

Why must *wh*-quantifiers in German strand with complex *wh*-phrases?

Contribution This presentation establishes an empirical generalization about the German particle known as “invariant *alles*”. While *alles* can surface in one constituent with, or be stranded off of, its associated *wh*-phrase when it is simplex, *alles* must be stranded when its associate is a complex *wh*-phrase. It is shown that this complexity restriction is syntactic, and argued that, as a result, a prominent analysis of stranding is incompatible with *alles*.

Background The German particle *alles* ‘all’ associates with *wh*-phrases to add a pluralizing and exhaustifying interpretation (e.g. Reis, 1992). *Alles* is found both right-adjacent to its ‘associate’ or at a distance. ‘{*alles*}’ indicates mutually exclusive options.

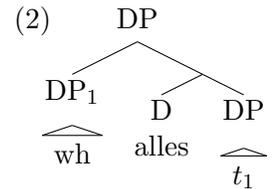
- (1) [CP [*Wen* {**alles**}]₁ [C' hast du e₁ {**alles**} angerufen]] ?
 who.ACC ALL have.2SG you.NOM ALL called

‘Who all did you call?’

(adapted from Doliana, 2020)

Building on the tradition of Giusti (1991); Pafel (1991); Reis (1992) (but *pace* Heck and Himmelreich, 2017), Doliana (2020) recently argued that the associate *wh*-phrase and *alles* are in a *stranding* relation: *alles* and the associate start in a shared constituent, and *alles* is subsequently stranded by *wh*-movement of the associate.

Analytical problem If non-adjacent *alles* is *stranded*, the question arises as to (i) *how* *alles* is stranded, and (ii) from *what mother constituent* it is stranded. The perhaps most prominent analysis that assumes a shared constituent, both for NP-quantifier float and for *wh*-quantifier float, is what may be called the ‘quantifier analysis’ (QA) (e.g. Postal, 1974; Shlonsky, 1991; Merchant, 1996; McCloskey, 2000).



In a QA, the stranded particle is analyzed as a quantifier, specifically a D-head which takes the associate as its complement. Stranding is the result of movement by the associate out of this constituent, through the specifier of the phrase headed by the quantifier; see (2).

Empirical problem & claim QA cannot be correct for *alles*-stranding in German due to a *complexity restriction* (CR) on *alles*. CR was already hinted at in Reis 1992: fn23.

[**CR**]: *Alles* must be stranded if the associate’s nominal is a complex *wh*-phrase.

A *wh*-phrase is complex if its left branch is a possessor (*wem sein-/wessen* ‘whose’) or *welch-* ‘which’; see (3-4), which are acceptable with a simplex *wh*-phrase (cf. 1). **CR is about the nominal in the associate** as the presence/absence of a PP layer does not affect CR (5-6).

- (3) [Wessen/Welchen Freunden {***alles**}] würdet ihr e {alles} beim Umzug helfen?
 whose/which friends.DAT ALL would you ALL by.the move help
 ‘The friends of who all/What friends all would you guys help move?’

- (4) [Wem seinen Studenten {***alles**} soll ich=s e {alles} schicken?
 who.DAT his.DAT.PL students ALL shall I.NOM=it.ACC ALL send
 ‘The students of who all shall I send the solutions?’

- (5) [In was {**alles**}] muss man den e {alles} eintunken?
 in what.ACC ALL must one.NOM that.ACC.M.SG ALL dip.in
 ‘In what (Sauces) all does one need to dip that in?’

- (6) [In welche Saucen {***alles**}] muss man den e {alles} eintunken?
 in which.PL.ACC Sauces ALL must one.NOM that.ACC.M.SG ALL dip.in

Importantly, **CR is syntactic**. (a) For one, *CR is about constituency*. Compare the same string *welchen Freunden alles* in (7 vs 3). The string is acceptable in (7) because the sentence is compatible with *alles* being in a separate surface constituent, in a scrambling position above the subject.

The same string leads to unacceptability in (3) because it is only compatible with forming a single constituent—Spec,C in German V2 clauses is standardly assumed to host a single constituent. Similarly, (8) is unacceptable because only one *wh*-phrase fronts in German. The in-situ *wh*-phrase is incompatible with *alles* being stranded in this sentence, and thus only compatible with a single constituent for *alles* and the complex *wh*-phrase.

(7) [Welchen (Freunden)] alles der PEter helfen würde, bleibt unklar.
 which.DAT.PL friends ALL the.NOM Peter help would remains unclear
 ‘What friends all Peter would help, remains unclear.’

(8) [Wer alles] hat wem [welche geheimen Dokumente (*alles)] gezeigt?!
 who.NOM ALL has who.INDF.DAT which.ACC secret documents ALL shown
 ‘Who all showed what secret documents all to somebody?’ [*wh*-indefinite Dative]

(b) *CR is also not repaired by ellipsis*: whether the head N is present or not, the sluice in (9) is unacceptable with *alles* but acceptable without it or with a simplex-*wh*, e.g. *wen* ‘who’.

(9)*...einige Athleten... Ich weiß aber nicht, welche (Athleten) alles (genau).
 ...several athletes... I know but not which.ACC.PL athletes ALL exactly
 ‘...several athletes...but I don’t know what (athletes) all.’

(c) Finally, *CR is sensitive to internal structure*: partitive *was-für-w* associates, which are known to have different internal structure, are unaffected; (10), or examples in Reis (1992).

(10) ?[Was für Leute alles] hat er damals bei dir treffen wollen?
 what for people ALL have.3SG he.NOM then by you meet want
 ‘What all sorts of people did he want to meet at your place back then?’

Consequence Given that the PP layer is disregarded by CR, and that it is syntactic, the restriction must result from the interplay of *alles* and the *wh*-phrase, in syntax. The starting constituent of QA in (2), however, cannot accommodate CR. Blaming the first-Merge representation does not work. Preventing *alles* to take complex associates undergenerates: stranding *alles* will also become impossible. Ruling out the representation where the *wh*-phrase is in Spec,D of *alles* will also be too strong. For instance, assume that the restriction is due to the clitic-hood of *alles* – since Reis argues *alles* is a *wh*-clitic –, that *alles* needs to encliticize to a left-adjacent (simplex) *wh*-phrase, and that it needs to do so in syntax given that ellipsis does not repair CR. To force *alles* to strand with complex *wh*-phrases, the cliticization must be obligatory, wrongly ruling out stranding with simplex *wh*-phrases in (1).

A possible way out and its consequences will be explored. A stranding analysis *can* in principle be maintained if *alles* is a phrase rather than a head, and in a symmetric predication structure with the associate as Ott (2012) assumes for inflecting floating quantifiers in German. The nature of such symmetric structures is that they are not well-formed unless one of the constituents moves out, or one of them selects the other and thus labels the symmetric structure. This analysis exploits the fact that simplex *wh*-phrases can be either heads or phrases (Donati, 2006). They can thus label and save the starting structure, while complex *wh*-phrases must move to do so. For this analysis to work, it must allow for PPs and complex *wh*-phrases to be merged with a phrasal *alles*, and *alles* must be unable to move by itself.

Selected References • Doliana, A (2020). Wh-Quantifier Float in German. *Proceedings of NELS 50*.
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