<p style="text-align:center">WAYS OF WH-COORDINATION</p>

BACKGROUND: In this talk, we discuss wh-questions with coordinated wh-pronouns (henceforth **Q&Qs**), illustrated in (1) for Russian, from a cross-linguistic perspective.

1) *Kto* i *začem* prixodil?   *Russian*
    who and what.for came
    'Who arrived, and why?'

Proposed analyses of Q&Qs fall into two broad classes: those that propose a bi-clausal structure (2a) (Banreti 1992, Browne 1972, Whitman 2002), and those that propose a mono-clausal structure (2b) (Gribanova 2009, Kazenin 2001, Skrabalova 2006, Zhang 2007, Zoerner 1995, among others).

2) a. $[_{\&P} [_{CP} WH_i [_{TP} \ldots t_i \ldots]]$ and $[_{CP} WH_j [_{TP} \ldots t_j \ldots]]]$ b. $[[_{CP} [_{\&P} WH_i$ and $WH_j] [_{TP} \ldots t_i \ldots t_j \ldots]]]$

PUZZLES: Q&Qs are found in multiply wh-fronting (MWH) languages, but also in English (Whitman 2002, Gracanin-Yuksek 2007), Greek (Sinopoulou 2009), and Chinese (Zhang 2007), none of which are MWH languages. Next, ordering restrictions on Q&Qs (presence or absence of superiority effects) do not necessarily parallel those found in MWH questions. In Romanian, for example, superiority effects are visible in MWH questions but *not* in Q&Qs, as shown by the contrast between (3b) and (4b).

3) a. *Cine ce* a vazut?   b. **Ce cine* a vazut?   **MWH**
     who what has seen   what who has seen
     'Who saw what?'   'What saw who?'

4) a. *Cine* si *ce* ti   a spus?   b. *Ce* si *cine* ti   a spus?   **Q&Q**
     who and what to-you has told   what and who to-you has told
     'Who told you something and what was it?'   'Who told you something and what was it?'
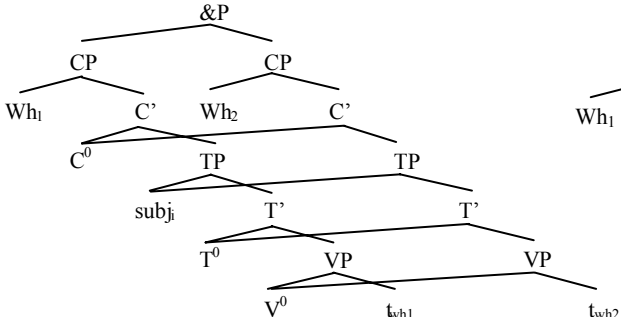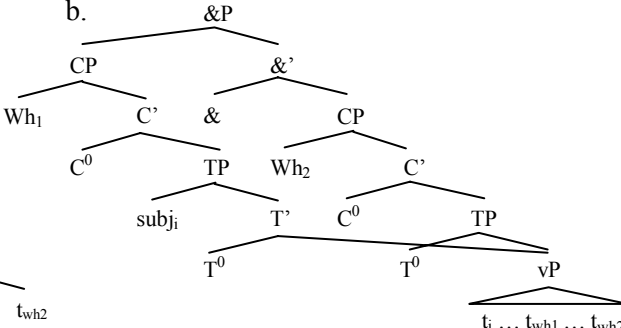
In languages *like* Polish, however, violations of superiority are allowed in both MHWs (5) and Q&Qs (6).

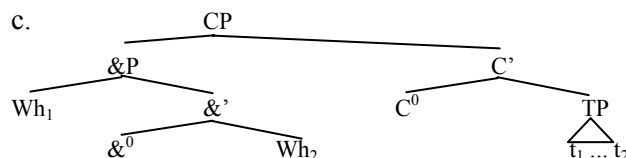5) a. Kto co   prezeczytał?   b. Co   kto prezeczytał?   **MWH**
      who what read   what who read
      'Who read what?'   'Who what read?'

6) a. Kto i   co   prezeczytał?   b. Co   i   kto prezeczytał?   **Q&Q**
      who and what read   what and who read
      'Who and what read?'   'What and who read?'

In Bulgarian, on the other hand, both constructions show superiority effects, as shown in (7-8).

7) a. *Koj* koga ste si   hodi v Bulgaria?   b. **Koga koj* ste si   hodi v Bulgaria   **MWH**
      who when will REFL. go   in Bulgaria   when who will REFL. go   in Bulgaria
      'Who is going to Bulgaria when?'   'When is going to Bulgaria who?'

8) a. *Koj* i *koga* ste si   hodi v Bulgaria? b. **Koga* i *koj* ste si   hodi v Bulgaria? **Q&Q**
      who and when will REFL. go   in Bulgaria   when and who will REFL go   in Bulgaria
      'Who and when is going to Bulgaria?'   'When and who is going to Bulgaria?'

PROPOSAL: We argue against claims that Q&Qs are always bi-clausal, or always mono-clausal. We propose instead that there is no unique universal analysis available for Q&Qs, and that the structure of Q&Qs varies not only cross-linguistically, but may also vary within a single language. More specifically, we propose that a Q&Q may in principle be a reflection of *three* different structures, shown in (9a-c).

9) a.

c.

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                        CP
         &P                          C'
   Wh₁         &'              C⁰           TP
          &⁰        Wh₂                   t₁ ... t₂
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Two of them ([9a] and [9b]) rely on multidominant structures, whose existence in the grammar has been independently motivated by Citko (2005), Gracanin-Yuksek (2007), Wilder (1999), Van Riemsdijk (2006), among many others.

RESULTS AND PREDICTIONS. Q&Qs in English, a non MWH language, cannot be derived as in (9c). Moreover, in an English Q&Q, wh-phrases cannot both be arguments (of the same verb), which rules out the structure in (9b) as a possible source. This leaves (9a), where the Q&Q consists of two single questions, which *share* everything but the wh-phrases (Gracanin-Yuksek 2007). This structure accounts, for example, for the contrast in (10a-b) showing that an English Q&Q in which one of the wh-phrases is the direct object cannot contain an obligatorily transitive verb. Such a verb would require the presence of an object in the second conjunct, which does not contain it in (9a).

10) a. What and where did you sing?
    b. *What and where did you buy?

(9c) is the mono-clausal analysis; the Q&Q is derived through multiple wh-movement of both wh-phrases from a single clause to the left periphery of that clause, where they are conjoined. Since wh-phrases are clause mates, in languages which have this mono-clausal strategy at their disposal for the derivation of Q&Qs, the contrast observed in (10a-b) does not hold, as shown in (11a-b) for Croatian.

11) a. *Što* i *gdje* pjevaš?   b. *Što* i *gdje* popravljaš?   *Croatian*
       what and where sing.2sg   what and where fix.2sg
       'What and where do you sing?'   'What and where do you fix?'

Furthermore, this structure can account for languages whose Q&Qs are subject to the same ordering requirements as MWH questions (shown in [5-8] for Polish and Bulgarian).

For languages such as Romanian, in which Q&Qs are not subject to superiority, but MWH questions are (see [3-4] above) and in which the contrast in (10a-b) does not obtain (see [4a-b] above), we propose the structure in (9b), where both wh-phrases originate in the same *v*P, and subsequently move to the specifier positions of two different C's (Citko 2008). If the existence of two separate CPs entails the existence of two separate events, the structure in (9b) is predicted to be unavailable for Romanian Q&Qs containing collective predicates. This prediction is confirmed; Romanian Q&Qs with collective predicates show superiority effects (as shown in [12a-b]). The contrast between (4b) and (12b) shows that Q&Qs with collective predicates can only have the mono-clausal structure in (9c), not the bi-clausal one in (9b).

12) a. *Cine* si *cu cine* s-a intilnit?   b. *Cu cine* si *cine* s-a intilnit?   *Romanian*
       who and prep. who refl-aux met   prep. who and who refl-aux met
       'Who and with whom met?'   'With whom and who met?'

CONCLUSION: Our analysis has the following consequences for the cross-linguistic typology of Q&Qs. The availability of (a) particular option(s) in any single language depends on whether the language allows MWH (required for the derivation of [9c]) and whether it requires [Spec TP] to be overtly filled (to allow for [9b], since in this structure [Spec TP] in the second conjunct of the Q&Q is not overtly filled or possibly even not projected). English, for example, does not allow MWH, and its [Spec,TP] must be overtly filled. Thus, Q&Qs in English necessarily derive from the structure in (9a). Slavic languages, on the other hand, have MWH and do not require [Spec, TP] to be overtly filled. For such languages, all three structures in (9a-c) are in principle available, and Q&Qs in these languages typically show both mono- and bi-clausal properties. Furthermore, by positing a three-way distinction in the structure of Q&Qs, we are able to account for a puzzling lack of correlation between the apparent mono-clausal structure of Q&Qs, and the absence of superiority effects in these questions, observed in some languages.