

Constraints on left-sharing in coordination

It has long been known that coordination can only target constituents, and is, therefore, considered to be a reliable constituency test. This assumption has been the center of much debate since the earliest days of syntactic theorizing. This paper enters this debate by reconsidering a constraint on left-sharing in coordination, as exemplified in (1)–(3), which has recently been investigated by Osborne and Gross (2017) (O&G hereafter) and which they use to question fundamental assumptions about constituency and structure in phrase-structure grammars like Generative Grammar. O&G dub this constraint LEFT NODE BLOCKING (LNB), and propose THE PRINCIPLE OF FULL CLUSIVITY (PFC), which dictates that left-sharing is blocked if coordination cuts into a constituent (constituents underlined following O&G). O&G further argue that the PFC makes the right predictions if coordination operates on strings (but not necessarily on constituents), and if syntactic structures are less layered (i.e., flat).

- (1) * The man [who built the rocket has] and [who studied robots designed] a dog. (Phillips, 2003, 49, (22a))
- (2) * Before [school I study] and [work I sleep]. (Osborne and Gross, 2017, 654, (15c))
- (3) * Susan repairs old [bicycles in the winter] and [cars in the summer]. (Osborne, 2008, 1140)

O&G’s claim that coordination does not have to target constituents is a part of a general rejection of an ellipsis analysis of the cases of coordination in which it appears that non-constituents are being conjoined (e.g., gapping, non-constituent coordination (NCC), etc). One argument for this rejection comes from scopal ambiguity in examples like (4) (adapted from Kubota and Levine 2016, (5a) and Osborne and Gross 2017, (50b)) in which negation can have a distributive- or a wide-scope reading. Under an ellipsis account, in which the structure is derived from coordination of larger constituents, negation can only scope locally within the conjuncts (*Mrs. J can’t live in Boston and Mr. J can’t live in LA*).

- (4) a. Mrs. J can’t live in Boston and Mr. J in LA. (gapping)
- b. Sam sent no girl chocolates today and flowers yesterday. (NCC)

However, Sailor and Thoms (2013) (for NCC), and Potter *et al.* (2017) (for gapping) – providing independent evidence (which I go through in the paper) – propose that NCC and gapping can be derived from two sources: a CP source and a vP source (following previous proposals by Johnson 2009 for gapping). In the CP source, negation occurs in each conjunct, giving a distributive-scope reading of negation, while in the vP source, negation occurs higher, outside coordination, giving a wide-scope reading of negation. Thus, O&G’s claim that many cases of gapping and NCC should receive a “string coordination” analysis based on scopal ambiguity is untenable. Coordination does target constituents. Given this, it follows that left-sharing arises via one of three mechanisms: (i) movement: the shared constituent moves leftward outside the coordinate structure, i.e. via ATB movement (5), (ii) ellipsis in the non-initial conjunct (6) (I assume following Sailor and Thoms 2013 that in this case the constituents that survive the ellipsis – the CHUNKS in their terms – move leftward to the edge of the non-initial conjunct prior to the ellipsis of the remnant, but see Bruening 2015 for a different proposal), or (iii) selection: a head selects for a coordinate phrase (7).

- (5) **Criticize Sally**, [John will but Mary won't].
- (6) Mary **caught a fish** [on Monday with a fly rod and ~~caught a fish~~ on Tuesday with a spear]. (adapted from Dowty, 1988)
- (7) In a small bowl, **combine** [curry and chicken broth]. (WWW)

In light of this, I propose that LNB arises if left-sharing violates constraints on movement, ellipsis, or selection – or a combination thereof. To explain, the LNB data discussed in O&G and cited from the previous literature are limited to three forms. In the first, the left-shared element is a subpart of a subject, where two clauses are being conjoined, as in (1) (ignoring the right-node-raising of *dog*). The ungrammaticality here follows naturally from the fact that the shared element cannot have moved from within the coordinate structure because this element is immovable, as shown in (8). Also, the sharing here cannot have been a result of ellipsis in the non-initial conjunct (assuming Sailor and Thoms's analysis of NCC): *who studied robots* cannot have moved to the edge of the non-initial conjunct because the movement would violate an island constraint, as in (9). Needless to say, sharing via selection is impossible here; the shared element is not a selecting head.

- (8) * It is **the man** that ~~the man~~ who studied robots has a dog.
- (9) * It is **who studied robots** that the man ~~who studied robots~~ has a dog.

In the second form, the left-shared element is a sub-part of a fronted constituent (a PP or CP), as in (2). Here sharing of the preposition is ruled out because it cannot have moved outside the coordination; prepositions never move out of a PP (10). Also, movement out of a fronted constituent is independently barred by the grammar (11).

- (10) * **Before**, I study ~~before~~ school. (cf. *I study before school*)
- (11) * It is **before** that ~~before~~ school, I study. (cf. *It is before school that I study.*)

In the third, what is left shared is a string, particularly a V/v plus a subpart of its complement, in what appears to be coordination of VPs/vPs, as in (3). Here left-sharing is ruled out because the string is immovable: it cannot be VP-fronted (12), for instance, nor can it be the pivot of a cleft structure (13). Furthermore, sharing cannot have been derived via ellipsis in the non-initial conjunct: *cars* cannot have moved to the edge of the non-initial conjunct because it is not a constituent (it is a sub-constituent of *old cars*), and thus its movement is independently blocked by the grammar.

- (12) * Suzan said she will repair old bicycles in the winter, and **repair old** she did ~~repair old~~ bicycles in the winter.
- (13) * It was **repair old** that Suzan did ~~repair old~~ bicycles in the winter.

As shown above, LNB is ruled out by general constraints on movement, ellipsis, or selection, which are not specific to coordination. This means that a construction-specific constraint such as the PFC is redundant – besides the fact that it is based on the wrong assumption that coordination does not have to operate on constituents (I also show in the paper that the proposal developed here even accounts for the cases that are problematic to the PFC). It follows then that O&G's claim that LNB and the PFC provide support for flat syntactic structures is untenable. The proposal developed here, in fact, shows the opposite: LNB supports the long-standing assumption that coordination operates on constituents, and it can be perfectly ruled out by a grammar that assumes binary-branching structures.

References

- Bruening, Benjamin (2015), “Non-Constituent Coordination: Prosody, Not Movement.” In *University of Pennsylvania Working Papers in Linguistics 21:1 Proceedings of the 38th Annual Penn Linguistics Conference*, Philadelphia: University of Pennsylvania Working Papers in Linguistics, p. Article 5. Available at <http://repository.upenn.edu/pwpl/vol22/iss1/5>.
- Dowty, David (1988), “Type Raising, Functional Composition, and Non-Constituent Conjunction.” In Richard T. Oehrle, Emmon Bach, and Deirdre Wheeler, eds., *Categorial Grammars and Natural Language Structures*, Dordrecht: Reidel, pp. 153–197.
- Johnson, Kyle (2009), “Gapping is Not (VP-) Ellipsis.” *Linguistic Inquiry* 40: 289–328.
- Kubota, Yusuke, and Robert Levine (2016), “Gapping as hypothetical reasoning.” *Natural Language and Linguistic Theory* 34: 107–156. DOI: 10.1007/s11049-015-9298-4.
- Osborne, Timothy (2008), “Major constituents: And two dependency grammar constraints on sharing in coordination.” *Linguistics* 46: 1109–1165.
- Osborne, Timothy, and Thomas Gross (2017), “Left node blocking.” *Journal of Linguistics* 53: 641–688.
- Phillips, Colin (2003), “Linear Order and Constituency.” *Linguistic Inquiry* 34: 37–90. DOI: <https://doi.org/10.1162/002438903763255922>.
- Potter, David, Michael Frazier, and Masaya Yoshida (2017), “A two-source hypothesis for Gapping.” *Natural Language and Linguistic Theory* 35: 1123–1160. DOI: 10.1007/s11049-017-9359-y.
- Sailor, Craig, and Gary Thoms (2013), “On the Non-Existence of Non-Constituent Coordination and Non-Constituent Ellipsis.” In *Proceedings of the 31st West Coast Conference on Formal Linguistics*, Somerville, MA: Cascadia Proceedings Project.