will therefore have undergone linearization before entering a coordinated structure. Because subject DPs would therefore already have been linearized, they will be insulated from the consequences of the problematic equivalence in (4). Assuming that (1a) can be parsed as CP coordination, we can therefore account for the availability of coreferential subject DPs in both (1a) and (3c) – and, indeed, the status of *v*P as a phase similarly accounts for the grammaticality of coreferential object DPs in both sentences in (1). It is only in TP coordination, when a coordinate structure is created from two constituents that contain not-yet-linearized DPs, that a problematic representation is created.

**Conclusions and Implication:** According to the analysis developed in this paper, the previously unnoticed restriction on coreferential subjects in coordinated clauses not only provides an argument for the availability of multidominant representations in syntax, but also for a cyclic view of linearization. The analysis furthermore suggests extension to other cases in which subjects are obligatorily elided in coordination, as in so-called SLF Coordination in German, where a post-verbal subject in a first conjunct apparently corresponds to a gap in a verb-initial second conjunct (Höhle, 1983, et seq.). SLF Coordination has presented a paradox, in how to make the two conjuncts large enough to contain two fronted verbs, but small enough to exclude the subject (Heycock and Kroch, 1994; Johnson, 2002, among many others). This paper proposal here casts new light on this paradox, suggesting instead that single pronunciation of a shared DP subject may instead provide a repair strategy for an otherwise unlinearizable structure.

**References:** Alexiadou, A., and E. Anagnostopoulou. 2001. The subject-in-situ generalization and the role of case in driving computations. *LI* 32:193–231; Chomsky, N. 1995. *The minimalist program*. MIT Press.; — 2001. Derivation by phase. In Ken Hale: A Life in Language. MIT Press.; Citko, B. 2005. On the nature of merge: external merge, internal merge, and parallel merge. *LI* 36:475–496.; Fox, D., and D. Pesetsky. 2005. Cyclic linearization of syntactic structure. *Theoretical Linguistics* 31:1–45.; Heycock, C., and A. Kroch. 1994. Verb movement and coordination in a dynamic theory of licensing. *The Linguistic Review* 11:257–284.; Höhle, T. N. 1983. *Subjektlucken in koordinationen*. Unpublished ms., University of Cologne.; Johnson, K. 2002. Restoring exotic coordinations to normalcy. *LI* 33:97–156.; Moltmann, F. 1992. *Coordination and comparatives*. Ph.D Dissertation, MIT.; Richards, N. 2001. *A distinctness condition on linearization*. Ms. MIT.; Ross, J. R. 1967. *Constraints on variables in syntax*. Ph.D Dissertation, MIT.