Week 4: Multiple wh- questions and multiple wh- fronting

1 Summary of the course so far

The major generalization that we have made in this course is the following.

(1) Wh- questions involve a relation between the interrogative C° head and a Q particle. Wh- movement happens when movement of the Q-particle pied-pipes its complement phrase.

We have seen in the last two weeks that this way of looking at wh- questions allows us to get a better understanding of certain possible and impossible patterns of wh- fronting. Today, we are going to look at new pattern, *viz.*, multiple wh- questions. In English and German (in fact, across Romance and Germanic), wh- questions require fronting only one wh- phrase, typically the highest.

(2) Everybody started talking at the same time, so I couldn't tell [who was saying what].

(3) Wo finde ich was?
[sign at the entrance of Kaufland in Potsdam Hbf]

More interesting are the Slavic languages, which exhibit obligatory multiple wh-fronting in these environments.

(4) *Bulgarian*

Koj kogo vižda?
who who sees
"Who sees who?"

(5) *Serbo-Croatian*

Ko koga vidi?
who who sees
"Who sees who?"

Digression #1 Multiple questions are sometimes subject to a *Superiority* effect, which doesn't allow fronting of a structurally low wh- phrase over a structurally higher one. This effect depends on a number of things, among them the kind of language we are dealing with:

(6) a. Who has said what?
b. Wer hat was gesagt?

(7) a. * What has who said?
b. Was hat wer gesagt?

2 Two types of multiple wh- fronting languages

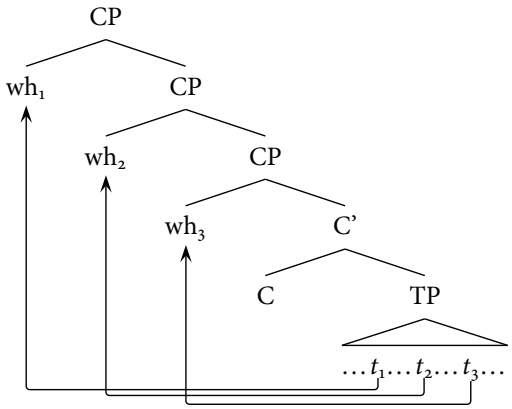
The material in this section is based on the following article:

Rudin, Catherine. 1988. On multiple questions and multiple wh- fronting. *Natural Language and Linguistic Theory* 6(4):445–501.

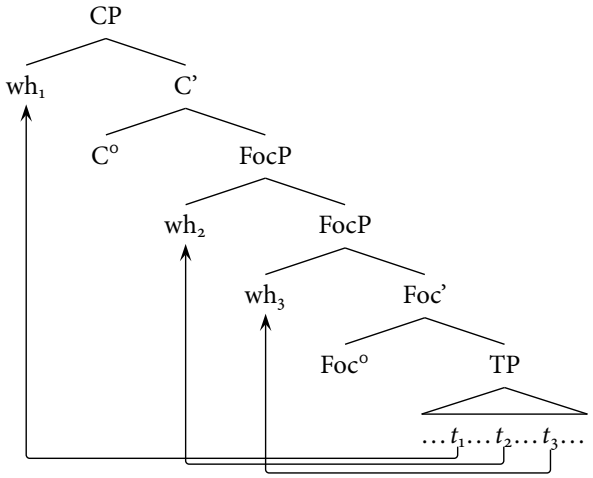
Given that it was written almost 30 years ago, the terminology she uses is a bit different from what you are used to. I have updated it here a bit, so don't be surprised if you start finding new things when you read the article.

Rudin's main point is that multiple wh- fronting languages divide into two classes, which she calls [+MFS] (Bulgarian and Romanian) and [-MFS] (Polish, Czech, Serbo-Croatian); here, *MFS* means *multiply-filled SpecCP*. Graphically:

(8) *A [+MFS] language*



(9) *A [-MFS] language*



Here is a summary of the asymmetries that a [+MFS]/[-MFS] distinction helps us account for.

	[+MFS]	[-MFS]
Multiple extraction from embedded clauses	yes	no
Extraction out of wh- islands	yes	no
Clitics intervene between wh- phrases	no	yes
Parentheticals intervene between wh- phrases	no	yes

From now on, I will use Bulgarian as an example of [+MFS] language and Serbo-Croatian as an example of a [-MFS] language.

Multiple extraction from an embedded clause

(10) *Bulgarian*

Koj$_i$ kŭde$_k$ misliš [$_{CP}$ če e otišŭl t_i t_k]?
who where you.think that has gone
"Who do you think (that) went where?"

(11) *Serbo-Croatian*

* Ko$_i$ š$_k$ želite [$_{CP}$ da vam kupi t_i t_k]?
who what you.want to you buy
"Who do you want to buy what for you?"

Explanation: extraction from an embedded clause requires successive cyclic movement through the intermediate SpecCP. In [-MFS] languages, CP has only one specifier position, so if one wh- phrases uses it up, the rest are trapped inside the embedded clause; in contrast, in [+MFS] languages, there are multiple specifiers, so all the wh- phrases have an intermediate landing site to escape the embedded clause.

Extraction out of wh- islands

(12) *Bulgarian*

? [Koja ot tezi knigi]$_i$ se čudiš [$_{CP}$ koj znae [$_{CP}$ koj prodava t_i]]?
which of these books CL wonder who knows who sells
"Which of these books do you wonder who knows who sells?"

On this pattern, Rudin observes that relativization out of a wh- island is fully acceptable, whereas wh- movement out of a wh- island seems to require a "heavy" (internally

complex) wh- expression. Romanian is more liberal and allows wh- movement out of wh- islands more readily.

(13) *Serbo-Croatian*

* Šta$_i$ si me pitao [$_{CP}$ ko može da uradi t_i]?
what you.have me asked what can to do
"What did you ask me who can do (it)?"

Explanation: same as above. In [-MFS], the embedded wh- phrases occupies the only available SpecCP, so other wh- phrases are trapped inside the embedded clause; in [+MFS] languages, there are always additional specs that allow wh- phrases to escape the island.

Clitic intervention

(14) *Bulgarian*

a. Koj kakvo ti e kazal.
who what you AUX told
"Who told you what?"

b. * Koj ti e kakvo kazal.
who you AUX what told
"Who told you what?"

(15) *Serbo-Croatian*

a. * Ko šta mu je dao?
who what him AUX given
"Who has given what to him?"

b. Ko mu je šta dao?
who him AUX what him given
"Who has given what to him?"

Parenthetical intervention

(16) *Bulgarian*

* Koj, spored tebe, kakvo e kazal?
who according you what AUX said
"In your opinion, who has said what?"

(17) *Serbo-Croatian*

✓ Ko, po tebi, šta pije?
who by you what drinks
"In your opinion, who is drinking what?"

Explanation: same as for clitic intervention.

3 Analysis

The analysis we have developed in the last few weeks suggests that each wh- phrase in a multiple question has to come with its own Q particle. Support from this comes from the fact that this is exactly what we find in Tlingit.

(18) [Aa sá] [daa sá] aawaxáa?
who Q what Q they.ate.it
"Who ate what?"

However, other languages with overt Q particles (here, Navajo) only permit on Q particle in a multiple question.

(19) [háí lá] [haʔáťíí (∗la)] nayiisniiʔ?
who Q what Q he.bought.it
"Who bought what?"

Cable proposes that the difference between Tlingit-type and Navajo-type languages lies on the type of C° heads they have. In Tlingit, as in English, we have what he calls a Force$_{Q_2}$ head (really, just a type of C°), which allows multiple Q particles in its complement domain; in contrast Navajo (and, by hypothesis, German), have a Force$_{Q+}$ head, which only allows one Q particle. The difference between these two Force heads is largely based on semantics. To begin with, we need to assume the following lexical entry for the Force head underlying single questions.

(20) $[\![\text{Force}_{Q_i} \text{ XP}]\!]^g = \lambda p[\exists f.p = [\![\text{XP}]\!]^{g(i/f)}]$

In prose, Force$Q\,i$ takes as its complement a proposition p containing a Q particle with index i. Movement of the Q particle creates a variable over choice functions that can be bound by the existential quantifier over choice function variables $\exists f$. The result is a set of propositions that vary in the meaning of the constituent dominated by the choice function variable.

Multiple questions in Tlingit-like languages require extending (20) so that it can account for the presence of the multiple choice function variables introduced by the different Q particles. Cable gives the following entry for questions with two wh- phrases. Note how each Q particle leaves a differently-indexed variable (i and j) that is respectively bound by a different existential quantifier ($\exists f$ and $\exists h$, respectively).

(21) $[\![\text{Force}_{Q2_{i,j}} \text{ XP}]\!]^g = \lambda p[\exists f.\exists h.p = [\![\text{ XP}]\!]^{g(i/f)(j/h)}]$

In contrast, Navajo-like languages have the following entry for multiple questions. The different between $\text{Force}_{Q2_{i,j}}$ and Force_{Q+i} is that the latter already contains, as part of its lexical semantics, the meaning that results from binding a choice function variable with an existential quantifier.

(22) $[\![\text{Force}_{Q+i} \text{ XP}]\!]^g = \lambda p[\exists f.\exists h.p = h([\![\text{ XP}]\!]^{Fg(i/f)})]$

Although both ways of building multiple questions result in the same meaning, there are detectable syntactic differences. The main one is that Tlingit-type languages display Superiority effects —i.e., you can't front a low Q particle over a higher one. Compare (18) to (23). By this measure, English is also a multiple-Q language, like Tlingit.

(23) * [daa sá] [aa sá] aawaxáa?
what Q who Q they.ate.it
"Who ate what?"

In contrast, Navajo-like languages only require fronting of one Q-particle, and we have a certain amount of freedom as to which wh- phrase to assign this single Q-particle to. This leads us to expect that Navajo-like languages will not exhibit Superiority effects (in the general case, at least; as we will see in a later class, there are certain factors that might contribute to create something that looks like a Superiority effect). Cable doesn't give us data from Navajo, but we can look at German, which is famous for not having English-like Superiority effects.

(24) a. Wer hat was gekauft?
b. Was hat wer gekauft?