SENTENTIAL WORD ORDER AND THE SYNTAX OF QUESTION PARTICLES[*]

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Abstract

Polar question particles in languages with VO word order pose a problem for the otherwise robust Final-Over-Final Constraint, which rules out a head-final phrase immediately dominating a head-initial phrase (Holmberg 2000). This paper offers a description of these particles and the constraint, and offers data supporting the hypothesis that these final particles are different from their initial counterparts in a fundamental way.

1. Introduction

This paper discusses the syntax of polar question particles – that is, those particles that combine with a declarative sentence to form an interrogative that can be answered 'yes' or 'no'. A large class of these particles violates a principle that is suggested to be universally valid: the Final-Over-Final Constraint (FOFC). Some background on question particles is given in section 2, and section 3 introduces the Final-Over-Final Constraint and shows how languages with VO order and sentence-final question particles violate it. Then in section 4 two existing analyses of the syntax of question particles are discussed and ultimately rejected as being impossible to maintain concurrently with FOFC. Section 5 discusses a potential analysis of constructions of this type that is compatible with FOFC. Relevant data is presented to show that there appears to be a difference between initial and final polar question particles, as predicted by the analysis proposed.

1.1. Ways of forming questions

This section introduces the various ways in which questions can be formed in a given language and gives some background information on particles, the most common single question-marking device.

Interrogative intonation is generally claimed to be present in the vast majority of languages. The normal question intonation is a final rising contour. Of those languages that have a specific interrogation intonation, it usually functions alongside one or more of the other (morphological or syntactic) types of question. However, some languages do mark true syntactic questions solely with intonation. Interrogative intonation alone is the usual question form in 67 (138, 33)[1] of the 289 (842, 122) genera surveyed in Dryer (2008a), including Maori (Austronesian, New Zealand) and Kikuyu (Niger-Congo, Kenya).

Where intonation is a secondary question-marking device, questions can be formed in a number of other ways cross-linguistically. The most common way of doing so is with a particle – 208 genera (520, 81) out of 289 (842, 122) are listed on the World Atlas of Language Structures (Dryer 2008a) as using this construction. The use of a question particle is exemplified in (1):

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[1] Numbers of genera are compared throughout in order to reduce bias from genetic and areal factors. The bracketed figures following number of genera refer to (languages, families).

(1) *Polish (Indo-European, Poland):*
czy Marta lubi koty?
Q Martha like.3SG cat.ACC.PL
'Does Martha like cats?' (Magdalena Sztencel, p.c.)

The second most common construction is the use of interrogative verbal morphology, employed by languages from 89 (155, 55) genera including Uzbek (Altaic, Uzbekistan/Afghanistan), Korean (Korean, Korea) and West Greenlandic (Eskimo-Aleut, Greenland). It must be noted, however, that these languages are overwhelmingly OV languages (73 (132, 45) compared to 15 (15, 13) VO) and it is difficult to distinguish between verbal morphology and a final question particle in OV languages. Dryer (2008a) defines interrogative verbal morphology as 'an affix that specifically signals that the utterance is a question' and gives the example in (2):

(2) *Tunica (isolate, Mississippi):*
lɔ'ta wi-wa'nă-n
run 2SG-want-Q
'Do you want to run?' (Haas 1940: 118)

Dryer does note that many final question particles can 'loosely cliticise' onto the verb, and any morpheme that attaches to the verb is counted as verbal morphology even though it may be better classified as a clitic in some cases. I have not been able to find examples from the few VO languages with interrogative verbal morphology. Some have prefixation, rather than suffixation, so that again it is hard to tell whether morphology, a clitic or a particle is the device employed. In Salinan, for example, listed in Dryer (2008a) as having verbal morphology, the verbal stem is prefixed with the proclitic form of the pronominal subject to mark interrogativity, as in (3), where the morpheme *o-* is the pronominal prefix and signals a question:

(3) *Salinan (Salinan, Unites States):*
o-ki' heyo'
[no gloss]
'Is he going?' (Mason 1918: 43)

The use of a special word order, as in English, accounts for just six genera (12, 3) from Dryer's (2008a) sample. Other languages may have a mixture, or mark questions by virtue of the absence of a declarative morpheme. Most languages have more than one way of forming questions; thus English has both word order and intonation only questions (though they have different pragmatic effects), and many languages also have the option of appending a declarative sentence with a tag question, like English *isn't it* or Russian *ne pravda* 'not true'. Tags frequently (and perhaps universally) signal a biased question.

2. Question particles

In this section, I give an overview of question particles, the focus of this paper. In 2.1 the issue of what the label 'particle' means is discussed, and I give some discussion of their placement in section 2.2.

2.1. Particles: a working definition

The term 'particle' encompasses a wide range of elements with differing functions, and it is not at all clear that they can all be classed as one homogeneous category. Criteria for determining what a particle is are not agreed upon. Generally, a loose definition is something like 'an invariant element with grammatical function that does not belong to one of the major grammatical categories'. The negative aspect of this definition allows for the inclusion not only of question particles and similar, but of interjections, prepositions, phrasal verb particles, German or Italian modal particles etc.

Certain properties do appear to apply to all types of particle. Comparing Struckmeier's (2008) and Bayer & Obenauer's (2008) analysis of German modal particles with question particles, the following list of criteria is produced:

(4) Particles:
- a. constitute a closed lexical class
- b. are often stressless (or may be phonologically null)
- c. do not select an argument as complement
- d. lack descriptive content
- e. are invariant in form
- f. usually have a lexical counterpart to which they are historically related
- g. are immobile
- h. are typically monosyllabic
- i. cannot be modified
- j. appear in fixed order in relation to other particles of the same class
- k. are sensitive to sentence type
- l. usually appear only in matrix clauses

2.2. Question particle placement

Of those languages that use a particle to mark polar questions, the particle overwhelmingly appears in one of three sentence positions. Of the 194 (468, 77) genera with question particles in Dryer (2008b), 59 (118, 29) have initial particles as in (1), repeated here as (5), and (6):

(5) *Polish (Indo-European, Poland):*

czy	Marta	lubi	koty?
Q	Martha	like.3SG	cat.ACC.PL

'Does Martha like cats?' (Magdalena Sztencel, p.c.)

(6) *Tzotzil (Mayan, Mexico):*

la	k'ol	Aa	Teeko	chjaay?
Q	be	youth	Diego	at.home

'Is Diego at home?' (Aissen 1987: 330)

Second position[2] accounts for 32 (45, 22) genera, as in (7) and (8):

[2] There are in theory two kinds of second position particles: those that appear following the first constituent, and those that appear strictly following the first word. The difference between these two is then a difference between the syntax (which recognises constituents) and the phonology (which recognises words). However, languages in which the particle follows the first word, like Latin, allow certain exceptions to the rule, indicating that it may not be a purely phonological process. I do not discuss this distinction in this paper.

(7) *Latin (Indo-European, ancient):*
me-ne fugis?
1SG.ACC-Q flee.2SG
'Is it me you are running away from?' (Virgil, *Aeneid* 4.314)

(8) *Finnish (Uralic, Finland):*
sataa-ko ulkona?
rains-Q outside
'Is it raining?' (Anders Holmberg, p.c.)

Final position is the most common with 117 (273, 48) genera in Dryer's sample, as in (9) and (10):

(9) *Japanese (Japanese, Japan):*
Taroo-ga hon-o kaimasita ka?
Taroo-NOM book-ACC bought.POL Q
'Did Taro buy a book?' (Hagstrom 1999: 5)

(10) *Mupun (Afro-Asiatic, Nigeria):*
wu naa mun-e
3M see 3PL-Q
'Did he see us[3]?' (Frajzyngier 1993: 360)

The remaining languages have particles in either of two of the above positions (usually initial and final), as in (11) (20 genera), or no fixed position, as in (12) (8 genera), where it serves to focus and question one constituent.

(11) *Hunde (Niger-Congo, Democratic Republic of Congo):*
(mbéni) ámukátsí mu-lómbe (hé)
Q woman NC-lazy Q
'Is the woman lazy?' (Kahombo 1992: 171, cited in Dryer 2008b)

(12) *Imbabura Quechua (Quechuan, Ecuador):*
wasi-man=chu ri-ju-ngui
house-to= Q go-PROG-2
'Are you going to the house?'(Cole 1982: 15, cited in Dryer 2008b)

In (11), one and only one of the particles must be present to mark the question, but it can be either the initial or final particle. In other languages, the two particles may be the same, whereas in Hunde they have different forms. The particle in (12) is attached to the PP, questioning that constituent. A neutral question has the particle attached to the verb.

3. The Final-Over-Final Constraint

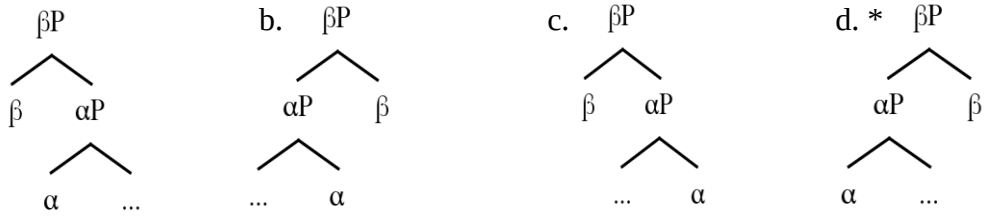
In this section, I introduce a constraint which is suggested to have universal validity, the Final-Over-Final Constraint (FOFC). The relevance of this constraint for the syntax of question particles is noted and discussed.

[3] This is the gloss as given in the source. I have not been able to ascertain whether it should be 'us' or 'them'.

3.1. Introducing FOFC

Given a choice of head-initiality or head-finality in a phrase, there are four logically possible types of word order in any structure consisting of at least two phrases: two harmonic types, either consistently head-initial or consistently head-final, and two disharmonic types, with either a head-initial phrase dominating a head-final phrase or a head-final phrase dominating a head-initial phrase. The four structures are illustrated in (13):

(13) a. b. c. d. *



Languages vary as to how harmonic they are. As (13) shows, some disharmony is permitted, namely that in (13c), but the disharmonic structure shown in (13d) is highly dispreferred cross-linguistically. FOFC, as first formulated by Holmberg (2000), is given in (14) and rules out structures of the type in (13d), where a head-final phrase immediately dominates a head-initial phrase:

(14) If a phrase α is head-initial, then the phrase β immediately dominating α is head-initial. If α is head-final, β can be head-final or head-initial. (Holmberg 2000: 124)

The other three possible structures, namely initial over initial, final over final (the two harmonic orders) and initial over final (the permitted disharmonic order) are all attested in the world's languages, but (13d) is not. Biberauer et al. (2008a) list five of the six possible orderings of auxiliary, verb and object (O-V-Aux, O-Aux-V, Aux-O-V, V-Aux-O, and Aux-V-O) and note that these are all attested in varieties of Germanic. The other possible ordering, namely the order disallowed under FOFC (V-O-Aux, a head-initial VP dominated by a head-final TP), is not attested in any Germanic variety:

(15)

O-V-Aux	(German, Dutch, Afrikaans, Old English, Old Norse)
O-Aux-V	(Swiss German dialects, Dutch, Afrikaans, Old English, Old Norse)
Aux-O-V	(Swiss German dialects, Dutch dialects, spoken Afrikaans; Middle Dutch, Old High German, Old English, Old Norse)
V-Aux-O	(with CP and PP complements in German, Dutch, Afrikaans)
Aux-V-O	(English, Mainland Scandinavian, Icelandic)

They also note that a number of other languages support this generalisation. Finnish, for example, has Aux-V-O ordering but also allows fronting of the object and VP in focus constructions, giving the possibility of O-V-Aux and Aux-O-V orders. However, VP-fronting is barred where the object remains in situ following the verb; namely, the FOFC-violating order V-O-Aux:

(16)

milloin	Jussi	olisi	kirjoittanut	romaanin?	[Aux-V-O]
when	Jussi	would-have	written	novel-def	

(17)

milloin	Jussi	olisi	romaanin	kirjoittanut?	[Aux-O-V]
when	Jussi	would-have	novel-def	written	

(18) milloin Jussi romaanin kirjoittanut olisi? [O-V-Aux]
when Jussi novel-def written would-have
'When would Jussi have written a novel?'

(19) *milloin Jussi kirjoittanut romaanin olisi? *[V-O-Aux]
when Jussi written novel-def would-have

Biberauer et al. (2008a, 2008b) modify FOFC, however, to account for OV languages (head-final VP) with head-initial DPs, which are not uncommon. (20)-(21) illustrate the structure in German:

(20) $[_{VP}\ [_{DP}$ D N] V]

(21) *German (Indo-European, Germany):*
Johann hat $[_{VP}\ [_{DP}$ den Mann] gesehen]
Johann has the man seen
'John has seen the man' (Biberauer et al. 2008: 99)

The improved version of FOFC is given in (22) (Biberauer, Newton & Sheehan 2009: 707, 711; Biberauer, Holmberg & Roberts 2009: 7):

(22) Within an extended projection, if a head X bears ^ (i.e. a linearisation diacritic signalling the need for roll-up movement and thereby producing a head-final structure), then a lower head X^{-1} selected by X must also have ^.

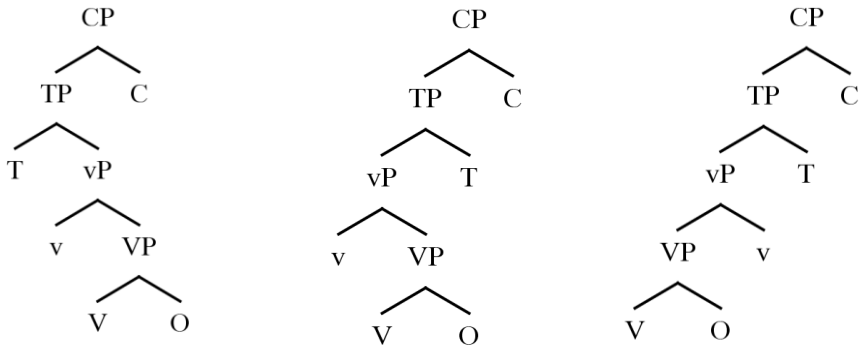
FOFC relies on (and in fact corroborates (Biberauer & Sheehan 2010, i.a.)) the Linear Correspondence Axiom (Kayne 1994), which states that asymmetric c-command dictates linearisation so that c-commanding elements will be first in linear order. This entails that head-finality is derived via movement from complement to specifier. Under FOFC, the linearisation diacritic ^ on any head triggers this comp-to-spec movement and the result is complement-head (i.e. head-final) order. V-O-Aux cannot be derived under (22) because a head-initial VP (i.e. one that does not have ^) would have to move to the specifier of a *v*P that does have it, violating (22). However, in the example in (21), the D is part of a different extended projection, that of N, and therefore not required by (22) to have ^ if V does.

3.2. FOFC and its relevance to question particles

FOFC predicts that VO languages should not have final complementisers. Although this does not directly violate FOFC, as C does not select V, (23) and (24) (with simplified structure) show that this order must violate FOFC at some point of the derivation, with the relevant heads in bold:

(23) *$[_{CP}\ [_{TP}$ **T** $[_{vP}$ v $[_{VP}$ VO]] $]_i$ **C** t_i]
*$[_{CP}\ [_{TP}\ [_{vP}$ **v** $[_{VP}$ VO] $]_j$ **T** t_j $]_i$ C t_i]
*$[_{CP}\ [_{TP}\ [_{vP}\ [_{VP}$ **V**O $]_k$ **v** t_k $]_j$ T t_j $]_i$ C t_i]

(24) Final C, initial T: Final T, initial *v*: Final *v*, initial V:



There is therefore no way that the order VO-C can be derived, and it should not occur. This is indeed the case with those elements uncontroversially agreed to be C elements. For example, there are two VO languages which have been suggested to have final adverbial subordinators, Guajajara (Tupi-Guarani, Brazil) and Buduma (Afro-Asiatic, Chad/Cameroon/Nigeria). Newton (2007) considers these and concludes that they are not true examples, as the usual VO word order may become OV when a final subordinator is present, giving the harmonic OV-C. Similarly, languages with initial question particles tend not to have final complementisers, while the other disharmonic order (final question particle, initial complementiser) is common (Biberauer, Newton & Sheehan 2009).

However, question particles, frequently analysed as heads in the CP domain, appear not to conform so readily to FOFC. They have long failed to appear where expected: generally (Hawkins (1983), Dryer (1992) i.a.), the position of the Q-particle is thought to correlate with the order of object and verb. Dryer (1992) refers to them as verb patterners, meaning that OV languages are more likely to have final particles and VO languages are more likely to have initial particles. However, this is not the case, as Table 1 shows (data from Dryer 2008b, 2008c):

Table 1: Number of OV and VO genera (languages, families) with initial and final particles.

	Initial	**Final**
OV	21 (34, 14)	66 (127, 39)
VO	39 (75, 19)	51 (135, 15)

With roughly equal numbers of VO and OV genera (90 and 87, respectively) given in Table 1, it would be expected that the number of VO/initial languages would be much higher than the number of VO/final languages. OV languages do behave as expected, with a strong tendency to have final particles. But VO languages, which should have a tendency towards initial particles, show the same skewing towards final question particles: 76% of OV languages and 57% of VO languages have final particles, compared with 24% and 43% respectively with initial particles. In addition to being unexpected according to Greenbergian correlations, the VO languages with final particles seem to constitute a violation of FOFC.

4. Previous analyses of question particles

In this section, two existing analyses of question particles are discussed, found to be incompatible with the Final-Over-Final Constraint and therefore rejected in favour of the analysis given in section 5.

4.1. Head-final functional projections in CP

Question particles are frequently analysed as heads of functional projections in the CP domain, although the name of the projection in which the particle is suggested to be may differ in the various proposals.

Rizzi (2001) places the question marker in a projection IntP. Based on data such as (25), he notes that the embedded interrogative marker *si* follows the Force marker *que* in Spanish, and therefore takes IntP to be lower than ForceP:

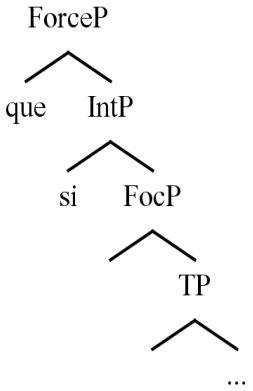
(25) *Spanish (Indo-European, Spain):*
María decía que si debiéramos dejarlos en paz
'Maria was saying that if we shouldn't leave them in peace'
(Rizzi 2001: 290, from Plann 1982: 300)

(26) shows that the Italian counterpart to *si*, the embedded interrogative marker *se*, is followed by Focus, indicating that IntP is above FocP in the structure (Rizzi 2001: 290):

(26) *Italian (Indo-European, Italy):*
Mi domando se QUESTO gli volessero dire (non qualcos'altro)
'I wonder if THIS they wanted to say to him, not something else'

IntP can also be preceded and followed by a Topic. The structure proposed by Rizzi, then, is that in (27) (with optional TopPs not shown here):

(27)



Ginsburg (2009) follows Rizzi, but refers to the projection Rizzi calls IntP as TypP, which he argues is the locus of all clause-typing morphemes and not just the interrogative. The examples in (28)-(29) are from Hiberno-English, cited from McCloskey (1991: 295), which Ginsburg claims has either an overt particle *if* or a covert question morpheme affix in embedded questions. Both of these devices are in Typ^0, and so cannot co-occur in the same clause, as in (30):

(28) Ask your father [$_{TypP}$ [$_{Typ}$ does$_1$-0$_{Qu}$ [$_{TP}$ he [$_{T}$ t$_{pres1}$ want his dinner]]]]

(29) Ask your father [$_{TypP}$ [$_{Typ}$ if$_{Qu}$ [$_{TP}$ he wants his dinner]]]

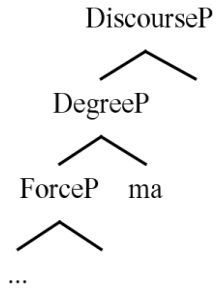
(30) *Ask your father [$_{TypP}$ [$_{Typ}$ if$_{Qu}$ does$_1$-0$_{Qu}$ [$_{TP}$ he t$_{pres1}$ want his dinner]]

Li (2006) analyses a number of Chinese sentence-final particles (SFPs) and argues that the Mandarin polar question particle *ma* is in fact a degree marker: it indicates a higher degree of commitment to the assertion, while *ba* (another SFP, used in declarative clauses) marks a low degree of commitment. In a question, this specifically translates to a high degree of wanting to know the answer – the question is posed and requires an answer. Following Rizzi's (1997) Split CP structure, Li argues that *ma* is located in a projection she terms DegreeP, taking ForceP as its complement. The complete structure she outlines for the split CP is given in (31), where *a* and *ne* are discourse and evaluative markers respectively, and (32) shows the position of *ma*:

(31)

Discourse >	Degree >	Force >	Evaluative >	Mood >	Fin
a	*ba, ma*		*ne*		

(32)



The analysis given by these three authors (and many more) cannot, however, be maintained for languages with final particles under FOFC. The LCA does not allow head-final orders to be derived via left-branching structures as postulated by the authors discussed in this section, and illustrated in (32) above for Li's (2006) analysis of Chinese. If produced, any structure with a head-final phrase hosting the particle would be linearised with the particle initially, as it would asymmetrically c-command the rest of the sentence and therefore precede it. An LCA-allowed way to derive head-final order is discussed in the next section, but this too is ruled out by FOFC.

4.2. Clausal movement

In a number of languages there is evidence that the final Q-particle is actually base-generated in initial position (in a functional projection within the CP, not specified here), with the TP raising to its specifier as in (33):

(33) [$_{CP}$ TP [$_{C'}$ Q ~~TP~~]

Julien (2001) argues that (33) is the right structure for Turkish final question particles. She assumes the polarity question marker is generated in Focus. As in Imbabura Quechua, exemplified in (12), the question particle in Turkish focuses and questions the constituent that

it follows. In neutral questions, the whole TP is questioned and it moves to Spec FocP, leaving a clause-final question marker as in (34). If a specific argument is questioned, that argument alone moves, as in (35), with the direct object in a topic position above Focus (Julien 2001: 22, from Kornfilt 1997: 5, 191):

(34) *Turkish (Altaic, Turkey):*
Ahmet sinema-ya git-ti mi?
Ahmet cinema-DAT go-PAST Q
'Did Ahmet go to the cinema?'

(35) *Turkish (Altaic, Turkey):*
kitab-ı HASAN mı Ali-ye ver-di?
book-ACC Hasan Q Ali-DAT give-PAST
'Did HASAN give the book to Ali?'

Simpson & Wu (2002) cite phonological evidence that this is also the case for the Taiwanese final complementiser *kong* (36), and Lee (2005) argues for TP-raising in San Lucas Quiaviní Zapotec (37). Both languages are consistently head-initial with the exception of certain clause-typing particles.

(36) *Taiwanese (Sino-Tibetan, Taiwan):*
$[_{CP}\ [_{TP}$ A_7-sin_1 m_3 $lai_5]_i$ $kong_1$ t_i]
A-sin not come PRT
'A-sin isn't coming, I'm telling you!' (Simpson & Wu 2002: 11)

(37) *San Lucas Quiaviní Zapotec (Otomanguean, Mexico):*
$[_{CP}\ [_{TP}$ B-da'uh Gye'eihlly gueht $]_i$ èee $t_i]$
PERF-eat Mike tortilla Q
'Did Mike eat tortillas?' (Lee 2005: 91)

Kong in (36) is a verb meaning 'say', but is undergoing grammaticalisation as a complementiser and surfaces in the unexpected (and FOFC-violating) final position, whereas other complementisers in the language are initial. Simpson and Wu argue their point on the strength of the tone sandhi patterns found in these structures. Tone sandhi is the phenomenon whereby the citation tone of a syllable changes according to regular rules when it precedes a tone-bearing syllable in its tone sandhi domain. The final complementiser *kong* would therefore not be expected to undergo tone sandhi because it is clause-final, whereas the syllable preceding it, *lai* in (38), should. Syllables undergoing tone sandhi are marked in (38) by a dot. (38) is inconsistent with normal tone sandhi rules unless the TP has raised from the complement of *kong* to a higher position.

(38) goa siong• i m• lai kong•
I think he NEG come KONG
'I think he is not coming' (Simpson & Wu 2002: 8)

However, the implication of this is that the raising is a PF operation, as tone sandhi applies at PF and the raising clearly follows it. The structure sent to Spell-Out must still be FOFC-violating at that point. I do not discuss this here, as this hypothesis is untenable for other FOFC-related reasons in any case, discussed below.

Lee (2005), on the other hand, bases her argument on the information structure of the question. The particle shown in (37) is used to question information previously introduced into the discourse, whereas the other two question particles in the language are initial. The only elements allowed to precede question particles are left-dislocated topics, interpreted as presupposed or old (i.e. previously introduced) information.

However, clause movement to the specifier of the particle, although attractive, is ruled out by FOFC, at least for VO-Q languages. It requires a head-initial phrase (i.e. one without the linearisation feature ^) to move to the specifier of a phrase with ^. As the diagrams in (24) show, this phrase may be *v*P, TP or CP, but at some point the violation is inevitable.

4.3. Summary

We have seen two analyses of the syntax of question particles in this section: the head-finality discussed in 4.1 and clausal movement in 4.2. However, both have been shown to be incompatible with the Final-Over-Final Constraint.

5. A FOFC-compliant analysis of question particles

The analysis proposed in this section is consistent with the data and allows the existence of sentence-final particles in VO languages to be explained while still maintaining FOFC as a robust principle. It relies on the fact that many of the final particles are homophonous with the disjunction marker used in that language.

5.1. The disjunction hypothesis

In examples such as (40), Jayaseelan (2008: 3) notes that the question particle in Malayalam is identical to the disjunction marker in (39):

(39) *Malayalam (Dravidian, India):*
John-oo Bill-oo Peter-oo wannu
John-DISJ Bill-DISJ Peter-DISJ came
'John or Bill or Peter came.'

(40) *Malayalam (Dravidian, India):*
Mary wannu-oo ?
Mary came-Q
'Did Mary come?'

These examples have been analysed (Katz 1972, Karttunen 1977, i.a.) as being the statement, plus the disjunction of its negation, as in (41) (Jayaseelan 2008: 4):

(41) *Malayalam (Dravidian, India):*
Mary wannu-oo, illa-(y)oo ?
Mary came-DISJ not-DISJ
'Did Mary come, or not?'

Although the particle is not present in *wh*-questions, Jayaseelan argues that it is underlyingly present, and in fact was obligatorily present in older forms of the language, despite the fact that there is no co-ordinate clause to elide in this type of question (Jayaseelan

(2008: 4), from a 14th-century text *Ambariishoopaakhyaanam*, taken from Narayanapilla 1971):

(42) entu-kil-oo raajya-ttinnu want-a upadrawam ?
what-be-DISJ kingdom-DAT came-RELATIVISER trouble
'What is the trouble that has come to the kingdom?'

In Sinhala and Japanese, too, the question particle and the disjunction are homophonous, and the particle occurs in *wh*-questions in these languages.

Jayaseelan (2008) extends his analysis to English by appealing to its relation to Dutch: he interprets *if* as a question particle, present in embedded polar questions (though not elsewhere). He claims that *if* has a cognate *of* in Dutch, which is the disjunction marker and introduces polar questions, exactly on the Malayalam pattern. Colloquial Dutch shows that the particle is present underlyingly in *wh*-questions as well:

(43) *Dutch (Indo-European, Netherlands):*
Hij weet [hoe [of [je dat moet doen]]]
He knows [how [if [you that must do]]]
'He knows how you must do that' (Jayaseelan 2008: 12)

Many of the VO-Q languages under discussion also have a particle that resembles the disjunction marker, as in (44) below.

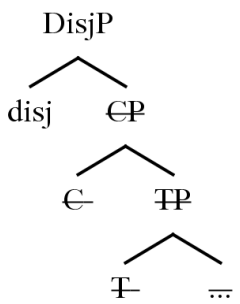
(44) *Tetun (Austronesian, Indonesia):*
ó la bá sekola ká
2S not go school or
'Didn't you go to school?' (van Klinken 1999: 212)

Tetun may in fact be a language in the process of grammaticalisation, as the negation is also possible as a question marker, or the two in combination:

(45) *Tetun (Austronesian, Indonesia):*
ó m-akara ká/lale/ká lale
2S 2S-like or/not/or not
'Do you like (him) or not?' (van Klinken 1999: 211)

The foregoing discussion indicates that final question particles in VO languages may not constitute FOFC-violations because they are in fact instances of the disjunction (after Aldridge 2009). I have suggested that they are therefore clause-initial, having the structure in (46):

(46)



A further hypothesis is that they are in fact deficient heads in any case, and do not project the kind of structure that can violate FOFC (i.e. they can have the linearisation diacritic ^ independently of the lower heads in their extended projection). Bencini (2003) states that question particles fail many of the tests for headedness. Cardinaletti (2008), discussing German- and Italian-type modal particles, notes that the syntactic, phonological and semantic facts support the classification of these elements as weak elements projecting a deficient XP – they are not functional heads, but rather are located in the specifiers of functional projections.

For those particles that are homophonous with other forms (e.g. the disjunction markers discussed above, or Lao *daj4*, which can be a verb or a particle meaning 'ok' (Enfield 2003: 78)), this is an attractive analysis – as particles, they fail to project a structure that can be FOFC-violating.

As a class, particles more generally appear to violate FOFC. Reesink (2002), for example, cites Austronesian and Papuan languages with SVO order and clause-final negation, as in (47) (Reesink 2002: 245, taken from Bowden 2001: 336):

(47) *Taba (Austronesian, Indonesia):*

nik	calana	kuda-k	asfal	te
1SG.POS	trousers	be.black-APPL	bitumen	NEG

'My trousers are not blackened with bitumen'

Initial question particles should differ from final question particles, at least as a more or less strong tendency, as regards their historical source (the initial particles or those in OV-Q languages should not necessarily be homophonous with the disjunction), their function as embedded clause-introducer (those that are really the disjunction should not be able to embed questions, while there is not prediction regarding other types), and their scopal properties (if the particle is a clause-initial disjunction heading an elided clause, it should not be able to take scope over the non-elided clause).

5.2. Testing the hypothesis

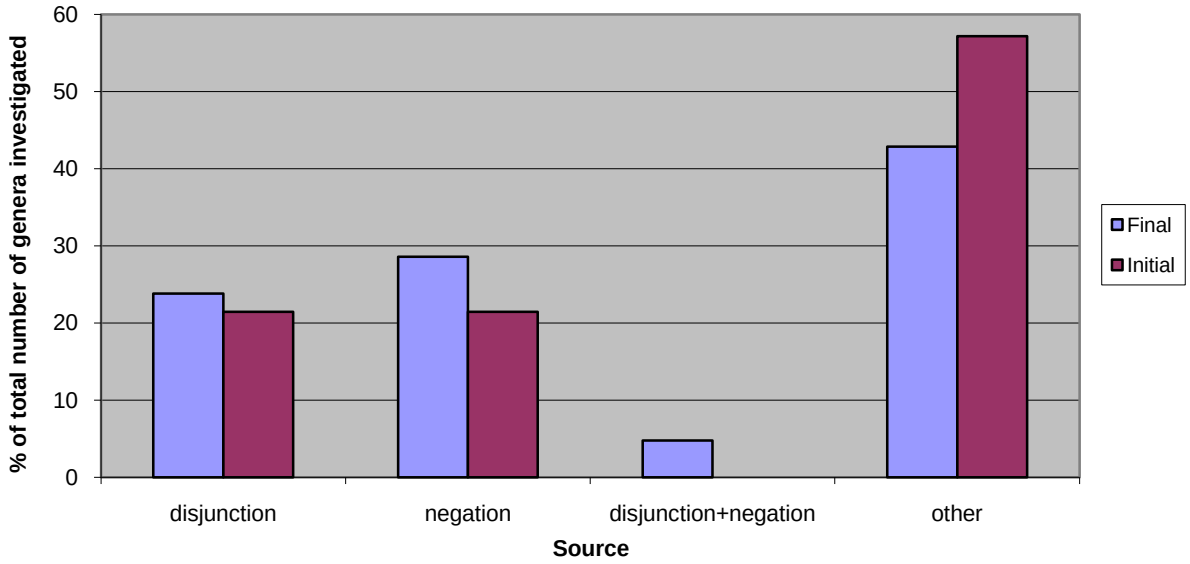
In this section each of the predictions made by the hypothesis discussed in section 5.1 are discussed, with data given from 113 genetically and areally diverse languages. This data was collected from grammars, prescriptive and descriptive, of languages listed on the World Atlas of Language Structures as having a question particle, either initial or final.

5.2.1. Historical source

As noted in section 5.1, final question particles are often homophonous with the disjunction marker and may be assumed to derive from it. However, whether initial and final particles are derived from different sources is not clear. Fig. 1 shows the origin of the particle where it could be determined[4], and in most cases the initial and final particles are roughly equally derived from disjunction, negation (a common source for question particles) or some other source. The difference is most marked for the six languages that have a particle meaning 'or not', which are all Q-final. More Q-initial languages than final have a particle derived from something else, often 'what' but also 'and', 'if' or the morpheme expressing doubt.

[4] It should be noted here that in many cases, grammars do not state explicitly the origin of the particle. For many of the languages investigated I therefore have no information, and they are excluded here. For some, however, a similarity to some other element was observed and in those cases, the data is included.

Fig. 1: Source of question particles in languages with initial and final particles.



Data and discussion in Bencini (2003) also suggest that there might be a difference between initial and final particles in terms of their historical origin. Arguing for a grammaticalisation path leading to a particle derived from either disjunction or a negation marker, she lists several languages with the source of their question particle (2003: 611). As Table 2 shows, her data from a broad variety of languages (though few in absolute number) appear to suggest that if the particle is final, it may be derived equally from negation or disjunction, but that if it is initial it cannot be derived from the negation.

Table 2: Origins of question particles in Bencini's (2003) data[5].

	Negation	Disjunction
Initial	0	3
Final	9	10

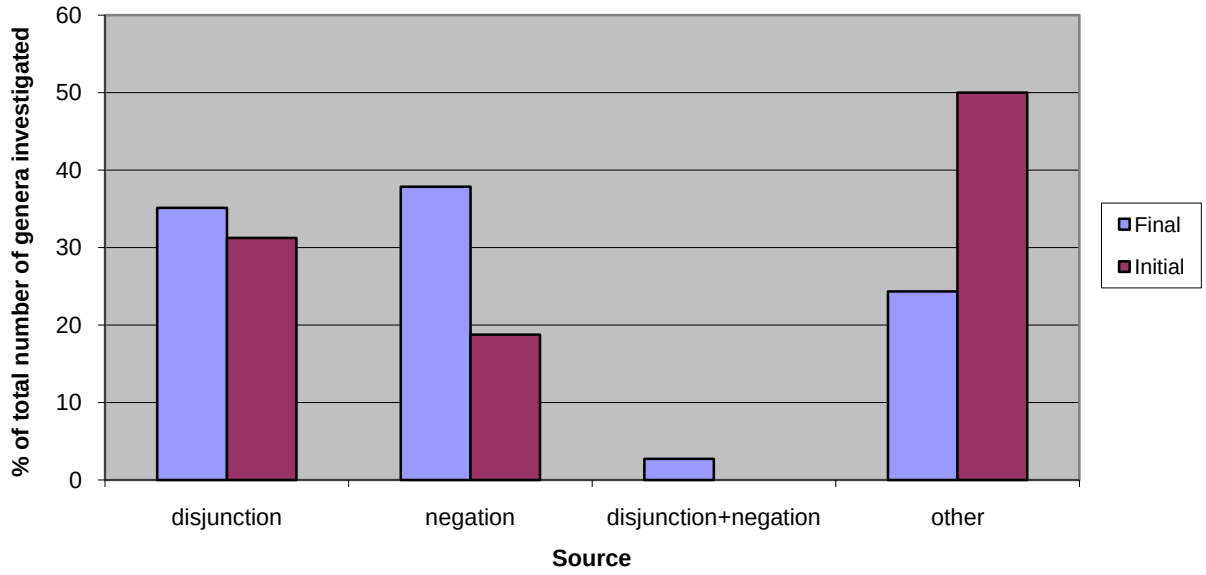
These data are consistent with her argument that question particles are derived from one of the three constructions shown in (48).

(48) S (or) not S → S not > S Q → final Q
Or S → or S > Q S → initial Q
S or → S or > S Q → final Q

However, the data I collected do not bear this prediction out, and Fig. 2 shows Bencini's data and mine pooled together. As can be seen, the fuller data suggest that there is little if any difference between the two types of particle in terms of the historical source, with the exception of negation, which is considerably more common among final particles.

[5] Note that numbers of languages are given in Table 2, not genera as throughout the paper.

Fig. 2: Source of question particles in languages with initial and final particles (Bencini (2003) and my data combined).

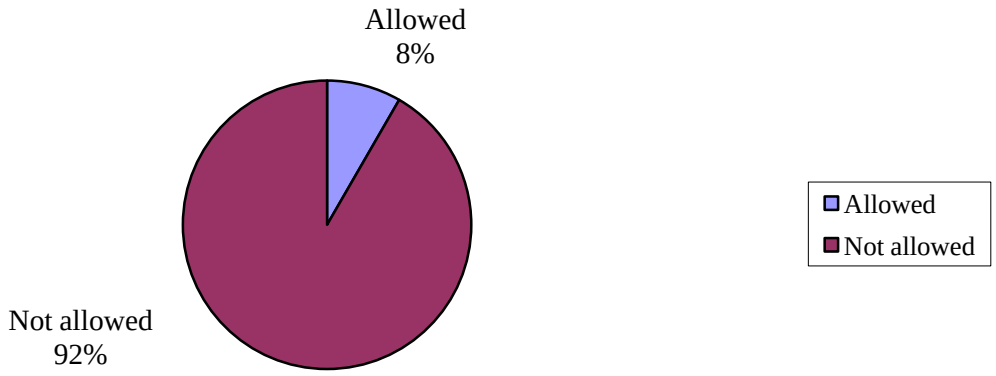


5.2.2. Function as embedded clause-introducer

According to the hypothesis in section 5.1, the particle should not be able to introduce an embedded clause (i.e. as disjunctor, it should not be a subordinating C element – the disjunction can of course occur in an embedded clause to mark two alternatives). Investigation so far indicates that this holds true of a significant number of VO-Q languages.

Figs. 3 and 4 show the number of genera with initial and final particles which allow the particle to introduce an embedded question, and Table 3 shows the actual numbers of genera[6].

Fig. 3: The use of Q-particles in embedded questions in VO-Q languages.



[6] Once again, this information is rarely given in prescriptive grammars. The languages for which I have no data are excluded here.

Fig. 4: The use of Q-particles in embedded questions in Q-VO, Q-OV and OV-Q languages.

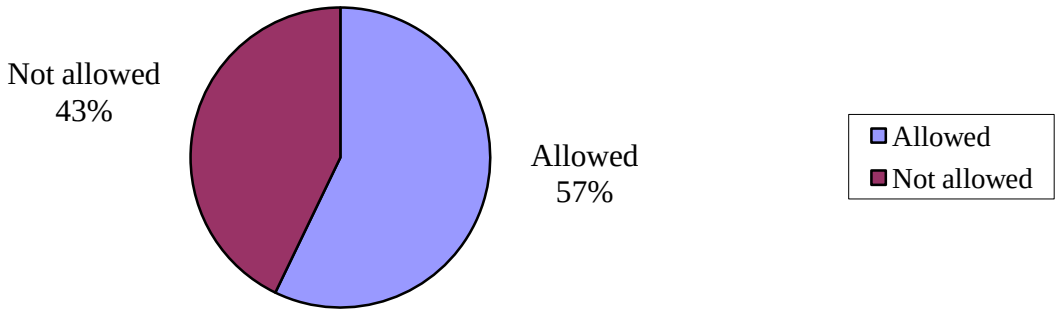


Table 3: Number of genera allowing question particles in embedded questions.

	Allowed	**Not allowed**
VO-Q	1	11
Other	4	3

Figs. 3 and 4 clearly show that while initial particles and those in OV languages (i.e. the three permitted orders under FOFC) may or may not be able to introduce an embedded question, final particles in VO-languages overwhelmingly cannot. In fact, the one language that is shown in Fig. 3 as being allowed in this context is debatable: the particle that is permitted in embedded questions is *đăng* in Chrau (Austro-Asiatic, Vietnam), and it is the particle used for emphatic questions rather than the neutral question particle.

Some of the final particles in VO languages seem to mark embedded questions but in fact must be accompanied by an initial complementiser. (49), with only the final Q-particle, is ungrammatical, whereas (50) is grammatical (and the initial particle is obligatory but the final particle is optional).

(49) *Estonian (Uralic, Estonia):*

*ma	küsisin,	ta	tuli	või/vä
I	ask.1SG.PAST	she	come.3SG.PAST	Q

(50) *Estonian (Uralic, Estonia):*

ma	küsisin,	et	kas	ta	tuli	või/vä
I	ask. 1SG.PAST	that	Q	she	come. 3SG.PAST	Q

'I asked if she came' (Anne Tamm, p.c.)

Alternatively, for those particles not derived from the disjunction, it is sometimes an option to move to initial position, as in (51):

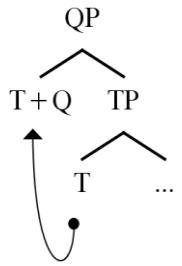
(51) *Yosondúa Mixtec (Oto-Manguean, Mexico):*

kīhīn	ná	ndéhé	nú	tu	nīhi	ná	īso
POT.go	I.RES	POT.look	if	NEG	POT.get	I.RES	rabbit

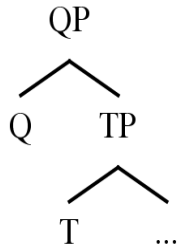
'I'll go see if I can't get a rabbit' (Farris 1992: 42)

Finnish and Latin support these findings, being languages with a second-position particle. Second position particles might be expected to behave as an initial particle, if they have the structure in (52), comparable with the structure of initial particles in (53)[7]:

(52)



(53)



And in Finnish and Latin, the same particle can occur in both embedded and matrix questions:

(54) *Finnish (Uralic, Finland) (repeated from (8)):*
sataa-ko ulkona?
rains-Q outside
'Is it raining?'

(55) *Finnish (Uralic, Finland):*
en kysynyt sataako ulkona.
not-I asked rains- Q outside
'I didn't ask whether it was raining outside' (Anders Holmberg, p.c.)

(56) *Latin (Indo-European, ancient) (repeated from (7)):*
me-ne fugis?
1SG.ACC-Q flee.2SG
'Is it me you are running away from?' (Virgil, *Aeneid* 4.314)

(57) *Latin (Indo-European, ancient):*
rogavi pervenissent-ne Agrigentum
ask.1SG.PERF arrive.3PL.PERF-Q Agrigentum
'I enquired if they reached Agrigentum' (Cicero, *Verr*. 4.27)

[7] This is the general view. However, as Theresa Biberauer (p.c.) notes, in attracting an element to their specifier, second-position particles actually behave more like final particles. I leave aside this observation here.

5.2.3. Scope of the particle

If the particle is really the disjunction introducing an elided clause, it should not be able to license a negative polarity item in the question. Negative polarity items (NPIs) such as *anything* may only appear in non-veridical contexts, namely negative utterances and questions. Importantly, an utterance with the semantics/pragmatics of a question but not the syntax cannot license them:

(58) Did you see anything?

(59) *You saw anything, didn't you?

To be licensed in a question, the NPI should be in the scope of the question particle (i.e. in the elided clause) and therefore should not appear in the non-elided clause. Preliminary findings are inconclusive, however. (60), from Taiwanese Mandarin, with co-occurring NPI and final particle, is infelicitous. However, the improved version (61) also contains an NPI, *sheme*. In (62), the Estonian NPI appears with the question particle, but the subject-verb inversion may be the NPI licensor.

(60) *Taiwanese Mandarin (Sino-Tibetan, Taiwan):*

?nǐ	yǒu	kàn dàu	rèn hé	hǎu	dūng shī	ma?
You	did	see	any	good	thing	Q

(61) *Taiwanese Mandarin (Sino-Tibetan, Taiwan):*

nǐ	yǒu	kàn dàu	shé me	hǎu	dūng shī	ma?
You	did	see	what	good	thing	Q

'Did you see anything good?' (Vivian Chen, p.c.)

(62) *Estonian (Uralic, Estonia):*

nägid	sa	üldse	midagi	vä?
see.2SG.PAST	you	at-all	anything-something	or

'Did you see anything at all?' (Anne Tamm, p.c.)

One consideration to make here is that VO-Q languages might actually be intonation questions with an optional particle. If this is the case, the intonation signals the illocutionary force of a question rather than the particle. That allows this type of question to license an NPI with or without the particle. The final particles then appear more like English *or not*, which occurs finally but in conjunction with the interrogative order. In both cases, the normal question device is required (intonation for VO-Q languages, inversion for English) as well as the 'particle'. Further research is required to determine whether this is the case.

6. Conclusion

Question particles have been shown to be problematic for the Final-Over-Final Constraint, and in this paper their syntax has been discussed. Two analyses were described, head-final projections and clause movement, both of which must be rejected if FOFC is correct. In section 5 an analysis was proposed which seems to be a promising direction for future research. Three predictions made by the hypothesis were outlined and some evidence given in their favour, although much more work needs to be done on this topic.

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