

### Wh-Coordination in Free Relatives

**0.** Coordinated wh-questions (**CWHs**) have received a lot of attention in recent years (Bîlbîie & Gazdik 2012, Citko & Gracanin-Yukse 2012, Gracanin-Yukse 2007, Gribanova 2009, Kazenin 2002, a. o.). Given the well-documented parallels between questions and relative clauses, a natural question to ask is whether analogous coordinated wh-phrases (**WHs**) exist within the domain of relativization. In this talk, we focus on free relatives (**FRs**), contrasting English with multiple wh-fronting languages such as Croatian or Polish. We establish, and provide an account of, three (to the best of our knowledge previously unnoticed) empirical generalizations.

**I.** *First*, while it has been noted before that multiple wh-fronting languages do not necessarily allow multiple free relatives (**FRs**) (cf. Citko 2009), as shown by the ungrammaticality of (1a) in Polish, it has not been noted that *free relatives with multiple coordinated wh-pronouns (CFRs)* do exist, irrespective of the availability of multiple wh-fronting in a language, as shown in (1b) for Polish and in (2b) for English.  
 (1) a. \*Jan je **cokolwiek kiedykolwiek** Maria gotuje. b. Jan je **cokolwiek i kiedykolwiek** Maria gotuje.  
 Jan eats whatever whenever Maria cooks Jan eats whatever and whenever Maria cooks  
 (2) a. \*John eats **what(ever) when(ever)** Mary cooks.  
 b. John eats **what(ever) and when(ever)** Mary cooks.

**II.** *Second*, we establish that English **CFRs** are subject to the same restrictions as **CWHs**. These were examined in detail by Gracanin-Yukse (2007), who shows that English **CWHs** are only allowed with optionally transitive verbs such as *eat* (vs. *devour*) (3a-b), are impossible with two arguments (3c), and, finally, are possible with two adjuncts (3d).

- (3) a. **What and when** does John *eat*<sub>[\_\_(DP)]</sub>? b. \***What and when** does John *devour*<sub>[\_\_(DP)]</sub>?  
 c. \***What and to whom** did John give? d. **When and where** did John cook?

Likewise, **CFRs** are possible only if *both* the matrix and the embedded verb are optionally transitive (as in (2b) above), but are impossible if either (or both) verbs are obligatorily transitive, as shown in (4a-b).

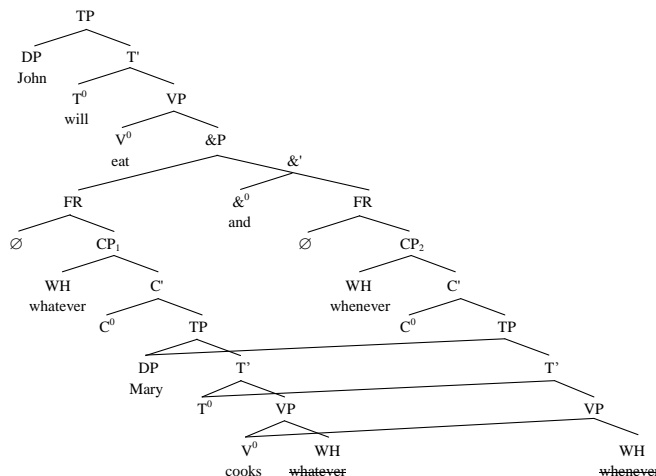
- (4) a. \*John eats<sub>[\_\_(DP)]</sub> **what(ever) and when(ever)** Peter prepares<sub>[\_\_(DP)]</sub>.  
 b. \*John devours<sub>[\_\_(DP)]</sub> **what(ever) and when(ever)** Peter prepares<sub>[\_\_(DP)]</sub>.

Also, **CFRs** with two coordinated wh-arguments are out (5a), but those with two coordinated wh-adjuncts are fine (5b):

- (5) a. \*John cooked **whatever and to whoever** Bill gave.  
 b. John eats **wherever and whenever** Peter cooks.

To account for the parallelism between **CWHs** and **CFRs**, we propose (6) as the structure of **CFRs** in English, which parallels the structure of **CWHs** proposed by Gracanin-Yukse (2007) and Citko & Gracanin-Yukse (2012). We conclude that a **CFR** is well-formed only if the main clause can embed

(6)



each **FR** conjunct independently without incurring a grammaticality violation (see Goodall 1987 and Fox 2000 for arguments that each component in a coordinate structure has to be independently well-formed). Since *John eats whatever Mary cooks* and *John eats whenever Mary cooks* are well-formed, (2b)/(6) is grammatical. By contrast, (4a) is out because even though *John eats whatever Peter prepares* is good, *\*John eats whenever Peter prepares* is not.

**III.** And *third*, we examine the behavior of **CFRs** in multiple wh-fronting languages like Croatian or Polish. Based on the data from English, one would expect the same restrictions to hold in both **CWHs** and **CFRs**. Interestingly, this *not* what we find. **CFRs** in multiple wh-fronting languages we have

inspected behave like those in English, regardless of the syntax of their **CWHs**. We take Croatian as an illustrative example; it differs from English in that it allows **CHWs** with obligatorily transitive verbs like *fix*, as well as **CHWs** with two arguments (compare the ungrammatical (3b) and (3c) in English with their grammatical Croatian equivalents in (7a-b)):

- (7) a. **Što i zašto** Jan popravlja<sub>[\_\_DP]</sub>?      b. **Što i kome** Jan pokazuje?  
 what and why Jan fixes<sub>[\_\_DP]</sub>                      what and to-whom Jan shows  
 \*‘What and why does Jan fix?’                      \*‘What and to whom is Jan showing?’

Citko & Gracanin-Yuksek (2012) argue that the contrast between Croatian and English **CHWs** is due to the fact that, unlike English, Croatian is a multiple wh-fronting language and therefore allows fronting of two clausemate WHs, coordinated in the specifier of the C-head (through a mechanism such as sideways movement (cf. Zhang 2007, 2009), as shown in (8).

(8)  $[_{CP} [_{\&P} wh_1 \& wh_2 [_{TP} \dots t_1 \dots t_2 ] ] ]$

Thus, given the grammaticality of **CWHs** in (7a-b) above, it is *very* surprising that **CFRs** in which either the matrix or the embedded verb (or both) are obligatorily transitive, are out. (9a) shows that the **CFR** is out if the matrix verb is obligatorily transitive, regardless of the argument structure of the embedded verb. (9b) makes the same point for the embedded verb.

- (9) a. \*Jan ocjenjuje<sub>[\_\_DP]</sub> **što(god) i kad(god)** Vid kuha<sub>[\_\_(DP)]</sub> /priprema<sub>[\_\_DP]</sub>.  
 Jan evaluates<sub>[\_\_DP]</sub> what(ever) and when(ever) Vid cooks<sub>[\_\_(DP)]</sub> /prepares<sub>[\_\_DP]</sub>  
 \*‘Jan evaluates what(ever) and when(ever) Vid cooks/prepares.’  
 b. \*Jan jede<sub>[\_\_(DP)]</sub> /ocjenjuje<sub>[\_\_DP]</sub> **što(god) i kad(god)** Vid priprema<sub>[\_\_DP]</sub>.  
 Jan eats<sub>[\_\_(DP)]</sub> /evaluates<sub>[\_\_DP]</sub> what(ever) and when(ever) Vid prepares<sub>[\_\_DP]</sub>  
 \*‘Jan eats what(ever) and when(ever) Vid prepares.’

We propose that the contrast between the grammatical **CHWs** in (7a-b) and the ungrammatical **CFRs** in (9a-b) is due to the fact that a **CWH**, unlike a **CFR**, does not involve a CP external head. We propose that the monoclausal structure in (10), which is what the ungrammatical **CFRs** in (9a-b) would have to involve, is unavailable due to a more general constraint that rules out two relative pronouns in a relative clause modifying a single head, regardless of whether the relative pronouns are coordinated or not.

(10)  $*[_{DP} HEAD_{1/2} [_{CP} [_{\&P} wh_1 (\&) wh_2 [_{TP} \dots t_1 \dots t_2 ] ] ] ]$

This constraint is operative in headed relatives as well, as shown by the ungrammaticality of (11a). On the Head Promotion account, (11a) would have to involve a case of unattested ATB movement of *non-identical* elements from a *non-coordinate* structure, as shown schematically in (11b).

- (11) a. \*student którego (i) któremu Maria predstavila.  
 student who.ACC (and) whom.DAT Maria introduced  
 b.  $[_{DP} [_{CP} [c' [_{TP} Maria introduced \textit{which student}_{ACC} to \textit{which student}_{DAT} ] ] ] ]$

**IV.** We thus predict that wh-constructions that are truly headless (even if they are not questions) should behave like **CWHs** rather than **CFRs**. We test this prediction on existential modal constructions, which have been argued by Izvorski (2000), (also Simik 2011, Caponigro 2003, a. o.) to be CPs (rather than free relative-like DPs), based on the fact that **WHs** in these constructions differ from **WHs** in **FRs** in that they are interpreted as indefinite and disallow *ever*. Interestingly, these, being truly headless, behave like **CHWs**: they are possible with obligatorily transitive verbs (12a), as well as with two arguments (12b).

- (12) a. Imam **što (i) zašto** popraviti.                      b. Imam **što (i) kome** pokazati.  
 have.1SG what (and) why fix.INF                      have.1SG what (and) to-whom show.INF  
 ‘I have stuff to fix and people to fix it for.’                      ‘I have stuff to show and people to show it to.’

### Selected References

Bilbúe, G. & A. Gazdik. Wh-coordination in Hungarian and Romanian questions. *Empirical Issues in Syntax and Semantics* 9: 1–18; Caponigro, I. Free not to ask. UCLA thesis; Citko, B. 2009. What don't free relatives, correlatives, and wh-questions have in common? In *Correlatives crosslinguistically*, 49–79, Citko, B. & M. Gracanin-Yuksek. 2012. Towards a new typology of coordinated wh-questions. *Journal of Linguistics*; Gracanin-Yuksek, M. 2007. On sharing. MIT thesis. Gribanova, V. 2009. Structural adjacency and the typology of interrogative interpretations. *LI* 40: 133–154; Izvorski, R. 2000. Free relatives and related matters. UPenn thesis. Simik, R. 2011. Modal existential wh-constructions. University of Groningen thesis; Zhang, N. 2007. The syntactic derivations of two paired dependency constructions. *Lingua* 117: 2134–2158.