Adjunct islands and pseudocoordination in an autonomous syntax
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Puzzle: apparently semantically-motivated extraction

A central assumption of transformational syntax (GB, Minimalism) is that the combination of lexical items into phrases, i.e. syntactic structure, is determined separately from the semantics (*autonomy of syntax* in the Y-model of grammar, cf. Chomsky, 1957:17). One consequence is that the semantics cannot license extraction gaps: under a strictly modular view, where syntax precedes the semantics and their interaction is mediated by an interface (LF), extraction gaps can be licensed only up to that interface (cf. *principle of full interpretation*). Extraction from within a conjunct in (1) however is possible just so long as a particular interpretation holds, i.e. just so long as both verbs, *go* and *buy which car* in (1), form a single event (Goldsmith, 1985; De Vos, 2005). Such extraction seemingly constitutes a counterexample both to the autonomy of syntax and to the Coordinate Structure Constraint (2) which prohibits asymmetrical extraction from within a single conjunct (Ross, 1967).

(1) Which car did I [$_{V1}$ go] and [$_{V2}$ buy ~~which car~~]? (cf. Ross, 1967:(4.108a,b,c),170)

(2) a. *Which song did Alex write a book and sing ~~which song~~?

    b. *Which book did Alex write ~~which book~~ and sing a song?

Previous works like Goldsmith (1985) and Kehler (1996) take examples like (1) as bona fide counterexamples to an autonomous syntax and postulate a (partly or wholly) semantic implementation of the Coordinate Structure Constraint. In contrast, accounts maintaining an autonomous syntax, for instance by invoking subatomic coordination of heads (De Vos, 2005) or a light verb analysis of V1 (Wiklund, 2007), fail to derive non-canonical cases of pseudocoordination like (3), where V1 *take an axe* includes an internal argument DP.

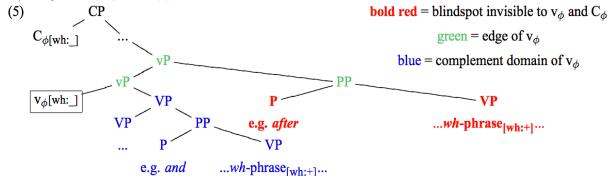(3) Who did Lizzie [$_{V1}$ take an axe] and whack ~~who~~ to death? (Schmerling, 1975:(33),217)

Proposal: blindspots in free adjuncts to ϕP

I argue that pseudocoordinate *and*-phrases are adjuncts and show that (1-2) can be derived without rejecting an autonomous syntax, given a scope-based theory of free adjunction, e.g. Ernst (2002).

First, the syntactic behaviour of pseudocoordinate *and*, e.g. the same subject condition, the ill-formedness of conjunct-internal adverbs and the incompatibility with the distributive operator *both*, suggests that *and* in (1) is unlikely to be a true coordinator (cf. De Vos (2005:19-51) for tests and references).

Instead I propose that *and* heads a non-coordinate adjoined phrase, PP in (4a). As a result, extraction from within pseudocoordination is surprising not by comparison to true coordination but in light of the otherwise well-attested prohibition on extraction from within adjuncts (illustrated by ill-formed (4b)).

(4) a. Which car did I [$_{VP}$ go [$_{PP}$ [$_P$ and] buy ~~which car~~]]?

    b.*Who did John cry after Mary hit? (Huang, 1982:503)

Second, pseudocoordinate and tensed adjuncts merge at different heights, i.e. at VP- and at vP-levels, if single events are licensed below vP (cf. Ernst, 2002), and pseudocoordinate adjuncts but not tensed adjuncts form single events with the matrix predicate. Supporting empirical evidence comes from adverbial modification: preverbal vP-adverbs like *reluctantly* scope over both predicates in (4a) and in (4b), whereas preverbal VP-adverbs like *suddenly* only scope over both predicates in (4a). The contrast suggests that only pseudocoordination creates a VP-constituent, i.e. pseudocoordinate adjuncts are merged at VP (non-phasal) level, whilst tensed adjuncts are merged at vP (phasal) level. Consequently, the question to be addressed is why extraction is prohibited from within adjuncts to maximal projections headed by a phase head ϕ rather than why subextraction from pseudocoordination is only licensed in single events.

Third, positions within adjuncts to maximal projections of a phase head (within adjuncts to ϕP) form a 'blindspot' within a phasal successive-cyclic theory of movement, such as Chomsky (2001). (5) depicts the case of vP-adjuncts, where positions internal to the adjunct are invisible both to computation at CP and to computation at vP. I use this area of invisibility to derive the contrast between VP-adjuncts (4a) and v_ϕP-adjuncts (4b) as in (6).

(5)

bold red = blindspot invisible to v_ϕ and C_ϕ
green = edge of v_ϕ
blue = complement domain of v_ϕ

(6) a. [CPWhich car[Cdid] [TPI[vPwhich car[vP I[VP[VP[Vgo]] [PP[pand][VPbuy which car]]]]]]]?

b. *[CPWho[Cdid][TPJohn[vP[vPJohn[VP[Vcry]]] [PP[pafter][TPMary[vPwho[vPMary[VPhit who]]]]]]]]]?

In (6a), illustrating VP-adjunction, Spec,CP is the final landing site of adjunct-internal *which car*. However direct movement to Spec,CP is ruled out, as *which car* stands in the complement domain of v_ϕ, making the *wh*-phrase invisible to the higher phase head C_ϕ (following the Phase Impenetrability Constraint). The *wh*-phrase is however visible to v_ϕ. Assuming phase heads contain uninterpretable copies of all features (as in Abels, 2003, following Chomsky, 2001), the clause type feature [wh:_] on v_ϕ triggers movement of *which car* to Spec,vP, where *which car* c-commands v_ϕ. As Spec,vP is in the edge of v_ϕ, C_ϕ can see the *wh*-phrase. To check and value [wh:_] on C_ϕ, *which car* moves to Spec,CP. The result is a well-formed movement path, punctuated by an intermediate landing site at Spec,vP.

In contrast, the *wh*-phrase internal to the v_ϕP-adjunct in (6b) is not in the complement domain of v_ϕ, and cannot be targeted by this probe to undergo successive-cyclic movement to a specifier of the higher probe C_ϕ via Spec,vP. However a *wh*-phrase embedded in a v_ϕP-adjunct is not directly visible to C_ϕ either. Whilst v_ϕP-adjuncts *c*-command v_ϕ, elements internal to v_ϕP adjuncts do not *c*-command v_ϕ or stand another basic relation to v_ϕ, e.g. Contain in Chomsky (2001:3).

If *phase edge* is defined as in (7) to contrast maximal projections of adjuncts and elements embedded within adjuncts, *who* will not be in the edge of v_ϕ and will remain invisible to C_ϕ. Consequently *wh*-phrases in free adjuncts to v_ϕP are not visible either to v_ϕ or to C_ϕ. In contrast, *wh*-phrases in VP-adjuncts are visible to v_ϕ, thereby enabling successive cyclic *wh*-movement to Spec,CP via Spec,vP.

(7) Phase edge: The set of nodes $\{n_1...n_x\}$ in ϕP that *c*-command or dominate a phase head ϕ.

Prediction: extension to other cases of acceptable subextraction from adjuncts

Finally, I extend the account to non-pseudocoordinate VP-adjuncts allowing subextraction in single events: (i) participial adjuncts (8a/b) which have also been used to reject an autonomous syntax (cf. Truswell, 2011); and (ii) canonical PP-adjuncts (8c/d).

(8) a. What did John arrive whistling what? (Borgonovo and Neeleman, 2000: (3a,b), 200; Truswell, 2011)

b. [CPWhat[Cdid][TPJohn[vPwhat[vPJohn[VP[VParrive] [PP[p∅][VPwhistling what]]]]]]]?

c. What temperature should I wash my jeans at what temperature? (Sheehan, 2010:(16a))

d. [CPWhat temperature [Cshould][TPI[vPwhat temperature[vPI[VP[VPwash my jeans] [PP[pat][DP what temperature]]]]]]]?

In conclusion, I have used phase theory to provide a unified account of adjunct islands and the otherwise surprising locality phenomena in pseudocoordinate (1), participial (8a) and canonical preposi-

tional (8c) constructions. Significantly, the analysis reconciles two seeming counterexamples to the autonomy of syntax with standard syntactic assumptions.