

Chapter 14

Remarks on the distribution of wh-scope marking

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The present chapter is concerned with “wh-scope marking” – a phenomenon that occurs in complex structures. The wh-phrase, instead of moving overtly to its scope position, remains within the complement clause. A wh-pronoun that shows up in the matrix clause takes over the function of signalling scope. The goal of my contribution is to complete and systematize empirical facts as well as probe ways to explain the cross-linguistic distribution of the construction. The typological distinction between SVO and SOV languages might play a role. On the other hand, the linguistic facts that are presented in this chapter suggest that an areal factor plays a crucial role. These considerations delineate a direction of research that appears worthwhile pursuing.

1 Introduction

German is among the languages that offer various ways of asking for a constituent of an embedded clause, as illustrated in (1a)–(1d).

- (1) a. Long movement:
Wen denkst du, dass sie angerufen hat?
who.ACC think.2SG you that she call.PTCP have.3SG
- b. Extraction from V2-complement:
Wen denkst du hat sie angerufen?
who.ACC think.2SG you have.3SG she call.PTCP



c. Wh-doubling:

Wen denkst du wen sie angerufen hat?
 who.ACC think.2SG you who.ACC she call.PTCP have.3SG

d. Wh-scope marking:

Was denkst du wen sie angerufen hat?
 what think.2SG you who.ACC she call.PTCP have.3SG

‘Who do you think that she has called?’ (German)

Wh-phrases can move to their scope position out of clauses with (1a) and without (1b) a complementizer. In a ‘wh-doubling’ construction, one or more copies of the wh-phrase in the scope position appear in lower positions (1c) as well.¹ In a further construction (1d), a neuter wh-pronoun can be inserted into the position corresponding to the scope of the ‘real’ wh-phrase, which has moved to the left periphery of the embedded clause.

Other languages show further alternatives to standard long wh-movement. In Russian, long wh-movement out of finite complement clauses is often dispreferred. Instead, one can observe “partial” movement to the edge of the complement CP as in (2), cf. e.g., van Gelderen (2001) – the wh-phrase has been displaced, yet not reached its scope position.

- (2) Ty dumaëš’ kogo ja videla?
 you think.2SG who.ACC I see.I-PTCP.SG.F

‘Who do you think that I saw?’ (Russian)

Partial movement also applies in constructions such as (3) from Wolof (Torrence 2013), in which the complement CP having the wh-phrase at its left periphery itself undergoes movement to the SpecCP position of the matrix clause, i.e., to the position corresponding to scope of the real wh-phrase. The construction is called “clausal pied piping”.

- (3) Lan l-a-ñu jënd l-a Bintë foog?
 what EXPL-COP-3PL buy EXPL-COP Binta think

‘What does Binta think that they bought?’ (Wolof)

¹The case with more copies is shown in the following German example sentence:

- (i) Wen denkst du, wen Maria meint, wen Paul behauptet, wen
 who.ACC think.2SG you who.ACC Maria mean.3SG who.ACC Paul claim.3SG who.ACC
 der Chef angerufen hat?
 the boss call.PTCP have.3SG

‘Who do you think Mary believes that Paul claims the boss has called?’ (German)

Wh-phrases in embedded clauses with matrix scope may also simply remain *in situ* (as in Mandarin Chinese), or the wh-phrase at the left periphery of the matrix clause may be linked to a resumptive pronoun. The options (possibly) involving partial movement of the wh-phrase have been discussed and compared in Fanselow (2017).

The focus of the present chapter is on the fourth construction (1d), in which the “real” wh-phrase *wen* is placed into the left periphery of the complement clause, while its “semantic scope” is the matrix clause, and is marked there by placing *was*, the neuter wh-pronoun, at the left periphery of the matrix clause. The construction (1d) is sometimes called “partial movement”, based on the insight that the “real” wh-phrase has only moved to the left periphery of the embedded clause in (1d) and not to its scope position, but the term would be a misnomer for a Hindi counterpart such as (4), in which *kis-ko* ‘who’ appears to occupy its base position in the embedded clause. Furthermore, movement of the wh-phrase to a position between the original and the scope position occurs in (2) and (3) as well.

- (4) Siitaa-ne kyaa socaa ki ravii-ne kis-ko dekhaa?
 Sita-ERG what thought that Ravi-ERG who saw
 ‘Who did Sita think that Ravi saw?’ (Hindi)

Using the label “wh-scope marking” for (1d) and (4) (a term introduced by van Riemsdijk 1983) seems more appropriate, because *was* ‘what’ and *kyaa* ‘what’ occupy positions in which they can mark the scope of the “real” wh-phrase. There are two notable aspects of the construction. First, the “real” wh-phrase is part of an embedded clause that could function as an indirect question as well (the “correlate” of *was/kyaa* has the form of an embedded question), and scope marking is done by a wh-phrase itself.² Normally, this wh-phrase is the neuter wh-pronoun (as in German and Hindi), but other languages such as Polish and Warlpiri may employ other wh-pronouns (see below), if these can be used in questions demanding an answer with propositional content. These criteria distinguish wh-scope marking construction as in (1d) and (4) from constructions in which a particle marks the scope of an *in-situ* wh-phrase. A more precise label for (1d) and (4) would thus be “wh-scope marking by a further wh-phrase”, but we will stick

²This would require an appropriate matrix predicate, though. Consider the following German example:

- (i) Du fragst / *denkst, wen sie angerufen hat.
 you ask.2SG think.2SG who.ACC she call.PTCP have.3SG
 ‘You ask who she has called.’ (German)

to the shorter version in this chapter because it has been used in much of the literature.

Several quite different syntactic and semantic analyses for *wh*-scope marking have been proposed in the literature, many of which are represented in Lutz et al. (2000), cf. also Fanselow (2017) for a recent overview. Here, we do not wish to take up again the question of what is the best analysis of (1d). Rather, the chapter will be concerned with an issue that has not really been addressed so far: what is the cross-linguistic distribution of (1d), and are there ways of understanding this distribution? Our discussion suggests that *wh*-scope marking constructions primarily occur in languages in which long *wh*-movement is difficult for various reasons (possibly related to the SVO/SOV distinction), but there also seems to be a strong areal factor: *wh*-scope marking is attested in Central and Eastern Europe and in Indo-Aryan languages, but appears to be quite rare (or even non-existent) in other parts of the world, e.g. in the area of the Niger Congo language family. For reasons discussed below, our conclusions are somewhat tentative where they go beyond Europe and South Asia – so our chapter describes a research agenda more than presenting indisputable results.

In what follows, I examine the presence of *wh*-scope marking from a typological perspective by elaborating on data from the following languages: Germanic (Section 2), Basque, Celtic, Romance, Latin, Albanian, Modern Greek (Section 3), Slavic, Baltic, Romani and Uralic (Section 4), languages of Asia (Section 5), Mauritian Creole, Louisiana Creole, Warlpiri, Niger-Congo languages, Nilo-Saharan languages, Khoisan languages, and languages of the Americas (Section 6). Finally, in Section 7 I summarize the main findings and address some open questions.

2 Germanic

The literature on *wh*-scope marking has a focus on German, Hindi, and Hungarian. The point of departure of our survey are the Germanic languages.

The West-Germanic languages do not behave in a uniform way with respect to *wh*-scope marking. Dutch, Frisian, German allow the construction (e.g., Hiemstra 1986), and so does Afrikaans (5), while English does not.³ The division with respect to *wh*-doubling follows the same lines.

- (5) Wat het jy nou weer gesê wat het Sarie gedog met wie gaan
what have you now again said what has Sarie thought with who will

³For the list of linguists and native speakers who helped me with object language data, see the end of this chapter.

Jan trou?

Jan marry

‘Who have you said again that Sarie thought who Jan will marry?’

(Afrikaans)

Based on Haider’s (2012) insights concerning the clustering of grammatical properties in the Germanic language family, one wonders whether the usual suspect could be made responsible for the difference concerning wh-scope marking as well: the West-Germanic languages with wh-scope marking are OV languages, those without come with VO order.

Verb complement order could influence the formation of long distance dependencies in various ways. Note that complement clauses typically appear to the right of the verb even in the Germanic OV languages, i.e., they undergo extraposition. If extraposed clauses are (not too strong) islands for wh-movement, standard long movement as in (1a) would therefore be less acceptable in the OV than in the VO languages. This could create the need for alternative strategies, such as wh-scope marking, or wh-doubling (alternatively, questioning a complement clause constituent could be blocked altogether, as in Iron Ossetic, as David Erschler kindly pointed out to me).⁴

Yiddish appears to not allow wh-scope marking either, in line with its VO character.

(6) * Vos meynstu mit vemen hot er gered?

what think you with who has he spoken

Intended: ‘Who do you think he has spoken to?’

(Yiddish)

Of course, an interpretation of the absence of wh-scope marking in Yiddish may be difficult because of its close ties with Polish, a language also often taken to not allow wh-scope marking, i.e., the absence of wh-scope marking in Yiddish might be considered to be a result of language contact. Indeed, when one zooms into varieties of German, one can see a plausible impact of language contact on wh-scope marking. In their analysis of Hunsrück German as spoken in the USA, Hopp et al. (2019) found that wh-scope marking does not appear grammatical to its speakers, while the doubling construction exemplified in (1c) is accepted. The absence of (1d) is likely a consequence of contact with English (though one wonders why (1c) has not disappeared either, and why counterparts to (1d) seem to be grammatical in Brazilian Hunsrück German, in spite of their contact with

⁴That right-peripheral complement clauses are not placed on the “correct” side of the verb in OV languages has first been utilized in an account of wh-scope marking by Mahajan (1990).

Portuguese). Mocheno (or Fersentalerisch), a variety of German spoken in Italy also seems to possess wh-scope marking, yet the construction comes with an ironic undertone there.

Of course, languages can lose a construction in contact with others, only if they had possessed the construction at some time before the contact. For German, wh-scope marking seems to be a relatively young construction.⁵ While standard long wh-movement has been possible already in Old High German (750–1050), wh-scope marking seems to be attested first in *Prose Lancelot* of the 13th century (cf. (7); Axel-Tober 2012: 81), and this example even allows an alternative interpretation as an instance of the wh-doubling construction (7), in which a wh-phrase is realized at more than one location in the clause – a construction occurring quite frequently at that time.

- (7) Sagent mir was irselb wollent was ich herumb thun
tell me what you want what I therefore do
‘Tell me what you want me to do therefore.’ (Old High German)

We therefore would not have any evidence for the claim that the construction was widespread in German any time before the 13th century, and even for that time, the evidence is ambiguous. According to Reis (2000), one cannot identify a point of time before the 17th century for which one could safely say that wh-scope marking was established at that point. In other words, it is far from obvious that West Germanic allowed wh-scope marking at a time before Yiddish got into close contact with Slavic, and could have lost it in this context.

Present-day North-Germanic languages disallow wh-scope marking – in line with their status as SVO languages. However, Håkanson (2004) pointed out that Falk & Torp (1900) gave examples for wh-scope marking for Old Icelandic/Old Norwegian. The verb-complement order for these stages of Old Scandinavian cannot be identified unambiguously, because OV and VO serializations co-occur. Sigurðsson (1988) and Haugen (2000) argue for a VO analysis with the change from OV to VO still being in progress. In that respect, the presence of a wh-scope marking construction in some Old Scandinavian languages could be considered a remnant from an OV period.

⁵I am grateful to Svetlana Petrova for helping me with the historical perspective.

3 Basque, Celtic, Romance, Latin, Albanian, Modern Greek

Turning to the languages of Western and Southern Europe, we find no real evidence for wh-scope marking. The construction (8) is forbidden in Basque, which employs clausal pied-piping of the kind exemplified in (3) for Wolof, and normal long distance wh-movement instead.

- (8) *Zer uste duzu [nor maite du-ela Klarak]?
 what think AUX.2SG who love AUX-COMP Klara.ERG
 Intended: ‘Who do you think Klara loves?’ (Basque)

Given that Basque is usually analyzed as an SOV language, Basque shows that OV order does not force wh-scope marking into existence. With clausal pied-piping, we observe at least another non-standard question formation process in Basque in an OV context. We also fail to find wh-scope marking in Celtic Breton.

The Romance languages all come with SVO order, and lack wh-scope marking. This also holds for Romanian, a language in contact with languages possessing wh-scope marking constructions, cf. (9):

- (9) *Ce crezi tu pe cine iubește el?
 what think you who.ACC loves he
 Intended: ‘Who do you think he loves?’ (Romanian)

No variety of Ladin has wh-scope marking in spite of the close contact with German – perhaps because they all have SVO order.

Surprisingly, we find wh-scope marking in Romance child language (not unlike what was observed for English). E.g., Jakubowicz & Strik (2008) report that sentences such as (10) are produced by French children in an experimental situation.

- (10) *Qu’est-ce que Billy a dit qui boit de l’eau?
 what Billy has said who drinks water
 ‘Who has Bill said drinks water?’ (French)

The occurrence of (10) suggests that wh-scope marking is not strictly incompatible with SVO order (as is already evident from Old Icelandic/Norwegian), but that it is merely a dispreferred option. The dispreference may be due to the fact that right-peripheral complement CPs can occupy a base position in VO languages,

so that extraction out of them is not impeded by the extraposed status a complement clause has in an SOV language. There is thus simply no need for an alternative way of asking for complement clause constituents. However, when there are other impediments for long movement, such as processing-related ones in child language, wh-scope marking may be employed in SVO languages, too.

In his discussion of the semantics of wh-scope marking, Staudacher (2000) points to the existence of constructions such as (11) in Latin, which could be candidates for wh-scope marking in this language.

- (11) Quid enim censemus superiorem illum Dionysium quo
 what indeed think.1PL older that Dionysius which.ABL
 cruciatu timoris angi solitum?
 torture.ABL fear.GEN cause_distress.PASS.PRS.INF used to.ACC.M.SG
 ‘By which torture of fear do we think the older Dionysius used to be
 choked?’ (Cicero, *De Officiis* 2,25) (Latin)

Given that Latin is usually assumed to have SOV base order, the presence of a wh-scope marking construction would not be too unexpected. However, Latin is a language with a rich set of examples for long distance wh-movement even leaving islands, so that the functional motivation of a wh-scope marking construction appears to be non-existent. A closer look at (11) (and the sentence following it) casts some doubt on an analysis of (11) as a wh-scope marking construction in a narrow sense, however.⁶ Recall that a crucial property of wh-scope marking lies in the fact that the clause linked to the scope marking wh-phrase must be a syntactically legal indirect question. (11) does not conform to this characteristic of wh-scope marking: indirect questions must appear with subjunctive inflection in Latin, there are no indirect wh-questions formed with an infinitive complement as we have it in (11). Thus, while (11) is a very interesting construction by itself, it is not clear if it constitutes a clear example of wh-scope marking in a narrow sense.

Albanian and Modern Greek lack wh-scope marking as well.

4 Slavic, Baltic, Romani and Uralic

While there is no wh-scope marking to the West and South of the West Germanic language area in Europe, the situation is quite different in the East. The presence

⁶I am indebted to Peter Staudacher for explaining this to me, and to Lieven Danckaert for discussing (11) with me; cf. also Danckaert (2012: 157).

of wh-scope marking contrasts with the marginal role it plays in the syntactic analysis of languages from Eastern/Central Europe.⁷

Sorbian is the only Slavic language with SOV basic order, and allows wh-scope marking.⁸ Crucially, wh-scope marking can be readily constructed with third person subjects (12a), and can be embedded (12b), so that its status as an integrated syntactic object is beyond any doubt. Nevertheless, some speakers prefer a verb second version of (12a), as in (12c).

- (12) a. Što měnjachu starši tehdom, koho wučer (po)chłostać
 what think.3PL.PST parents then who.ACC teacher punish.INF
 chcyše?
 want.3SG.PST
 ‘Who did the parents think then the teacher wanted to punish?’
- b. Wón mi nochcyše rjec, što sej ty myslíš,
 he me.DAT NEG:want.3SG.PST say.INF what REFL you think.2SG
 što (my) za swjedzeń hišće trjebamy.
 what we for celebration still need.1PL
 ‘He did not want to tell me what you think we still need for the celebration.’
- c. Što starši tehdom měnjachu, koho chcyše wučer
 what parents then think.3PL.PST who.ACC want.SG.PST teacher
 (po)chłostać?
 punish.INF
 ‘Who did the parents think then the teacher wanted to punish?’
 (Upper Sorbian)

Silesian (*ślōnskŏ gŏdka*) is a further Slavic variety which was in close contact with German. The data from three informants, which Jolanta Tambor kindly collected for me, suggest that wh-scope marking is an option in this language.⁹

⁷Meyer (2004: Section 3.3) is an exception. In his monograph, he discusses wh-scope constructions with *jak* ‘how’ in Polish resp. *kak* ‘how’ in Russian and a construction in which wh-phrases take long scope. These, however, differ from wh-scope marking in that they do not have an overt wh-pronoun in the matrix clause.

⁸Upper Sorbian examples are used here for illustration.

⁹The Silesian informants used different orthography and different lexemes in translating our target sentences. We refrain from attempting “standardization” here.

- (13) a. Prezydent sce wiedzieć, co medykuje Hana, kiedy
 president want.3SG know.INF what think.3SG Hana when
 jutro będzie było.
 tomorrow will.3SG rain.1-PTCP.SG.N
 'The president wants to know when Hana thinks that it will rain
 tomorrow.'
- b. Niy łobchodzi mie, co ty medykujesz, kiedy będzie
 NEG matter.3SG me.ACC what you think.2SG when will.3SG
 było.
 rain.1-PTCP.SG.N
 'I do not care when you think it will rain.'
- c. A co ty forsztelujesz, kiedy będzie było?
 and what you think.2SG when will.3SG rain.1-PTCP.SG.N
 'And when do you think will it rain?' (Silesian)

The discussion of Polish and Russian in the literature on *wh*-scope marking has focussed on a slightly different construction, in which scope marking is expressed by the *wh*-pronoun *jak* 'how' and not by *co* 'what', as illustrated in (14a) for Polish. Lubańska (2004) has argued convincingly that the construction in (14a) does not exemplify *wh*-scope marking, however. First, the construction is not really acceptable with third person subjects (14b), and it cannot be embedded (14c).¹⁰ Therefore, (14a) does not involve a subordinate clause linked to *jak*, but it is rather an integrated parenthetical construction. Cf. Korotkova (2012) for related conclusions concerning Russian.

- (14) a. Jak myślisz, kiedy ona przyjdzie?
 how think.2SG when she come.3SG
 'When do you think she will come?'
- b. ?/* Jak Janek myślał, kogo Maria kocha?
 how Janek think.1-PTCP.SG.M who.ACC Maria love.3SG
 Intended: 'Who did Janek think Maria loves?'
- c. * Zastanawiam się, jak myślisz, kogo Janek kocha.
 wonder.1SG REFL how think.2SG who.ACC Janek love.3SG
 Intended: 'I wonder who you think Janek loves.' (Polish)

¹⁰I should like to point out that judgments vary among speakers. For some, example (14b) seems to be out but improves if the matrix predicate is inflected for present tense. Example (14c), on the other hand, is judged by some as completely fine. This does not speak against the analysis of the *jak*-phrase as an integrated parenthetical construction, though.

Czech allows structures similar to (14a) with *co* ‘what’ (15a),¹¹ but again, the construction cannot be embedded (15b), which suggests it needs to be analyzed as an integrated parenthetical as well, rather than as wh-scope marking.

- (15) a. *Co si myslíš, koho učitel potrestá?*
 what REFL think.2SG who.ACC teacher punish.3SG
 ‘What do you think, who will the teacher punish?’
- b. **Je mi jedno, co si myslíš, koho učitel
 be.3SG me.DAT one what REFL think.2SG who.ACC teacher
 potrestá.
 punish.3SG*
 Intended: ‘It doesn’t matter to me who you think the teacher will
 punish.’ (Czech)

Such data suggest that Czech, Polish, and Russian lack wh-scope marking altogether (perhaps as a consequence of their status as SVO languages).¹² This may suggest that the status of a structure involving a wh-clause with a wh-correlate in the main clause is a function of the type of the wh-correlate. A hypothesis could be: If it is the neuter wh-pronoun, the constellation can be interpreted as wh-scope marking, but if it is the interrogative word *how*, it is a parenthetical construction. Fanselow (2017) also discusses such a connection. The postulation of such a correlation, however, already appears problematic within the Slavic languages, because in Silesian the construction with *jak* also shows the typical wh-scope marking properties such as embeddability (16). Below, we will observe the same general pattern for Udmurt.

- (16) *Niy! Prezydent chce wiedzieć, jak myśli Joanna, kedy
 no president want.3SG know.INF how think.3SG Joanna when
 jutro będzie padać.
 tomorrow will.3SG rain.INF*
 ‘No! The president wants to know when Joanna thinks it will rain
 tomorrow.’ (Silesian)

To sum up, at least Silesian and Sorbian are languages with wh-scope marking, quite independently of the order of the verb and the object (SVO in Silesian, SOV

¹¹However, Meyer (2004: 195), reporting his corpus search, points out that this type of structure is rare (“not productive”) in Czech.

¹²Śmiecińska (2011), however, points to the existence of yet another construction in colloquial Polish. This will be neglected here.

in Sorbian). Above, we discussed whether verb-complement order predicts the availability of *wh*-scope marking, and Silesian does not conform to this prediction. However, if we want to uphold such a connection in the light of the West Slavic evidence, we could follow Haider (2012) in working with a tripartite categorization of verb-object order (OV, VO, and undetermined) and classify the Slavic languages as undetermined with respect to object verb order. The “ban” against *wh*-scope marking would then have to be restricted to languages with strict VO order (English and Swedish, but not Polish and Russian). However, it is less obvious why such a correlation should hold, because extraposition of a right-peripheral complement clause would neither be necessary in VO languages nor in those with undetermined verb complement order. It is thus unclear why complement clauses should be more island-like in languages with undetermined verb complement order.

The South Slavic languages (all showing SVO/undetermined verb complement order) show a clearer picture with respect to *wh*-scope marking – the construction is possible in the whole subfamily. Thus, the pertinent constructions can be embedded in Slovenian (17), in Serbian (18), and in Macedonian (19), and it occurs in Bulgarian (20).

- (17) Učitelj je hotel vedeti, kaj so starši
 teacher AUX want.*l*-PTCP.SG.M know.INF what AUX parents
 verjeli, koga da je Peter videl.
 believe.*l*-PTCP.PL who.ACC that AUX Peter see.*l*-PTCP.SG.M
 ‘The teacher wanted to know who the parents believed that Peter saw.’
 (Slovenian)
- (18) a. Šta misliš, ko je stigao?
 what think.2SG who AUX arrive.*l*-PTCP.SG.M
 ‘Who do you think arrived?’
 b. Šta kaže nastavnik, ko je došao?
 what say.3SG teacher who AUX come.*l*-PTCP.SG.M
 ‘Who did the teacher say came?’
 c. Pitam se, šta misli, ko je došao.
 ask.1SG REFL what think.3SG who AUX come.*l*-PTCP.SG.M
 ‘I wonder who he thinks came.’
 (Serbian)
- (19) a. Što misliš, koj {stigna / stignal}?
 what think.2SG who arrived.AOR arrive.*l*-PTCP.SG.M
 ‘Who do you think arrived?’

- b. Što veli nastavnikot, koj došol?
 what say.3SG teacher who come./-PTCP.SG.M
 'What does the teacher say who came?'
- c. Se prašuvam, što misli, koj došol.
 REFL ask.1SG what think.3SG who come./-PTCP.SG.M
 'I wonder who he thinks came.' (Macedonian)

- (20) {Kak / kakvo} misli Ivan, na kogo se obažda Stojan?
 how what think.3SG Ivan on whom REFL call.3SG Stojan
 'Who does Ivan think that Stojan is calling?' (Bulgarian)

Wh-scope marking turns out to be a well-attested construction in the Slavic languages, then. In addition, quite a number of the further genetically less related languages spoken in the "Slavic language area" possess the construction as well. The SVO language Romani (Central/North Western Indo-Aryan) was one of the first languages for which wh-scope marking was analyzed in great detail in the seminal work of McDaniel (1989). Horvath (1997) is an in-depth study of the construction in Hungarian.

The two Baltic languages have wh-scope marking as well. (21a) exemplifies the construction in the form of an embedded complement clause in Lithuanian. The construction has no counterpart with long distance wh-movement here. However, long distance wh-movement is not generally excluded in Lithuanian (21c). Embedded wh-scope marking in Latvian is illustrated in (22).

- (21) a. Man įdom-u, kaip tu manai kas išėjo.
 me.DAT interesting-NOM what you think who.NOM leave.3SG.PST
 'I wonder what you think who left.'
- b. *Man įdom-u, kas tu manai, kad išėjo.
 me.DAT interesting-NOM who.NOM you think that leave.3SG.PST
 Intended: 'I wonder who you think left.'
- c. Kas tu manai, kad išėjo?
 who.NOM you.NOM think that leave.3SG.PST
 'Who do you think left?' (Lithuanian)
- (22) Prezidents bija aizmirsis, ko ministrs domā, kādā
 president have.3SG.PST forgotten what minister believe.3SG in which
 veidā varētu cilvēkus nomierināt.
 way could people be calmed down
 'The president had forgotten in which way the minister believes people
 could be calmed down.' (Latvian)

Hungarian is not the only Uralic language with *wh*-scope marking. As Allkivi (2018) points out, there is *wh*-scope marking in Estonian, while, again, long distance *wh*-movement is not freely permitted. Nele Ots kindly provided me with (23) as an example of an embedded *wh*-scope marking construction in Estonian. Finnish, however, appears to lack such sentences, perhaps because it shows SVO rather than SOV basic order.

- (23) Meid ei huvita, mis te arvate, kes seda tegi.
 us NEG matter.3SG what you think who it do.3SG.PST
 ‘We do not care who you think did it.’ (Estonian)

Udmurt exemplifies *wh*-scope marking with third person subjects both for *kyzhy* ‘how’ and *mar* ‘what’ as scope markers, as shown in (24), the latter “sounding a bit more Russian”. Long *wh*-movement is bad (25) and *wh*-phrases sitting in complement clauses cannot take matrix scope by themselves (26). However, the *wh*-scope marking construction does not require that the *wh*-phrase be moved to the left periphery in the complement clause (27a). Still, the scope marking construction is unavailable when the embedded clause is typed as {–*wh*} by a complementizer (27b). Both *mar* ‘what’ and *kyzhy* ‘how’ allow the embedding of the scope marking construction (28, 29). Udmurt therefore corroborates the conclusion reached above for Silesian that the nature of the *wh*-pronoun is uncorrelated with the status of a constellation as *wh*-scope marking construction.

- (24) a. Kyzhy Italmas malpa kinjos gondyrez vijozy?
 how Italmas think.3SG who.PL bear.ACC kill.3PL
 ‘Who all does Italmas think will kill the bear?’
 b. Mar Italmas malpa kinjos gondyrez vijozy?
 what Italmas think.3SG who.PL bear.ACC kill.3PL
 ‘Who all does Italmas think will kill the bear?’ (Udmurt)
- (25) *Kinjos Italmas malpa gondyrez vijozy?
 who.PL Italmas think.3SG bear.ACC kill.3PL
 Intended: ‘Who all does Italmas think will kill the bear?’ (Udmurt)
- (26) *Italmas malpa kinjos gondyrez vijozy?
 Italmas think.3SG who.PL bear.ACC kill.3PL
 Intended: ‘Who all does Italmas think that will kill the bear?’ (Udmurt)
- (27) a. Mar Italmas malpa gondyrez kinjos vijozy?
 what Italmas think.3SG bear.ACC who.PL kill.3PL
 ‘Who all does Italmas think will kill the bear?’

- b. * Mar Italmas malpa kinjos gondyrez vijozy schuysa?
 what Italmas think.3SG who.PL bear.ACC kill.3PL that
 Intended: ‘Who all does Italmas think will kill the bear?’ (Udmurt)
- (28) a. Tyneshtyd juashko mar Italmas malpa kine pejschurasjos
 you.ABL ask.1SG what Italmas think.3SG who.ACC hunters
 vijozy.
 kill.3PL
 ‘I ask you, who Italmas thinks that the hunters will kill.’
 b. Tyneshtyd juashko kyzhy Italmas malpa schuysa kine
 you.ABL ask.1SG how Italmas think.3SG that who.ACC
 pejschurasjos vijozy.
 hunters kill.3PL
 ‘I ask you, who Italmas thinks that the hunters will kill.’ (Udmurt)
- (29) Tchatchabej pajme {mar / kyzhy} Italmas malpa kine
 Chachabej wonder.3SG what how Italmas think.3SG who.ACC
 pejschurasjos vijozy.
 hunters kill.3PL
 ‘Chachabej wonders, who Italmas thinks that the hunters will kill.’
 (Udmurt)

Moving to the South, we find wh-scope marking in Georgian, too (Borise 2019: 150ff.).

- (30) Ra tkv-a Nino-m, (rom) vi-s unda
 what.NOM say-AOR.3SG Nino-ERG COMP who-DAT MOD
 v-u-q’ur-o-t?
 1-VER-watch-OPT.1-PL
 ‘Whom did Nino say that we must watch?’ (Georgian)

When we look at Europe, we thus observe a clear and (given the previous focus of the discussion in the literature on German and Hungarian) partially surprising areal pattern for the distribution of wh-scope marking: the construction occurs in Central and Eastern Europe, mainly in the broader Slavic linguistic area (there, it is also found in the non-Slavic languages) and in the West Germanic OV languages. In contrast, the construction is absent in Western, Northern and Southern Europe.

There is also a second, more structural, factor that comes into play when one considers the *wh*-scope marking area: the languages that lack the construction (Finnish, Yiddish, Czech) have normal SVO rather than SOV order, while it is present in all SOV languages we have evidence for (German, Dutch, Frisian, Sorbian, Estonian, Hungarian – if it is really SOV –, Udmurt and Georgian).

5 Languages of Asia

Obviously, the question arises whether the presence of the *wh*-scope marking construction follows the two trends (areal concentration and verb-complement order) in other parts of the world as well. Our evidence for non-European languages is much more sparse, yet we will try to identify some patterns on the basis of whatever little data we have.

It will not surprise anyone familiar with the literature on *wh*-scope marking that the construction can be found in Indo-Aryan languages – but of course, as mentioned above, we are confronted here with structures in which the embedded *wh*-phrase is not moved to the left edge of the sentence, as shown in Hindi (4), repeated here as (31) for convenience. However, the complement clause is still a legal embedded question, hence the classification of (34) as a *wh*-scope marking construction conforms with our criteria.

- (31) Siitaa-ne kyaa socaa ki ravii-ne kis-ko dekhaa?
Sita-ERG what thought that Ravi-ERG who saw
'Who did Sita think that Ravi saw?' (Hindi)

Kashmiri only marginally allows long distance *wh*-movement, and “compensates” for this difficulty by employing *wh*-scope marking and *wh*-doubling, as shown in (32)–(33) taken from Antonenko (2010), but cf. Wali & Koul (1997).

- (32) Tse KYAA chu-y baasaan me chi soochaan raj-an kyaa dyut
you what AUX believe I AUX think Raj-ERG what gave
Mohn-as?
Mohan-DAT
'What do you believe I think Raj gave to Mohan?' (Kashmiri)
- (33) Tse kemis chu-y baasan me chu soochaan Raaj kemis dihey kitaab?
you who AUX believe I AUX think Raj who give book
'Whom do you believe I think Raj gave a book to?' (Kashmiri)

A construction similar to (31)–(32) can also be found in Bangla (34) (taken from Bayer 1996), but the language also takes recourse to clausal pied-piping as a means of coping with the difficulties of scope taking of wh-phrases in OV languages with right-peripheral complement clauses (Simpson & Bhattacharya 2003).

- (34) Tumi ki bhebe-cho ke baaRi kore-che?
 you what think who house built
 ‘Who do you think built a house?’ (Bangla)

On the other hand, not all Indo-Aryan languages tolerate wh-scope marking: Marathi lacks wh-scope marking and utilizes clausal pied-piping instead (Dhonde & Wali 2009: 247), and the construction is also absent in Assamese.

The Indo-Iranian languages show a similar mixed picture. Persian disallows constructions such as (35). A wh-phrase in an embedded clause can take matrix scope without the use of any scope marking device. In contrast, as already remarked above, there is no way of questioning elements of a lower clause in Ossetic (David Erschler, p.c.). However, Karimi & Taleghani (2007) report wh-scope marking for Dari, a version of Farsi spoken in Afghanistan.

- (35) * Chi fekr mi-kon-i ke Ali ki-ro doost-dare?
 what thought DUR-do-2SG that Ali who-ACC like-has.3SG
 Intended: ‘Who do you think that Ali liked?’ (Persian)

While Kurdish must mark the scope of wh-phrases *in situ*, full wh-pronouns can never function as such elements (Hamid 2019). Furthermore, the wh-scope marking is missing in Turkish. In other words, the European wh-scope marking area does not appear to be strongly connected to the Indo-Aryan one. Likewise, the Indo-Aryan area does not extend to the South of India, since Dravidian languages such as Malayalam employ clausal pied-piping (Aravind 2018) rather than wh-scope marking. Telugu uses prosody as a means of scope marking for wh-phrases in embedded clauses (Giblin & Steddy 2014). If the languages we have considered are representative, the Indo-Aryan language area constitutes a second “wh-scope marking hotspot”. The languages all show OV base order, so that no new insights concerning the role played by head-complement order can be gained.

Mandarin Chinese, Vietnamese and Khmer do not have wh-scope marking, while the construction is possible in Japanese (Fujiwara 2021), with the complement CP fronted and the wh-pronoun occupying the object position of the matrix clause. The construction co-exists with other means of indicating the scope of a

wh-phrase sitting in a complement clause. Korean appears to lack a similar construction:

- (36) a. ?? John-un [nwu-ka senke-eyse iki-l-ci] mwe-la-ko
 John-TOP who-NOM election-at win-FUT-Q what-be-COMP
 malha-ess-ni?
 say-PST-Q
 Intended: 'Who did John say would win the election?'
 b. ?? [Nwu-ka senke-eyse iki-l-ci] ettehkey sayngkakha-ni?
 who-NOM election-at win-FUT-Q how think-Q
 Intended: 'Who do you think will win the election?' (Korean)

Wh-phrases can undergo partial movement of the sort exemplified in (2) in Malay (the wh-phrase moves to the specifier position of the embedded clause but takes matrix scope), a construction for which Cole & Hermon (1998) postulate an “empty” wh-pronoun sitting in the matrix clause, so that the abstract analysis they propose is identical to the one for wh-scope marking constructions. Obviously, the Malay constellation does NOT meet our criteria for wh-scope marking (the abstract element sitting in the matrix clause is not a wh-pronoun) and can therefore not be considered a further “hit” in our search for the construction.

Syrian Arabic conflicts with our expectations in two ways (cf. Sulaiman 2016); wh-scope marking as in (37) (Sulaiman 2016: 141) co-occurs with unproblematic long distance wh-movement in a VSO/SVO language. Wh-scope marking can also be identified in Iraqi Arabic (Wahba 1992).

- (37) Ma tʔul-i-l-u šw ʔal-et-l-el mama min
NEG say-2SG.F-to-3SG.M what said.3SG.F.SBJ-to-2SG.F.OBJ mom who
jayeh la-ʕanna bukra.
coming to-ours tomorrow
'Don't tell him what mom told you about who is visiting us tomorrow.'
(Syrian Arabic)

6 Further languages

Detailed information on the occurrence of wh-scope marking in other regions of the world is rarely available. At least two creole languages, Mauritius Creole (38) (cf. Adone & Vainikka 1999: 82) and Louisiana Creole (Brandt 2020) have wh-scope marking constructions. With their SVO normal order, they also do not fit well into a model that restricts wh-scope marking primarily to SOV languages.

- (38) Ki Zan ti krwar ar kinsala Mari ti pe koze?
 what Zan TNS believe with whom Mari TNS ASP talks.3SG
 ‘Who does Zan believe Mari is talking with?’ (Mauritius Creole)

Warlpiri is the only Australian language for which there is a detailed analysis of its *wh*-scope marking construction (Legate 2011). Warlpiri forms the construction with the counterpart to *how*, partly because the use of the counterpart to *what* is very restricted. Warlpiri is an SOV language in which complement clauses are islands for movement.

The grammar of question formation in the languages of sub-Saharan Africa is comparatively well-studied. This is especially true for the Niger-Congo language family. Partial *wh*-movement is widespread, i.e., we find constructions like (2), in which a question phrase is placed in the left periphery of the complement clause, even if it has matrix clause scope: Awing (Fominyam 2021), Buli (Ferreira & Ko 2000), Dagbani (Issah 2013), Dangme (Caesar 2016), Dholou (Schardl 2012, 2013), Gichuka (Muriungi et al. 2014), Ibibio (Doherty 2016), Ikalanga (Letsholo 2006), Kikuyu (Sabel 2000), Kitharaka (Muriungi 2005), Lubukusu (Wasike 2006), Moro (Rohde 2006), Shona (Zentz 2016), several Tano languages (Kandybowicz & Torrence 2015, Torrence & Kandybowicz 2013), and Zulu (Sabel & Zeller 2006). In contrast, the occurrence of *wh*-scope marking constructions is never reported in these analyses of interrogative sentence formations (nor in others). Nor have I found *wh*-scope marking described in grammars for Nilo-Saharan and Khoisan languages. In other words, sub-Saharan Africa is apparently free of *wh*-scope marking, or at least it is relatively rare. Again, areal observations and syntactic ones (the SVO pattern is predominant) coincide.

Languages of the Americas use *wh*-scope marking (Passamaquoddy, Bruening 2006), clausal pied piping (Karitiana, Vivanco 2019), or simple partial movement (Ancash Quechua, Müller & Sternefeld 1996: 487) as alternatives to long movement. Unfortunately, the issue of long movement and its alternatives is mostly not addressed in grammatical descriptions of interrogative sentence formation in the languages of the Americas, so without additional empirical research, statements about the distribution of *wh*-scope marking in the Americas are not possible.

7 Concluding remarks

For the European languages we could identify a rather clear picture of the *wh*-scope marking construction. It is present in Central, Eastern and Southeastern

Europe, although languages with VO order seem to have the construction less frequently. However, it is difficult to determine the origin of the construction, partly because it is more likely to belong to the spoken than to the written language, and therefore it is less likely to be found in the written records.

For an evaluation of the data situation in languages outside Europe, we have mostly tried to draw on the existing literature. This not only means that we have been able to work with evidence for only a few languages – often this evidence is inconclusive. After all, the clearest test for the presence of *wh*-scope marking in a language are constructions in which the interrogative clause is embedded, so that a parenthetical analysis can be excluded. In contrast, one often only finds examples of matrix sentences in the literature in which the subject of the sentence is a 2nd person pronoun. In this respect, our small survey might even have overestimated the frequency of occurrence of *wh*-scope marking.

Nevertheless, the lack of mention of *wh*-scope marking in the very intensive discussion of interrogative sentence formation in the Niger-Congo languages seems to indicate the existence of a linguistic area in which the construction does not occur or only very rarely occurs. The area would have in common with Western and Southern Europe the characteristic that SVO languages dominate in it.

Thus, our chapter shows that it is worthwhile to investigate in more detail what connections exist between the position of verb and object and the occurrence and concrete choice of constructions that are alternative to the long movement in interrogative clauses.

Abbreviations

1	first person	EXPL	expletive	PASS	passive
2	second person	F	feminine	PL	plural
3	third person	FUT	future	PRS	present
ABL	ablative	GEN	genitive	PST	past
ACC	accusative	INF	infinitive	PTCP	participle perfect
AOR	aorist	<i>l</i> -PTCP	<i>l</i> -participle	Q	question particle
ASP	aspect marker	M	masculine	REFL	reflexive
AUX	auxiliary	MOD	modal	SBJ	subject
COMP	complementizer	N	neuter	SG	singular
COP	copula	NEG	negation	TNS	tense marker
DAT	dative	NOM	nominative	TOP	topic
DUR	durative	OBJ	object	VER	version marker
ERG	ergative	OPT	optative		

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References

- Adone, Dany & Anne Vainikka. 1999. Acquisition of wh-questions in Mauritian Creole. In Michael De Graff (ed.), *Language creation and language change: Creolization, diachrony, and development*, 75–94. Cambridge, MA: MIT Press.
- Allkivi, Kais. 2018. Pronominal doubling in Estonian complex wh-questions. *Linguistica Uralica* 54(2). 81–103. DOI: 10.3176/lu.2018.2.01.
- Antonenko, Andrei. 2010. Partial wh-movement in Kashmiri. In Young-Se Kang, Jong-Yurl Yoon, Jongseon Hong, Jiun-Shiung Wu, Seongha Rhee, Kyoung-Ae Kim, Dong-Ho Choi, Kee-Ho Kim & Hye-Kyung Kang (eds.), *Universal Grammar and individual languages: Proceedings of the Seoul International Conference on Linguistics 2010 (SICOL 2010, Korea University, Seoul)*. Seoul: Hankookmunhwasa.
- Aravind, Athulya. 2018. Licensing long-distance wh-in-situ in Malayalam. *Natural Language & Linguistic Theory* 36(1). 1–43. DOI: 10.1007/s11049-017-9371-2.
- Axel-Tober, Katrin. 2012. *(Nicht-)kanonische Nebensätze im Deutschen: Synchrone und diachrone Aspekte* (Linguistische Arbeiten 542). Berlin: Mouton de Gruyter. DOI: 10.1515/9783110276671.
- Bayer, Josef. 1996. *Directionality and Logical Form: On the scope of focussing particles and wh-in-situ* (Studies in Natural Language and Linguistic Theory 34). Dordrecht: Kluwer. DOI: 10.1007/978-94-017-1272-9.
- Borise, Lena. 2019. *Phrasing is key: The syntax and prosody of focus in Georgian*. Cambridge, MA: Harvard University. (Doctoral dissertation).
- Brandt, Kathrin. 2020. *A question of language vitality? On interrogatives in an endangered creole*. Köln: Universität zu Köln. (Doctoral dissertation).
- Bruening, Benjamin. 2006. Differences between the wh-scope-marking and wh-copy constructions in Passamaquoddy. *Linguistic Inquiry* 37(1). 25–49. DOI: 10.1162/002438906775321166.
- Caesar, Regina Oforiwah. 2016. An analysis of interrogative constructions in Dangme. *Journal of Literature, Languages and Linguistics* 21. 35–49. <https://iiste.org/Journals/index.php/JLLL/article/view/30129>.
- Cole, Peter & Gabriella Hermon. 1998. The typology of wh-movement: Wh-questions in Malay. *Syntax* 1(3). 221–258. DOI: 10.1111/1467-9612.00009.
- Danckaert, Lieven. 2012. *Latin embedded clauses. The left periphery* (Linguistik Aktuell/Linguistics Today 184). Amsterdam: John Benjamins. DOI: 10.1075/la.184.

- Dhongde, Ramesh Vaman & Kashi Wali. 2009. *Marathi* (London Oriental and African Language Library 13). Amsterdam: John Benjamins. DOI: 10.1075/loall.13.
- Doherty, John-Patrick. 2016. Pieces of the periphery: A glance into the cartography of Ibibio's CP domain. *Kansas Working Papers in Linguistics* 37(1). 42–58. DOI: 10.17161/1808.23232.
- Falk, Hjalmar & Alf Torp. 1900. *Dansk-norskens syntax i historisk fremstilling*. Kristiana: Aschehoug.
- Fanselow, Gisbert. 2017. Partial wh-movement. In Martin Everaert & Henk van Riemsdijk (eds.), *The Wiley Blackwell companion to syntax*, 437–492. New York, NY: Wiley Blackwell. DOI: 10.1002/9781118358733.wbsyncom088.
- Ferreira, Marcelo & Heejeong Ko. 2000. Questions in Buli. In Michael Kenstowicz & George Akanlig-Pare (eds.), *Studies in Buli grammar* (MIT Working Papers on Endangered and Less Familiar Languages 4), 35–44. Cambridge, MA: MIT Press.
- Fominyam, Henry. 2021. *Aspects of Awing grammar and information structure*. Potsdam: Universität Potsdam. (Doctoral dissertation).
- Fujiwara, Yoshiki. 2021. Wh-scope marking in Japanese: Evidence for indirect-dependency approach. *Linguistic Inquiry* 52(3). 627–639. DOI: 10.1162/ling_a_00379.
- Giblin, Iain & Sam Steddy. 2014. Where's wh-? Prosodic disambiguation of wh-scope. In Mark Harvey & Alexis Antonia (eds.), *The 45th Australian Linguistic Society conference proceedings – 2014*, 173–191. New South Wales, Newcastle: University of Newcastle.
- Haider, Hubert. 2012. *Symmetry breaking in syntax* (Cambridge Studies in Linguistics 136). Cambridge: Cambridge University Press. DOI: 10.1017/CBO9781139084635.
- Håkanson, David. 2004. Partial wh-movement in the history of Scandinavian. *Working Papers in Scandinavian Syntax* 73(1). 61–81. <https://lup.lub.lu.se/record/529579>.
- Hamid, Twana Saadi. 2019. Wh-movement in Central Kurdish: A cross-linguistic study. *ZANCO: Journal of Humanity Sciences* 23(6). 308–318. DOI: 10.21271/zjhs.23.6.19.
- Haugen, Jens. 2000. *Old Norse word order and information structure*. Trondheim: Norwegian University of Science & Technology. (Doctoral dissertation).
- Hiemstra, Inge. 1986. Some aspects of wh-questions in Frisian. *NOWELE. North-Western European Language Evolution* 8(1). 97–110. DOI: 10.1075/nowele.8.06hie.

- Hopp, Holger, Michael T. Putnam & Nora Vosburg. 2019. Derivational complexity vs. transfer effects. Long-distance wh-movement in heritage and L2 grammars. *Linguistics Approaches to Bilingualism* 9(3). 341–375. DOI: 10.1075/lab.17014.hop.
- Horvath, Julia. 1997. The status of wh-expletives and the partial movement construction of Hungarian. *Natural Language & Linguistic Theory* 15(3). 509–572. DOI: 10.1023/A:1005842214213.
- Issah, Samuel Alhassan. 2013. Focus and constituent question formation in Dagbani. *Ghana Journal of Linguistics* 2(1). 39–62.
- Jakubowicz, Celia & Nelleke Strik. 2008. Scope-marking strategies in the acquisition of long distance wh-questions in French and Dutch. *Language and Speech* 51(1–2). 101–132. DOI: 10.1177/00238309080510010701.
- Kandybowicz, Jason & Harold Torrence. 2015. The prosodic licensing of wh-in-situ: Evidence from Krachi and Wasa. In Ruth Kramer, Elizabeth C. Zsiga & One Tlale Boyer (eds.), *Selected proceedings of the 44th annual conference on African linguistics*, 146–157. Somerville, MA: Cascadilla Proceedings Project. <http://www.lingref.com/cpp/acal/44/paper3133.pdf>.
- Karimi, Simin & Azita H. Taleghani. 2007. Wh-movement, optionality, and interpretation in Persian. In Simin Karimi, Vida Samiian & Wendy K. Wilkins (eds.), *Clausal and phrasal architecture: Derivation and interpretation* (Linguistik Aktuell/Linguistics Today 101), 167–187. Amsterdam: John Benjamins. DOI: 10.1075/la.101.09kar.
- Korotkova, Natalia. 2012. On alleged wh-scope marking in Russian. In Nathan Arnett & Ryan Bennett (eds.), *Proceedings of the 30th West Coast Conference on Formal Linguistics*, 205–215. Somerville, MA: Cascadilla Proceedings Project. <http://www.lingref.com/cpp/wccfl/30/paper2818.pdf>.
- Legate, Julie Anne. 2011. Warlpiri wh-scope marking. *Syntax* 14(2). 97–121. DOI: 10.1111/j.1467-9612.2011.00151.x.
- Letsholo, Rose M. 2006. Wh-constructions in Ikalanga: A remnant movement analysis. In John Mugane, John P. Hutchison & Dee A. Worman (eds.), *Selected proceedings of the 35th annual conference on African linguistics: African languages and linguistics in broad perspectives*, 258–270. Somerville, MA: Cascadilla Proceedings Project. <http://www.lingref.com/cpp/acal/35/paper1315.pdf>.
- Lubańska, Maja. 2004. Wh-scope marking in Polish. *Poznań Studies in Contemporary Linguistics* 39(1). 73–88.

- Lutz, Uli, Gereon Müller & Arnim von Stechow (eds.). 2000. *Wh-scope marking* (Linguistik Aktuell/Linguistics Today 483). Amsterdam: John Benjamins. DOI: 10.1075/la.37.
- Mahajan, Anoop Kumar. 1990. *The A/A-bar distinction and Movement Theory*. Cambridge, MA: MIT. (Doctoral dissertation).
- McDaniel, Dana. 1989. Partial and multiple wh-movement. *Natural Language & Linguistic Theory* 7(4). 565–604. DOI: 10.1007/BF00205158.
- Meyer, Roland. 2004. *Syntax der Ergänzungsfrage: Empirische Untersuchungen am Russischen, Polnischen und Tschechischen* (Slavistische Beiträge 436). München: Otto Sagner.
- Müller, Gereon & Wolfgang Sternefeld. 1996. \bar{A} -chain formation and economy of derivation. *Linguistic Inquiry* 27(3). 484–511.
- Muriungi, Peter Kinyua. 2005. Wh-questions in Kitharaka. *Studies in African Linguistics* 34(1). 43–104. DOI: 10.32473/sal.v34i1.107332.
- Muriungi, Peter Kinyua, Miriam Kathomi Mutegi & Mary Karuri. 2014. The syntax of wh-questions in Gichuka. *Open Journal of Modern Linguistics* 4(1). 182–204. DOI: 10.4236/ojml.2014.41015.
- Reis, Marga. 2000. On the parenthetical features of German: Was... w-constructions and how to account for them. In Uli Lutz, Gereon Müller & Arnim von Stechow (eds.), *Wh-scope marking* (Linguistik Aktuell/Linguistics Today 37), 359–407. Amsterdam: John Benjamins. DOI: 10.1075/la.37.14rei.
- Rohde, Hannah. 2006. The syntax of question in Moro. Talk and handout delivered at ACAL 2006. <http://www.lel.ed.ac.uk/~hrohde/presentations/Rohde.acal.2006.pdf>.
- Sabel, Joachim. 2000. Partial wh-movement and the typology of wh-questions. In Uli Lutz, Gereon Müller & Arnim von Stechow (eds.), *Wh-scope marking* (Linguistik Aktuell/Linguistics Today 37), 409–446. Amsterdam: John Benjamins. DOI: 10.1075/la.37.17sab.
- Sabel, Joachim & Jochen Zeller. 2006. Wh-question formation in Nguni. In John Mugane, John P. Hutchison & Dee A. Worman (eds.), *Selected proceedings of the 35th annual conference on African linguistics: African languages and linguistics in broad perspectives*, 271–283. Somerville, MA: Cascadia Proceedings Project.
- Schardl, Anisa. 2012. Partial wh-movement in Dholuo. Poster presented at the 86th annual meeting of the Linguistic Society of America (LSA), Portland, OR, January 2012.
- Schardl, Anisa. 2013. Simple partial movement and clefts. Poster presented at the 87th annual meeting of the Linguistic Society of America (LSA), Boston, MA, January 2013.

- Sigurðsson, Halldór Ármann. 1988. From OV to VO: Evidence from Old Icelandic. *Working Papers in Scandinavian Syntax* 34(1). 1–41.
- Simpson, Andrew & Tanmoy Bhattacharya. 2003. Obligatory overt wh-movement in a wh-in-situ language. *Linguistic Inquiry* 34(1). 127–142. DOI: 10.1162/002438903763255940.
- Śmiecińska, Joanna. 2011. Wh-scope marking strategies in Polish. *Potsdam Linguistic Investigations* 6. 339–350.
- Staudacher, Peter. 2000. Partial movement and compositionality. In Josef Bayer & Christine Römer (eds.), *Von der Philologie zur Grammatiktheorie: Peter Suchsland zum 65. Geburtstag*, 191–211. Tübingen: Max Niemeyer.
- Sulaiman, Mais. 2016. *The syntax of wh-questions in Syrian Arabic*. Newcastle upon Tyne: Newcastle University. (Doctoral dissertation).
- Torrence, Harold. 2013. A promotion analysis of Wolof clefts. *Syntax* 16(2). 176–215. DOI: 10.1111/synt.12000.
- Torrence, Harold & Jason Kandybowicz. 2013. Comparative Tano interrogative syntax: The view from Krachi and Bono. In Olanike Ola Orie & Karen W. Sanders (eds.), *Selected proceedings of the 43rd annual conference on African linguistics: Linguistic interfaces in African languages*, 222–234. Somerville, MA: Cascadilla Proceedings Project.
- van Gelderen, Véronique. 2001. Partial wh-movement in Russian. In Ton van der Wouden & Hans Broekhuis (eds.), *Linguistics in the Netherlands 2001* (Linguistics in the Netherlands 18), 89–100. Amsterdam: John Benjamins. DOI: 10.1075/avt.18.11gel.
- van Riemsdijk, Henk. 1983. Correspondence effects and the Empty Category Principle. In Yukio Otsu, Henk van Riemsdijk & Kazuko Inoue (eds.), *Studies in generative grammar and language acquisition: A report on recent trends in linguistics*, 5–16. Tokyo: International Christian University.
- Vivanco, Karen. 2019. Clausal pied-piping in Karitiana. In Daniel K. E. Reisinger & Roger Yu-Hsiang Lo (eds.), *Proceedings of the workshop on the structure and constituency of languages of the Americas* 23, 121–133. Vancouver, BC: UBCWPL.
- Wahba, Wafaa Abdel-Faheem Batran. 1992. LF movement in Iraqi Arabic. In C.–T. James Huang & Robert May (eds.), *Logical structure and linguistic structure. Cross-linguistic perspectives* (Studies in Linguistics and Philosophy 40), 253–276. Dordrecht: Springer. DOI: 10.1007/978-94-011-3472-9_9.
- Wali, Kashi & Omkar N. Koul. 1997. *Kashmiri: A cognitive-descriptive grammar*. London & New York: Routledge.

Wasike, Aggrey. 2006. *The left periphery, wh-in-situ and A-bar movement in Lubukusu and other Bantu languages*. Ithaca, NY: Cornell University. (Doctoral dissertation).

Zentz, Jason. 2016. *Forming wh-questions in Shona: A comparative Bantu perspective*. New Haven, CT: Yale University. (Doctoral dissertation).

