

Week 2: wh- fronting vs. wh- in situ

We know that some languages are wh- fronting languages whereas some others are wh- in situ. Here we can exemplify the difference with German and Mandarin Chinese.

- (1) a. Hans fragt sich, was Klaus gekauft hat.
 b. qiaofong xiang-zhidao hufei mai-le shenme.
 Qiaofong want-know Hufei buy-ASP what
 “Qiaofong wonders what Hufei bought”

Today we are going to focus just in this contrast and ignore various complications, like languages with multiple wh- fronting (Slavic), languages that form questions with clefts and similar constructions (Malagasy), or languages that seem to be transitioning from wh- fronting to wh- in situ (French). The two central questions that we can ask about the wh- fronting vs. wh- in situ distinction are:

- How do we implement it?
- Why does it exist?

An unfortunate fact about theories of wh- questions up to this point in history is that the answers to these two questions are unrelated to each other. That is, we can have elaborate technical accounts of how wh- fronting works in German and how wh- in situ works in Chinese, but these accounts give us no insight as to why German is a wh- fronting language, rather than wh- in situ. It also doesn't offer us a lot of insight into the fact that wh- phrases are closely related (both semantically and morphophonologically) to indefinites.

JAPANESE		HUNGARIAN	
<i>dare</i> ‘who’	<i>dare-ka</i> ‘someone’	<i>ki</i> ‘who’	<i>valaki</i> ‘someone’
<i>nani</i> ‘what’	<i>nani-ka</i> ‘something’	<i>mi</i> ‘what’	<i>valami</i> ‘something’
<i>doko</i> ‘where’	<i>doko-ka</i> ‘somewhere’	<i>hol</i> ‘where’	<i>valahol</i> ‘somewhere’
<i>itsu</i> ‘when’	<i>itsuka</i> ‘sometime’	<i>hogyan</i> ‘how’	<i>valahogyan</i> ‘somehow’

1 Syntax of wh- in situ vs. wh- fronting

Some analyses of the wh- in situ vs. wh- fronting divide reduce it to the kind of relation that exists between the interrogative C head and wh- phrases. Glossing over a lot of details, wh- fronting languages have a “strong” C head, which causes overt wh- movement, whereas wh- in situ languages have a “weak” C, which causes some other type of movement that can't be seen directly. There are various options as to what this other type of movement actually is —e.g., movement at LF, movement of a Q feature, regular movement with pronunciation of a lower copy, etc. The idea that wh- in situ phrases still move is there because:

Wh- phrases in situ are island sensitive In wh- fronting languages, extraction of an adjunct out of an island is comparatively worse than extraction of an argument out of the same island.

- (2) a. ?? What_i do you wonder [whether Jack bought *t_i*]?
 b. ?? Who_i do you believe [the claim that Jack kissed *t_i*]?
 (3) a. * Why_i do you wonder [whether Jack bought a book *t_i*]?
 b. * Why_i do you believe [the claim that Jack kissed Sally *t_i*]?

We observe the same restrictions in some wh- in situ languages, i.e., wh- phrases contained inside islands cannot take scope outside the island. Here are some examples from Chinese.

- (4) Húfei xiǎng-zhīdào shéi wèishénme shēngqì?
 Hufei want-know who why get-angry
 [= who is the person *x*, such that Hufei wonders why *x* gets angry?]
 [≠ what is the reason *x*, such that Hufei wonders who gets angry for *x*]

- (5) * Húfei xǐhuān Xīn wèishénme xiě de shū?
 Qiaofeng like Botong why write DE book
 [= what is the reason x , such that Húfei likes the book that Xīn wrote for x]

However, in other languages, like Japanese, the data are murkier. We want our theory of *wh-* in situ to account for this range of variation.

- (6) a. Hanako-wa nani-o katta hito-o sagasite iru no?
 Hanako-TOP what-ACC bought person-ACC looking-for Q
 [= What is the thing x , such that Hanako is looking for the person who bought x]
 b. ?? Hanako-wa Yuko-ga nani-o katta ka dooka siritagatte iru no?
 Hanako-TOP Yuko-NOM what-ACC bought whether know-want Q
 [= what is the thing x , such that Hanako wonders if Yuko bought x]

2 More about *wh-* in situ

Cheng's *Clausal typing generalization*

- (7) *Wh-* in situ languages have *wh-* particles. Languages with *wh-* particles are *wh-* in situ languages.

At the heart of generalization (7) is the idea that clauses must be *typed* —i.e., if a certain clause is a question, it has to be marked as such by a question morpheme somewhere in the CP area. In *wh-* fronting languages, *wh-* words fulfil this role; in *wh-* in situ languages, *wh-* particles do. This is a pretty good first approximation, but we can do better

A tour of Sinhala and Japanese Hagstrom (1998) contains an extended discussion of the syntax and semantics of *wh-* in situ phrases in both Sinhala and Japanese. The generalization he comes up with is the following.

- (8) The Q morpheme must be as close as possible to the *wh-* word (where closeness is measured structurally rather than linearly), but without being separated from its scope position by an island boundary.

Graphically, we can represent (8) as (9).

- (9) a. * ... [*island* ... *wh-* Q ...] ... scope. [island intervention]
 b. * ... [*island* ... *wh-* ...] Q ... scope.
 c. * ... [*island* ... *wh-* ...] ... Q ... scope. [too far away from *wh-*]

Ignoring the last case, here are some relevant examples.

- (10) *Sinhala (final -e marks scope)*
 a. * [*AdvP* kau **da** ena kota] Ranjit paadam karamin hiti-e?
 who Q came time Ranjit study doing was-E
 “Who is the person x , such that Ranjit was studying when x came?”
 b. [*AdvP* kau ena kota] **da** Ranjit paadam karamin hiti-e?
 who came time Q Ranjit study doing was-E
 “Who is the person x , such that Ranjit was studying when x came?”

- (11) *Okinawa Japanese (final -ra marks scope)*
 a. * Taruu-ya [*RelC* taa-ga **ga** kak-ta-ru syumutyi] yum-too-ra?
 Taru-TOP who-NOM-Q write-PST-C book read-prog-M
 “Who is the person x , such that Taru read the book that x wrote?”
 b. Taruu-ya [*RelC* taa-ga kak-ta-ru syumutyi] **ga** yum-too-ra?
 Taru-TOP who-NOM write-PST-C book Q read-prog-M
 “Who is the person x , such that Taru read the book that x wrote?”

Standard Japanese is less transparent, because the Q marker *no* tends to move all the way to the scope position. However, we can control for this by using the modifier *ittai*, which necessarily *c-*commands the launch position of *no*: if *ittai* is inside the island, then *no* must move from inside the island too. Once we do this, the same pattern emerges.

- (12) *Standard Japanese*
 a. * Hanako-wa [*RelC* Yuko-ni *ittai* nani-o ageta] hito-ni *atta no*?
 Hanako-TOP Yuko-DAT *ittai* what-ACC gave man-DAT met Q
 “What is the thing x , such that Hanako met the man that gave x to Yuko?”
 b. Hanako-wa *ittai* [*RelC* Yuko-ni nani-o ageta] hito-ni *atta no*?
 Hanako-TOP *ittai* Yuko-DAT what-ACC gave man-DAT met Q
 “What is the thing x , such that Hanako met the man that gave x to Yuko?”

Conclusion and analysis Wh- in situ is also island-sensitive. In Standard Japanese, island violations are caused by movement of the Q particle.

- (13) * Hanako-wa [Yuko-ni *ittai* nani-o t_i ageta] hito-ni atta **no**_i?
 Hanako-TOP Yuko-DAT ittai what-ACC gave man-DAT met Q
 “What is the thing x , such that Hanako met the man that gave x to Yuko?”

In Sinhala and Okinawa Japanese (and other languages), we can assume that the Q particle moves covertly (represented with a dotted arrow).

- (14) * [kau **da** ena kota] Ranjit paadam karamin hiti-e \checkmark ?
 who Q came time Ranjit study doing was-E
 “Who is the person x , such that Ranjit was studying when x came?”

- (15) * Taruu-ya [taa-ga-**ga** kak-ta-ru syumutyi] yum-too-ra \checkmark ?
 Taru-TOP who-NOM-Q write-PST-C book read-prog-M
 “Who is the person x , such that Taru read the book that x wrote?”

The questions now become the following.

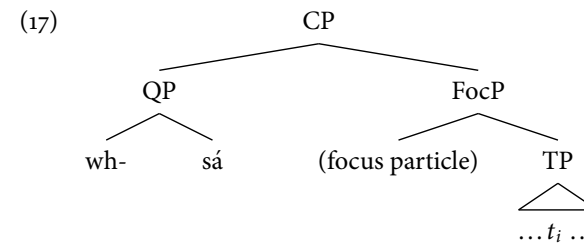
- In wh- in situ languages, why does Q need to move to the scope position?
- In wh- fronting languages, how does overt wh- movement fulfill the function of Q movement?

To answer these questions, we need to look at even more exotic languages than Sinhala and Japanese.

A guided tour of Tlingit Tlingit is an endangered language (only ~500 native speakers) spoken on the coast of Southern Alaska and Northern Canada. Its wh- system, which heavily revolves around the Q particle *sá*, has been studied in great detail by Cable (2007, 2010). Here are some examples.

- (16) a. Waa **sá** shtudinokw i éesh?
 how Q he.feels your father
 “How is your father feeling?”
 b. Daa **sá-wé** i éesh al’óon?
 what Q-FOC your father he.hunts.it
 “What is your father hunting?”

Schematically, Tlingit wh- questions have the following syntax (see Cable’s work for details). The question here is, why is it necessary to front both the Q particle and the wh- word?



Note that *sá* doesn’t have to be linearly adjacent to the actual wh- word; it only needs to be adjacent to some constituent containing the wh- word, e.g.,

- (18) a. [Aadóo jeet] **sá** wé sakwnéin aawatee?
 who hand.to Q that bread he.brought.it
 “To whose hand did he bring the bread?”
 b. [Aadóo jeet] wé sakwnéin **sá** aawatee?
 who hand.to that bread Q he.brought.it
 “To whose hand did he bring the bread?”

Wh- words inside islands Tlingit allows wh- words inside islands, so long as (i) the whole island undergoes fronting; and (ii) *sá* appears outside the island.

- (19) a. [_{REL} Wáa kligéiyi xáat] **sá** i tuwáa sigóo?
 how big.REL fish Q your spirit is happy
 “What is the size x , such that you want a fish that is x big?”
 b. * [_{REL} Wáa kligéiyi **sá** xáat] i tuwáa sigóo?
 how big.REL Q fish your spirit is happy
 “What is the size x , such that you want a fish that is x big?”

- c. * [_{RelC} Wáa **sá** kligéiyi xáat] i tuwáa sigóo?
 how Q big.REL fish your spirit is happy
 “What is the size *x*, such that you want a fish that is *x* big?”

In summary We observe the following parallelisms between Sinhala *da*, Japanese *ga/no*, and Tlingit *sá*.

- The Q particle is required in wh- questions.
- The Q particle must c-command the wh- word.
- The wh- phrase can be contained in an island if the Q particle is outside the island.

3 Analysis of wh- in situ and wh- fronting

Cable’s analysis of Tlingit is a simple extension of the one Hagstrom and others have proposed for Sinhala, Japanese, and related languages: the Q particle moves to the scope position, but instead of moving on its own, it pied-pipes its sister constituent. You can think of English, German, and other wh- fronting languages as variants of Tlingit where the Q morpheme is phonetically null.

Bibliography

- Cable, Seth. 2007. The grammar of Q: Q-particles and the nature of wh- fronting, as revealed by the wh- questions of Tlingit. Doctoral dissertation, MIT.
- Cable, Seth. 2010. *The grammar of Q: Q-particles and pied-piping*. Oxford: Oxford University Press.
- Cheng, Lisa. 1990. On the typology of wh- questions. Doctoral dissertation, MIT.
- Cheng, Lisa. 2009. Wh- in situ from the 1980s to now. *Language and Linguistics Compass* 3(3):767–791.
- Hagstrom, Paul. 1998. Decomposing questions. Doctoral dissertation, MIT.