

Null Arguments and Variation in the Availability of Coordinated-WH Questions

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Languages vary as to the freedom with which they coordinate WH-expressions in coordinated-WH questions (CWHs). On one end of the spectrum, English-like languages are very limited in their CWHs, while on the other end, Polish and its relatives allow free WH-coordination in CWHs. An intuitive explanation for this crosslinguistic variation might be multiple-WH fronting – English prohibits multiple-WH fronting, while Polish allows it. This paper argues for a different source of variation, however: Argument WH-expressions may only occur in a CWH if they may be null (ex. *pro*-dropped or implicit) in the main clause.

I begin by comparing the availability of CWHs across languages, finding a correlation between *pro*-drop and the availability of CWH. English, having no *pro*-drop, does not allow arguments in CWHs – ADJ & ADJ is acceptable (1a), but not ARG & ADJ (1b) or ARG & ARG (1c). These facts can be illustrated through ellipsis (fully in (1a) and abbreviated below) [1] although they are also compatible with multidominance analyses [2] of CWHs. In (1a), the English ADJ & ADJ is underlyingly multiclausal, composed of two grammatical single-WH questions, whereas ARG & ADJ in (1b) and ARG & ARG in (1c) underlyingly contain one or two ungrammatical single-WH questions, making the entire CWH ungrammatical.

(1) (a) When and where is the party?

[When₁ [is the party *t*₁]] and [where₂ [is the party *t*₂]]

[When₁ [~~is the party~~ *t*₁]] and [where₂ [is the party *t*₂]]

(b) *Who and when bought the gift?

[Who₁ [*t*₁ bought the gift]] and *[when₂ [bought the gift *t*₂]]

(c) *Who and what bought?

*[Who₁ [*t*₁ bought]] and *[when₂ [bought *t*₂]]

The equivalent strings in Polish are entirely grammatical, due to Polish being a subject and object *pro*-drop language. Polish allows ADJ & ADJ (2a), ARG & ADJ (SUBJ & ADJ (2b) and OBJ & ADJ (2c)), and ARG & ARG (2d) CWHs.

(2) (a) Gdzie i kiedy jest impreza?

[Gdzie₁ [jest impreza *t*₁]] i [kiedy₂ [jest impreza *t*₂]]

where be.3SG.PRS party *t* and when be.3SG.PRS party *t*

'Where and when is the party?'

(b) Kto i kiedy kupił piłkę?

[Kto₁ [*t*₁ kupił piłkę]] i [kiedy₂ [*pro*₁ kupił piłkę *t*₂]]

who *t* buy.3SG.PST ball.ACC and when *pro* buy.3SG.PST ball.ACC *t*

'Who and when bought the ball?'

(c) Co i kiedy kupił Adam?

[Co₁ [kupił Adam *t*₁]] i [kiedy₂ [kupił Adam *pro*₁ *t*₂]]

what buy.3SG.PST Adam.NOM *t* and when buy.3SG.PST Adam.NOM *pro* *t*

'What and when did Adam buy?'

(d) Kto i co kupił?

[Kto₁ [*t*₁ kupił *pro*₂]] i [co₂ [*pro*₁ kupił *t*₂]]

who *t* buy.3SG.PST *pro* and what *pro* buy.3SG.PST *t*

'Who and what bought?'

The facts about English and Polish are well known, but new to the discussion on CWHs are the following facts about Italian. Italian is a subject (but not object) *pro*-drop language, and allows ADJ & ADJ and SUBJ & ADJ (3a), but not OBJ & ADJ (3b) or ARG & ARG (3c). What makes Italian a particularly interesting test-case is that it is known not to allow multiple-WH questions at all [3]. If the availability of CWHs were dependent on multiple-WH fronting, Italian

should not allow CWHs at all, but this is not the case.

- (3) (a) Chi e quando he mangiato l'ultima fetta di pizza?
 who and when have.3SG.PST eat.PRT last piece of pizza
 'Who and when ate the last piece of pizza?'
 (b) *Che cosa e quando hai comprato?
 what thing and when have.2SG.PST buy.PRT
 'What and when did you buy?'
 (c) *Chi e che cosa ha comprato?
 who and what thing have.2SG.PST buy.3SG.PRT
 'Who and what bought?'

Having discussed the availability of CWHs across languages and having found a correlation with *pro*-drop, we now turn to the availability of CWHs within a given language, looking at a different kind of null argument: implicit arguments. If the availability of argument WH-expressions in CWHs has something to do with the ability to not have a that argument overtly in the main clause, then we expect *eat*-type verbs that take implicit arguments to allow OBJ & ADJ. These facts have been observed for English (4a,b) [4],[3], which allows OBJ & ADJ with verbs that take implicit arguments but not with other verbs. And it is also the case for Italian, which usually only allows SUBJ & ADJ, but allows OBJ & ADJ if the verb takes an implicit argument (5a,b). This is obviously the case for Polish, which has free WH-coordination.

- (4)(a) What and when did you eat? (b) *What and when did you buy?
 (5)(a) Che cosa e quando hai mangiato (b) *Che cosa e quando hai comprato
 what thing and when have.2SG.PST eat.PRT what thing and when have.2SG.PST buy.PRT
 'What and when did you eat?' 'What and when did you buy?'

	English (no <i>pro</i> -drop)	Italian (subj <i>pro</i> -drop)	Polish (subj and obj <i>pro</i> -drop)
ADJ & ADJ	✓	✓	✓
ARG & ADJ		✓SUBJ & ADJ	✓
ARG & ARG			✓
ARG & ADJ (OBJ & ADJ <i>eat</i>)	✓	✓	✓

The CWH facts can be summarized in the above table. If the availability of CWHs were tied to multiple-WH fronting, this table would look much different: English, which does not allow multiple-WH fronting, should not allow CWHs; and Italian, which does not allow multiple-WH questions at all, should not even be part of the discussion. We thus see that *pro*-drop and implicit arguments both license CWHs with argument WH-expressions. This raises an important question: Implicit arguments and *pro*-drop are not syntactically the same, especially when one takes into account the different kinds of implicit arguments taken by different verbs; what *pro*-drop and all these implicit arguments have in common is being phonologically null. Is it, then, that they they equally license CWHs because the syntax really just cares about 'silence', or can we find some syntactic commonality between these different kinds of phonologically null arguments that licenses CWHs? This is a subject for further work in the area of CWHs.

Selected References: [1] Giannakidou, A. and J. Merchant, 1998. Reverse sluicing in English and Greek. *The Linguistic Review* 15: 233-256. [2] Gracanin-Yukse, Martina. 2007. About sharing. Doctoral dissertation, MIT. [3] Rizzi, L. 1978. "Violations of the Wh-Island Constraint in Italian and the Subjacency Condition." [4] Whitman, Neal. 2002. What and How We Can Learn from Mixed-Wh Interrogatives. Paper presented at CLS, University of Chicago.