Wh-quantifier float in German diagnoses Ā-traces, and successive cyclicity in *v*P
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Claim   This paper defends proposition (P) pertaining to the German floating quantifier known as "invariant *alles*" ('all'; cf. Reis, 1992; Zimmermann, 2007), with the two consequences (C1)–(C2).

(P) Floating *alles* must be analyzed as derived from a single source that contains its 'associate' *wh*-phrase (arguing for "stranding"/"floating" analyses of quantifier float, cf. Sportiche, 1988/ Dougherty, 1970; contra adverbial analysis of *alles* by Heck and Himmelreich, 2017).

   C1. *v*P is a landing site of successive-cyclic *wh*-movement in German.
   C2. *Alles* diagnoses the position of Ā-traces of its associate.

Invariant *alles* presupposes a plurality of answers, and creates the expectation that the question be answered with an exhaustive list. *Alles* is parasitic on certain *wh*-operators. (1) vs (2) show "floating" vs "adjacent" *alles*.

(1) Wen$_1$ hast du t_1 alles angerufen?
who$_{acc}$ have$_\phi$ you all   called
'Who all did you call?'

(2) [Wen   alles]$_1$ hast du t_1 angerufen?
who$_{acc}$ all   have$_\phi$ you   called
'Who all did you call?'

P: 2 Arguments for deep constituency   A number of generalizations about *alles* are argued to follow from the deep constituency between *alles* and its associate 'W'. This presentation focuses on two of them: (i) the distribution of *alles*; (ii) the *uniqueness generalization* about *alles*.

(i) *Distribution:* Building on Reis (1992), it is argued that the distribution of floated *alles* in a given derivation D is bounded by the base position, and the movement possibilities of its associate W in D. (3) shows that *alles* may occur in W's base position. *Wh*-indefinites cannot scramble in German [(4)]. The DAT *wh*-indefinite therefore diagnoses its own base position, and the base position of the ACC object to its right, given that it could not have moved in any other way either.

(3) Weißt du, [was$_1$ der Lehrer   [$_{VP}$ <u>wem</u> t_1 **alles** gezeigt] haben soll?
know$_\phi$ you what$_{acc}$ the teacher$_{nom}$ who.INDF$_{dat}$ all   shown have   MOD$_\phi$
'Do you know what all the teacher supposedly showed to someone?'

(4) *dass wen$_1$ keiner/'n Leherer t_1 gesehen hat.
that who.INDF$_{acc}$ no-one/a teacher$_{nom}$ seen   have$_\phi$
Intended: 'that no-one/a teacher saw someone.'

Alles may occur in positions that W can reach via scrambling [(5)–(6)]; the base order for *zeigen* 'show' is DAT≫ACC, so the different word orders indicated by braces are due to movement of W+*alles* over DAT rather than of the DAT object over *alles*. Conversely, *alles* may *not* occur in positions that W *cannot* reach via scrambling (or other types of movement); (7)–(8) show this for the position to the left of weak object pronouns. A presentation will add further arguments for (i).

(5) *Was$_1$ hat   sie {t_1 **alles**} den Leuten t_1 {**alles**} gezeigt?
what$_{acc}$ have$_\phi$ she   all   the people$_{dat}$ all   shown
'What (all) did she show the people?'

(6) Wer   hat   {*was*   (**alles**)} den Leuten   {*was*   (**alles**)} gezeigt?
who$_{nom}$ have$_\phi$ what$_{acc}$ all   the people$_{dat}$ what$_{acc}$ all   shown
'Who showed the people what (all)?'

(7) *Was*   hat   {?***alles**} ihm   {**alles**} keiner t geben wollen?
what$_{acc}$ have$_\phi$ all   him$_{dat}$ all   noone$_{nom}$ give want
'What all did no-one want to give him?'

(8) Wo   {***was**$_1$} ihm   {*was*$_1$} keiner t_1 abgegeben hätte,   ist unklar.
where what$_{acc}$ him$_{dat}$ what$_{acc}$ noone$_{nom}$ give   have.COND$_\phi$ be$_\phi$ unclear

'It is unclear where no-one would have given him what.'

(ii) *Uniqueness:* "each *alles* is uniquely mapped to a W". (A), there can be no multiple *alles* per one W [(9)]; braces indicate alternatives. (B), there can be no multiple Ws per *alles* [(10)]; else, if one *alles* could relate to multiple Ws, any additional *alles* should be unacceptable also in (10) with multiple Ws, as it is in (9) with one W. Instead, the number of Ws bounds the number of *alles*.

(9) [*Wen* {**alles**}] hat er {**alles**} da {**alles**} beleidigt?
who$_{acc}$ all have$_\phi$ he all there all offended
'Who all did he offend there/then?'

(10) (Und) *wem*$_1$ hat *wer*$_2$ **alles**$_2$ dieses Foto t_1 **alles**$_1$ gezeigt?
and who$_{dat}$ have$_\phi$ who$_{nom}$ all this photo$_{acc}$ all shown
'Who all showed this photo to who all?'

C1: Successive-cyclicity McCloskey (2000) shows that *wh*-quantifier float in West Ulster English (WUE) argues for successive-cyclic *wh*-movement through CP. Similarly, *alles* argues for successive-cyclic *wh*-movement through *v*P in German (varieties with long-distance *wh*-movement). *Alles* must be clause-mate to the *wh*-trace it relates to [(12)–(13)]. In spite of this, with long movement, *alles* may be floated in the matrix clause just as well as in the clause of origin [(11)].

(11) [$_{CP1}$ *Wem*$_1$ hat Peter [$_{?P}$ t_1 {**alles**} gemeint, [$_{CP2}$ dass Maria t_1 {**alles**} geholfen hat]]]?
who$_{dat}$ have$_\phi$ Peter all said that Maria all helped have$_\phi$
'Who all did Peter say/think that Mary helped?'

(12) *[$_{CP1}$ *Wem*$_1$ hat Peter t_1 erzählt, [$_{CP2}$ dass Maria **alles**$_1$ Susi geholfen hat]]?
who$_{dat}$ have$_\phi$ Peter told that Maria all Susi$_{dat}$ helped have$_\phi$

(13) *[$_{CP1}$ Peter hat **alles**$_1$ gewusst, [$_{CP2}$ *wen*$_1$ Maria t_1 liebt]].
Peter have$_\phi$ all known who$_{acc}$ Maria love$_\phi$

?P in (11) is most likely *v*P as *alles* in the matrix must occur to the left of *wh*-indefinites (whereas it was able to occur to their right in the clause of origin, cf. (3)): *alles* floated in the matrix is minimally outside the VP shell containing the subject. Conversely, *alles can* stay lower than a full DP subject [(11)]: it cannot be the case that matrix *alles* necessarily occurs as high as TP.

C2: Ā-traces There are four asymmetries in the distribution of *alles*: (i) *alles* may occur inside the complement of a raising verb if W is the infinitival's object [(15)] but not if W is the infinitival's subject [(14)]; (ii) *alles* may occur to the left of a subject that contains a pronoun/anaphor bound by W, but not to the right of such a subject (Weak Cross Over/Condition A); (iii) *alles* may occur adjacent to its overtly scrambled, "in-situ" W, but not floated at a distance from such a W. In (i-ii) the difference is whether *alles* occurs in a position corresponding to an A-trace (*) or an Ā-trace (OK) of its associate. (ii-iii) therefore further argue for scrambling being A-movement in German, in these contexts, so that (iii) shows the same anti-A-trace effect. (14-15) show the contrast for (i). (Scrambling of *dem Max* in (14) controls for de-accented nature of *alles*; low *alles* * regardless.)

(14) Krass, *was*$_1$ t_1 {**alles**} droht, [$_{TP}$ [dem Max]$_2$ t_1 {***alles**} t_2 das Leben zu versauen]!
cross WH$_{nom}$ $t_{\bar{A}}$ all threaten$_\phi$ the Max t_A all the life$_{acc}$ to spoil$_{inf}$
'Astonishing, what all threatens to ruin Max's life!'

(15) Krass, *was*$_2$ [diese App]$_1$ (t_2) {?**alles**} droht, [TP t_1 dem Max t_2 {**alles**} zu versauen]!
cross WH$_{acc}$ this app$_{nom}$ all threaten$_\phi$ the Max all to spoil$_{inf}$
'Astonishing, what all this app threatens to ruin for Max!'

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