

Spurious coordination in Vlach multiple *wh*-fronting

Jason Merchant
University of Chicago

1 The phenomenon

Many (perhaps all) multiple *wh*-fronting languages allow for what I will call a *spurious coordinator* to appear between fronted *wh*-items, particularly arguments, as in (1b) from Vlach.¹

(1) *Vlach*

- a. acari č̣i ari vijutu̇?
who what has seen ‘Who saw what?’
- b. acari ṣ č̣i ari vijutu̇?
who and what has seen
‘Who₁ saw something and what did they₁ see?’

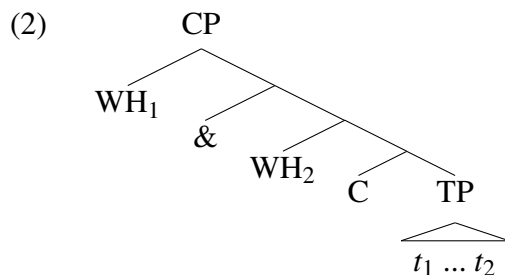
Such coordinations have been studied primarily in Russian (Kazenin 2002, Grebenyova 2004, Gribanova 2009), Romanian (Comorovski 1996), Hungarian (Lipták 2003), and Serbo-Croatian (Browne 1972). The main properties that have been previously noted are the following. 1. Spurious coordinated questions only allow *single pair* answers, not the *pair-list* answers that are usually required in multiple *wh*-questions in these languages (as noted first in Kazenin 2002). 2. In multiple *wh*-fronting languages with superiority effects (Hungarian, Macedonian), these effects persist in spurious coordinated questions (Lipták 2003). To these characteristics I add the following: 3. Only conjunctions show this behavior, not disjunctions. 4. The ‘coordinated’ *wh*-phrases cannot occur in ‘balanced’ coordinations. 5. These structures only occur in languages that allow multiple fronting of *wh*-elements already (whether multiple *wh*-fronting is obligatory, as in Russian, or optional, as in Hungarian and Vlach).

I show that the two general strategies that have been pursued to date suffer from shortcomings. The first (variously Bánréti 1992, Giannakidou & Merchant 1998,

¹ Vlach (also known as Vlah and Arumanian) is an endangered minority Romance language spoken in parts of northern Greece and surrounding areas by 50,000 people by some estimates; see Friedman 2001 for ethnographic discussion. All Vlach data not otherwise sourced come from my fieldwork in Katerini, Greece during the period 2007–2016; many thanks to Sakis Gaitanis, my primary informant (a 49-year-old Greek-Vlach bilingual male).

and Camacho 2003) posits coordinated CPs and applies a backwards ellipsis operation (like sluicing) to reduce the first conjunct to just a *wh*-phrase. Serious problems with such accounts are adduced by Kazenin 2002 and Lipták 2003; to these I add the fact that in Vlach, the otherwise obligatory clitic in the second conjunct cannot appear. The second general strategy (Kazenin, Lipták, Gribanova) has been to claim that the *wh*-phrases are themselves coordinated. The primary difficulties with the second strategy are 1. supplying an account of the movement (of WH₂) to an embedded position (which doesn't c-command its origin site), 2. blocking balanced coordinations, and 3. correlating these coordinations with multiple *wh*-fronting.

Instead, I adopt from the second strategy the claim that the conjunction is spurious here (not having its usual conjunctive semantics), but propose that the *wh*-movement is the usual one found in these languages:



I show that this solution accounts for more of the properties of the construction with fewer stipulations. It immediately accounts for properties 2 and 5, and can capture properties 3 and 4 assuming that the ‘spurious’ conjunction is special (neither the left bracket coordinator nor disjunctions have spurious uses: cf. *(*Both) One more step and I’ll shoot you = If you take one more step, I’ll shoot you*; Culicover & Jackendoff 1997). Next, following Gribanova, the conjunction blocks the structural adjacency necessary for Higginbotham & May’s (1981) Absorption operation which takes adjacent unary quantifiers and returns an n-ary one; with Absorption blocked, only a single-pair reading is possible. Finally, I relate this posited clausal left-edge conjunction to ‘floating’ focus uses of the conjunction in these and many other languages (where they have readings similar to *also*, *too*, German *auch*).

2 Main properties

2.1 Single-pair answers required

Spurious coordinated questions only allow *single-pair* answers, not the *pair-list* answers that are usually required in multiple *wh*-questions in these languages (as noted first in Kazenin 2002; see also Wachowicz 1974, Rudin 1988, 2007, Bošković 2002):

A pair-list question is illustrated in (3), and a single-pair question in (4) (note that multiple *wh*-questions can sometimes have single-pair answers, and in (4b)).

- (3) a. Q: Who brought what to the potluck?
 A: Alex brought the hotdogs, Ben brought the beer, and Cherlynn brought the dessert.
- b. ‘pair-list’: What are the pairs $\langle x, y \rangle$ such that $x \in \{abby, ben, cherlynn\}$ and $y \in \{hotdogs, beer, dessert\}$ and $\llbracket brought(x, y) \rrbracket$ is true?
- c. $\llbracket bring \rrbracket = \{ \langle abby, hotdogs \rangle, \langle ben, beer \rangle, \langle cherlynn, dessert \rangle \}$
- d. presupposition: there is more than one pair $\langle x, y \rangle \in \llbracket bring \rrbracket^M$
- (4) a. Q: Who did you see, and where?
 A: I saw Mr. Plum in the library.
- b. Q: Who hit who first?
 A: Sheila hit Rex first.
- c. ‘single-pair’: What is the unique pair $\langle x, y \rangle$ such that $x \in \{sheila, rex\}$ and $y \in \{sheila, rex\}$ and $\llbracket hit.first(x, y) \rrbracket$ is true?
- d. $\llbracket hit.first \rrbracket = \{ \langle sheila, rex \rangle \}$
- e. presupposition: there is a unique pair $\langle x, y \rangle \in \llbracket bring \rrbracket^M$

The absence of a spurious coordinator therefore leads to anomaly when the predicate is a one-time-only predicate (a predicate that cannot be true of multiple pairs):

- (5) Acari #(s) kundū ari vatimatə muma-ts?
 who and when has killed mother-your
 ‘Who killed your mother, and when?’ (cf. #*Who killed your mother when?*)

Without the conjunction *s*, ‘and’, the question is infelicitous, due to the one-time-only nature of the predicate.

2.2 Superiority effects are maintained

In multiple *wh*-fronting languages with superiority effects (Hungarian, Macedonian), these effects persist in spurious coordinated questions (Lipták 2003).

- (6) Hungarian
- a. Ki és kiről beszélt?
 who and who.ABOUT talked
 ‘Who talked and about whom?’
- b. ???Kiről és ki beszélt?
 who.ABOUT and who talked

2.3 Spurious *wh*-coordination involves conjunction

Only conjunctions show this behavior, not disjunctions:

- (7) *Acari i kundū ari vatimatə muma-ts?
 who or when has killed mother-your

2.4 Spurious *wh*-coordination is always ‘unbalanced’

The ‘coordinated’ *wh*-phrases cannot occur in ‘balanced’ coordinations:

- (8) a. *S acari s čī ari vijutu?
 and who and what has seen (intended =(1b))
 b. cf. S fičorlū s fiata anu vijutu muma-ts.
 and the.boy and the.girl have seen mother-your
 ‘Both the boy and the girl saw your mother.’

2.5 Spurious *wh*-coordination only occurs in multiple *wh*-fronting languages

These structures only occur in languages that allow multiple fronting of *wh*-elements already (whether such fronting is obligatory, as in Russian, or optional, as in Hungarian and Vlach).

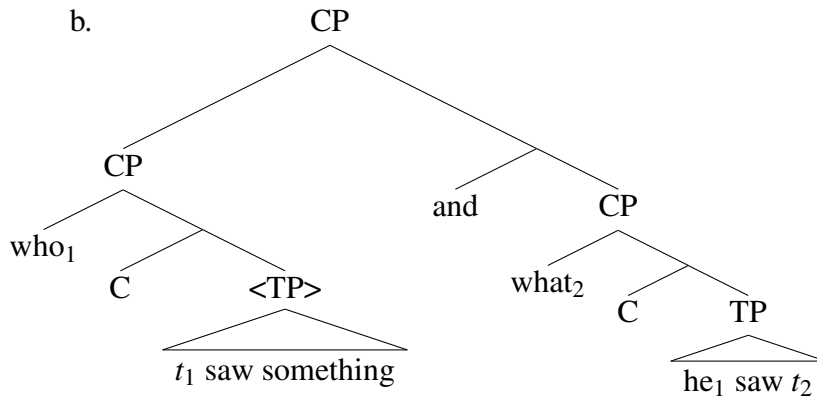
- (9) *Who and when did you see?
 (10) *Wie en wanneer heb je gezien? (Dutch)
 who and when have you seen
 (11) *Pjon ke pote idhes? (Greek)
 whom and when saw.2s

3 Previous analyses

3.1 Previous strategy 1: backwards sluicing

Spurious *wh*-coordination involves coordinated CPs with a backwards ellipsis operation (like sluicing) that reduces the first conjunct to just a *wh*-phrase (variously Bánréti 1992, Giannakidou & Merchant 1998, and Camacho 2003):

- (12) a. acari s čī ari vijutu?
 who and what has seen
 ‘Who₁ saw something and what did they₁ see?’



This kind of analysis has the advantage that it derives the restriction to single-pair answers, since coordinated questions share this property. But it suffers from insurmountable problems as well. First, not all the predicates that can occur in spurious coordinations allow for indefinite null arguments (Kazenin 2002, Lipták 2003, Gribanova 2009):

- (13) a. Kto i kakoj gorod zaxvatil?
 who.NOM and which city.ACC conquered.3s
 ‘Who conquered which city?’
 b. [_{CP} Kto₁ <[_{TP} ~~t₁ zaxvatil ee₂~~]>] i [_{CP} [kako_j gorod]₂ [_{TP} *pro*₁ zaxvatil t₂]]
 c. *Kto zaxvatil i kakoj gorod zaxvatil?
 who.NOM conquered.3s and which city.ACC conquered.3s

Second, Hungarian definiteness agreement (object agreement on the verb) should be obligatory, and is in fact disallowed (Lipták 2003):

- (14) a. Érdekel (hogy) mit csinálsz és hogyan
 interest.3s (that) what.ACC do.2s.INDEF and how
 csinál-od/*-sz.
 do.2s.DEF/*INDEF
 ‘I care about what you do and how.’
 b. Érdekel (hogy) mit és hogyan csinál-*od/-sz.
 interest.3s (that) what.ACC and how do.2s.*DEF/INDEF
 ‘I care about what you do and how.’

Third, backwards sluicing obeys the Backwards Anaphora Constraint (Ross 1969):

- (15) a. Although I don’t know who, I know he wants to see someone.
 b. Although I know he wants to see someone, I don’t know who.

- c. I know he wants to see someone, although I don't know who.
 d. ?*I don't know who, although I know that he wants to see someone.

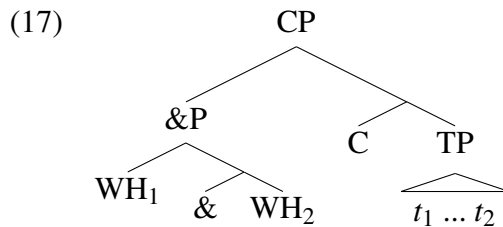
Fourth, in Vlach, the otherwise obligatory clitic in the second conjunct (cf. (16b)) cannot appear:

- (16) a. Acari s kundŭ (*tŭ) ai vijutu?
 who and when (him) have.2s seen 'Who did you see, and when?'
 b. Acari ai vijutu s kundŭ *(tŭ) ai vijutu?
 who have.2s seen and when (him) have.2s seen

For all these reasons, this strategy is not worth pursuing.

3.2 Previous strategy 2: Coordination of the *wh*-phrases

The second general strategy (Kazenin, Lipták, Gribanova) has been to claim that the *wh*-phrases are themselves coordinated:



This analysis has the advantage, as Gribanova 2009 points out, that it can capture the lack of pair-list readings, by assuming a strict structural locality condition on Quantifier Absorption, an operation that takes n adjacent unary quantifiers and returns a single n -ary quantifier (Higginbotham & May 1981):

- (18) a. Which man admires which woman?
 [WH_x : x a man][WH_y : y a woman] x admires y \rightarrow [WH₂^{1,2} x, y : x a man & y a woman] x admires y
 b. Assumption: “In order to undergo QA [Quantifier Absorption], ... quantifiers ... must be *structurally adjacent*” (Q1 c-commands Q2 and no head c-commands Q2 but not Q1) (similar to May’s (1985) condition on Σ -sequence formation)

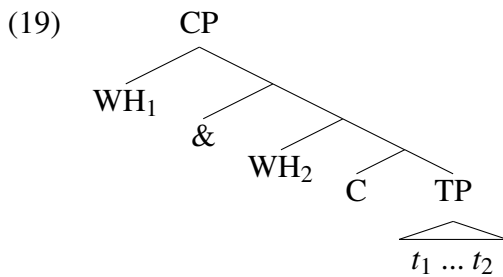
Second, this analysis captures some similar effects in Serbo-Croatian, where a *li* C intervening between two *wh*-phrases forces a single-pair answer (Grebnyova 2004, Gribanova 2009).

But it also raises some serious questions. First, how can movement target a non-c-commanding position (of the noninitial *wh*-phrase(s))? Second, how can it prevent

balanced coordinations from occurring? Third, why should there be a correlation between spurious coordinations and multiple *wh*-fronting? Finally, why should Superiority effects persist? Since none of these questions have persuasive answers, it is worth examining an alternative.

4 Analysis

I propose that the *wh*-movement in these structures is the usual *wh*-movement that targets the left-periphery (assuming multiple specifiers of CP for convenience) but that what makes these structures unusual is the presence of the spurious coordinator as an adjunct between the *wh*-phrases:



(20) ‘&’ (*s, i, é(s)*) is spurious, used as a discourse marker, not meaning $\lambda p\lambda q[p \wedge q]$

This structure, because it piggybacks on *wh*-movements independently attested in the language, derives the fact that only languages that multiply front *wh*-elements will have such spurious multiple *wh*-coordinated questions.

Second, whatever constraints operate on multiple *wh*-movements — such as Superiority — will continue to apply.

Third, only conjunctive morphemes, not disjunctive ones, grammaticalize such discourse marker status; although the reasons for this are not entirely clear, it is an independent fact that many discourse markers derive historically from conjunctive morphemes (Russian *i*, for example), while similar developments from disjunctive morphemes seem unattested. In fact, it is fairly easy to assemble a menagerie of nonconjunctive uses of conjunction morphemes:

- (21) a. *shi ashi foglich* [sic] ‘therefore’ (Boiagi 1915: 127)
 b. *shi seste că wenn auch* ‘even if’ (Boiagi 1915: 127)

(22) Greek

- a. *K’ omos (erxete)*. (‘verum focus’) and however come.3s
 ‘He IS coming. Er kommt DOCH. Si, il vient.’

- b. An ke kseri, fevgi.
if and know.3s leave.3s
'Even though he knows, he's leaving.'
- c. Oti ke na pis, fevgi.
whatever and SUBJ say.2s leave.1s
'No matter what you say, I'm leaving.'

(23) Russian

- a. Ja daže i ne znal!
I even and not knew
'I didn't even know!'
- b. On predskazal, čto my proigraem, čto i proizošlo.
he predicted that we lose which and happened
'He predicted that we would win, which indeed happened.'²

Fourth, and perhaps related to the previous point, left bracket coordinators don't occur in spurious uses:

- (24) (*Both) one more step and I'll shoot you.
(*Both) Two more beers and we're outta here. (Culicover & Jackendoff 1997)

Finally, we can adopt strategy 2's account of the lack of pair-list readings: if we follow that strategy in assuming that Quantifier Absorption is contingent on structural adjacency (à la Gribanova 2009 or Dayal 2002: 513). Then the intervening conjunction will block Quantifier Absorption.

Another possibility worth exploring using the structure posited above would be to propose that the conjunction itself imposes the presupposition for a single pair answer (implemented as a partial identity function over partial question meanings). In the system of Dayal 1996, 2002, given in (25), for example, we could assign such a meaning to filter out the lower node that dominates the lowest *wh*-phrase and its sister, passing up the denotation to be combined with the higher *wh*-phrase to yield the combined meaning only if the denotation of the answer predicate contained only a single *n*-tuple corresponding to the *wh*-phrases. (The details depend on how Dayal envisions the composition, of course, though they are immaterial to the idea of the conjunction filtering.)

- (25) a. Which philosopher likes which linguist?
b. [which linguist_{*j*} [which philosopher_{*i*} [*t_i* likes *t_j*]]]

² From community.livejournal.com/terra_linguarum/413531.html; thanks to V. Gribanova for the pointer.

- c. $Q = \lambda p \exists f_{\langle e, e \rangle} [Dom(f) = philosopher' \wedge Range(f) = linguist' \wedge p = \cap \lambda p' \exists x [p' = x \text{ likes } f(x)]]$
- d. For example, if $philosopher' = \{a, c\}, linguist' = \{b, d\}$, then
- e. $Q = \{a \text{ likes } b \text{ and } c \text{ likes } d, a \text{ and } c \text{ both like } b, a \text{ and } c \text{ both like } d, a \text{ likes } d, c \text{ likes } b\}$
- f. $Ans(Q) = \iota p [\forall p' \wedge p \in Q \wedge \forall p' \in Q [\forall p' \rightarrow (p \subseteq p')]]$

Some questions, inevitably, remain, however. How plausible is it to find independent, parallel grammaticalizations of conjunctive morphemes away from conjunctive semantics to focus, additive particles? Could the regular conjunctive semantics with two CPs involving ellipsis be a source for such a path? Can we spot languages in intermediate stages? (Might ‘reverse sluicing’ in Greek be a candidate?) The answers to these questions, I suggest, are: plausible, yes, yes, and yes.

5 Conclusions and consequences

The primary syntactic advantage to the posited structure is that no movement to a non-c-commanding position is necessary. The price we pay for this advantage is that we must countenance the idea that conjunctive morphemes have more, and more puzzling, usages than classical logic leads us to expect. But this is a conclusion that we should be more than familiar with in any case, and nothing but a great failure of imagination and experience with actual human languages could lead an analyst to believe that all words translated as *and* should have the semantics of propositional conjunction.

References

- Bánréti. 1992. A mellérendelés. In I. Mondattán; F. Kiefer (ed.), *Strukturális magyar nyelvtan*, 715–796. Budapest: Akadémiai Kiadó.
- Boiagi, Mihail G. 1915. *Gramatică română sau macedo-română (reedited with an introduction and vocabulary by per. papahagi)*. Bucharest: Tipografi Curtii Regale.
- Bošković, Željko. 2002. On multiple *wh*-fronting. *Linguistic Inquiry* 33(3). 351–383.
- Browne, Wayles. 1972. Conjoined question words and the limitation on English surface structure. *Linguistic Inquiry* 3. 223–226.
- Camacho, Jose. 2003. *The structure of coordination*. Dordrecht: Kluwer.
- Comorovski, Ileana. 1996. *Interrogative phrases and the syntax-semantics interface*. Dordrecht: Kluwer.

- Culicover, Peter W. & Ray Jackendoff. 1997. Semantic subordination despite syntactic coordination. *Linguistic Inquiry* 28(2). 195–217.
- Dayal, Veneeta. 1996. *Locality in WH quantification: Questions and relative clauses in Hindi*. Dordrecht: Kluwer.
- Dayal, Veneeta. 2002. Single-pair versus multiple-pair answers: wh-in-situ and scope. *Linguistic Inquiry* 33(3). 512–520.
- Friedman, Victor. 2001. The Vlah minority in Macedonia: Language, identity, dialectology, and standardization. In Jussi Halla-aho Juhani Nuoluoto, Martti Leiwo (ed.), *Selected papers in slavic, balkan, and balkan studies*, 26–50. Helsinki: University of Helsinki.
- Giannakidou, Anastasia & Jason Merchant. 1998. Reverse sluicing in English and Greek. *The Linguistic Review* 15. 233–256.
- Grebenyova, Lydia. 2004. Interpretation of multiple wh-questions. In O. et al. Arnaudova (ed.), *Proceedings of the annual workshop on formal approaches to slavic linguistics 12*, 169–186. Ann Arbor: Michigan Slavic Publications.
- Gribanova, Vera. 2009. Structural adjacency and the typology of interrogative interpretations. *Linguistic Inquiry* 40(1). 133–154.
- Higginbotham, James & Robert May. 1981. Questions, quantifiers, and crossing. *The Linguistic Review* 1. 40–81.
- Kazenin, K. 2002. On coordinations of wh-phrases in russian. Ms., University of Tübingen.
- Lipták, Anikó. 2003. Conjoined questions in Hungarian. In Cedric Boeckx & Kleanthes Grohmann (eds.), *Multiple wh-fronting*, 141–160. Amsterdam: John Benjamins.
- Ross, John Robert. 1969. Guess who? In Robert I. Binnick, Alice Davison, Georgia M. Green & Jerry L. Morgan (eds.), *Proceedings of the fifth annual meeting of the chicago linguistics society*, 252–286. Chicago, Illinois.
- Rudin, Catherine. 1988. On multiple questions and multiple wh-fronting. *Natural Language and Linguistic Theory* 6. 445–501.
- Rudin, Catherine. 2007. Multiple wh-fronting in correlatives and free relatives. Paper presented at the LSA, Anaheim, Calif.
- Wachowicz, K. 1974. *On the syntax and semantics of multiple questions*: University of Texas, Austin dissertation.