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 \(\phi P\)

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 [and] buy which car]]?

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-phasical) level, whilst tensed adjuncts are merged at VP (phasical) level. Consequently, the question to be addressed is why extraction is prohibited from within adjuncts to maximal projections headed by a phase head \(\phi\) 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 $\phi P$) 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 $v_\phi P$-adjuncts (4b) as in (6).

\[(5)\]
\[
\begin{array}{c}
\text{CP} \\
\hspace{1cm} \cdots \\
\hspace{1cm} vP \\
\hspace{1cm} \text{VP} \\
\hspace{2cm} \text{P} \\
\hspace{2cm} \text{PP} \\
\end{array}
\]

\[
\text{bold red = blindspot invisible to } v_\phi \text{ and } C_\phi \\
\text{green = edge of } v_\phi \\
\text{blue = complement domain of } v_\phi
\]

\[(6)\]
\[
\begin{array}{c}
\text{a. } [\text{CP Which car } \text{[C did]} \text{[TP I [VP [v go]] [PP [and] [VP [buy which car]]]]}]
\end{array}
\]

\[
\begin{array}{c}
\text{b. } *[\text{CP Who } \text{[C did]} \text{[TP John } \text{[VP [v cry]] [PP [after] [TP Mary [v [v [Mary [VP [hit who]]]]]]]}]
\end{array}
\]

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 $v_\phi$, making the $wh$-phrase invisible to the higher phase head $C_\phi$ (following the Phase Impenetrability Constraint). The $wh$-phrase is however visible to $v_\phi$. Assuming phase heads contain uninterpretable copies of all features (as in Abels, 2003, following Chomsky, 2001), the clause type feature [wh:] on $v_\phi$ triggers movement of which car to Spec,$vP$, where which car c-commands $v_\phi$. As Spec,$vP$ is in the edge of $v_\phi$, $C_\phi$ can see the $wh$-phrase. To check and value [wh:] on $C_\phi$, 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 $v_\phi P$-adjunct in (6b) is not in the complement domain of $v_\phi$, and cannot be targeted by this probe to undergo successive-cyclic movement to a specifier of the higher probe $C_\phi$ via Spec,$vP$. However a $wh$-phrase embedded in a $v_\phi P$-adjunct is not directly visible to $C_\phi$ either. Whilst $v_\phi P$-adjuncts c-command $v_\phi$, elements internal to $v_\phi P$-adjuncts do not c-command $v_\phi$ or stand another basic relation to $v_\phi$, 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 $v_\phi$ and will remain invisible to $C_\phi$. Consequently $wh$-phrases in free adjuncts to $v_\phi P$ are not visible either to $v_\phi$ or to $C_\phi$. In contrast, $wh$-phrases in VP-adjuncts are visible to $v_\phi$, thereby enabling successive cyclic $wh$-movement to Spec,CP via Spec,$vP$.

\[(7)\] Phase edge: The set of nodes \{n\_1...n\_x\} in $\phi P$ that c-command or dominate a phase head $\phi$.

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).

\[(8)\]
\[
\begin{array}{c}
\text{a. What did John arrive whistling what? (Borgonovo and Neeleman, 2000: (3a,b), 200; Truswell,2011)}
\end{array}
\]

\[
\begin{array}{c}
\text{b. *[What did John arrive whistling [VP [v cry]] [PP [after] [TP Mary [VP [hit who]]]]]]}
\end{array}
\]

\[
\begin{array}{c}
\text{c. What temperature should I wash my jeans at what temperature? (Sheehan, 2010:(16a))}
\end{array}
\]

\[
\begin{array}{c}
\text{d. *[What temperature should I wash my jeans at what temperature? (Sheehan, 2010:(16a))}
\end{array}
\]

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.