

The Absence of Intervention Effects in Amharic: Evidence for a Non-Structural Approach

Aviad Eilam*

University of Pennsylvania

Underlying much of the research on intervention effects, in which a quantificational or focusing element preceding a *wh*-phrase leads to degradedness, is the assumption that these effects are universal, and should therefore follow from basic properties of the grammar. This paper shows that unlike any other language documented until now, Amharic does not generally exhibit intervention effects. It is nevertheless empirically possible and theoretically preferable to retain the idea that these effects are derivative, rather than to consider their presence vs. absence a parameterized feature. Accordingly, two existing approaches to intervention effects are assessed vis-à-vis their ability to account for the exceptionality of Amharic: a hierarchical analysis, following Beck (2006), and an information structural-prosodic analysis based on Tomioka (2007a,b), whereby the effect is read off the linear string. The latter is claimed to better explain the data and correlate with independent aspects of Amharic, thus providing a general argument in favor of non-structural approaches to intervention effects. This analysis is also extended to alternative questions, in which an intervener preceding a disjunctive phrase removes the alternative question reading, allowing the sentence to be interpreted only as a yes/no question. In the process, many hitherto unknown properties of Amharic syntax, information structure, and prosody are brought to light.

Keywords: Amharic, syntax, pragmatics, information structure, prosody, *wh*-questions, alternative questions, intervention effects

1. Introduction

Intervention effects arise when a quantificational or focusing element, labeled the intervener, precedes a *wh*-phrase in a *wh*-question, leading to degradedness¹.

Beginning with Hoji (1985), this phenomenon has garnered a great deal of attention

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¹ For structural accounts, such as Beck (2006), the phenomenon is defined in hierarchical terms: when an intervener c-commands a *wh*-phrase, and both are c-commanded by the Q operator in C⁰, the result is ungrammatical, as schematized in (i). The issue of ungrammaticality vs. degradedness will be discussed below.

(i) *[Q_i [... [intervener [... *wh*-phrase;...]]]]

(Beck 2006:5)

in the theoretical literature, from which we may glean a number of important generalizations².

First, there exist four primary types of interveners: certain quantificational elements (1), focused phrases (2), negative polarity items (NPIs) (3), and disjunctive NPs (4).

- (1) a. ??nukuna-ka ônû kyosu-lûl chonkyôngha-ni?

everyone-NOM which professor-ACC respect-Q

- b. ônû kyosu-lûl nukuna-ka chonkyôngha-ni?

which professor-ACC everyone-NOM respect-Q

'For which x, x a professor: everyone respects x?' (Korean; Beck 2006:4)

- (2) a. *Minsu-man nuku-lûl po-ass-ni?

Minsu-only who-ACC see-PAST-Q

- b. nuku-lûl Minsu-man po-ass-ni?

who-ACC Minsu-only see-PAST-Q

'Who did only Minsu see?' (Korean; Beck 2006:3)

- (3) a. *amuto muôs-ûl ilk-chi anh-ass-ni?

anyone what-ACC read-CHI not.do-PAST-Q

- b. muôs-ûl amuto ilk-chi anh-ass-ni?

what-ACC anyone read-CHI not.do-PAST-Q

'What did no one read?' (Korean; Beck 2006:4)

² Discussions in the literature include Beck (1996, 2006), Beck and Kim (1997, 2006), Choi (2007), Grohmann (2006), Hagstrom (1998, 2007), Hamlaoui (2007), Hoji (1985), Hwang (2008), Kim (2002, 2005), Lipták (2001), Pesetsky (2000), Shields (2008), Simpson and Bhattacharya (2003), Szabolcsi (2006), Takahashi (1990), Tanaka (1997, 2003), Tomioka (2007a,b, 2008a), and Zubizarreta (2003).

(4) a. ???[John-ka Bill]-ga nani-o yon-da-no?

John-or Bill-NOM what-ACC read-past-Q?

b. nani-o [John-ka Bill]-ga yon-da-no?

what-ACC John-or Bill-NOM read-past-Q

'What did John or Bill read?'

(Japanese; Tomioka 2007b:1571)

Second, despite the existence of crosslinguistic variation in the exact elements that give rise to intervention effects (Beck 2006), as well as the strength of the effect associated with different interveners within a given language (i.e., the extent to which the sentences are degraded and the degree of interspeaker agreement regarding judgments; Tomioka 2007a,b), there seems to be a core set of crosslinguistically stable interveners. These interveners, identified by Kim (2002) and Beck (2006) as the focusing operators corresponding to English *only*, *even*, and *also*, as well as NPIs (which are focus-sensitive; see also Tomioka 2007b), produce the most robust effects across speakers and languages. Beck (2006) suggests that the effect itself is universal, and an explanation for it should therefore be sought in the basic properties of the grammar. Indeed, intervention effects have been documented in a wide range of genetically and typologically distinct languages: Asante Twi, Bangla, Dutch, English, French, German, Hindi-Urdu, Japanese, Korean, Malayalam, Mandarin, Passamaquoddy, Persian, Thai, and Turkish (Kim 2002, Simpson & Bhattacharya 2003, Beck 2006, Kobele & Torrence 2006)³. A final noteworthy observation is that the (b) versions in examples (1)-(4) above are perfectly acceptable, illustrating that the effects are eliminated if the *wh*-phrase is scrambled over the intervener.

³ For many of these languages, the examples provided involve only one type of intervener, and in particular an NPI. Since NPIs are known to behave differently from other interveners (see below; Tomioka 2007a,b), more data from a wider range of languages is obviously needed.

Attempts to determine the underlying cause of intervention effects have run the gamut from syntactic (Pesetsky 2000), through semantic (Beck 2006), to information structural accounts (Tomioka 2007a,b). An alternative, perhaps more insightful way to classify theories of intervention divides them according to whether they apply to the hierarchical structure (i.e., structural theories) or to the linear string. In the former camp, we can further distinguish between theories which attribute the effect to the *wh*-word (Kim 2005, Beck 2006) vs. those which reduce it to the illicit position of the intervener (e.g., Grohmann 2006), while the latter group of non-structural theories is best represented by Tomioka (2007a,b) (see also Hamlaoui 2007)⁴.

This paper compares these two major classes of approaches, structural and non-structural, in light of a range of novel data from Amharic, which contrasts with every other language reported in generally not exhibiting intervention effects. The two types of approaches to intervention are assessed here vis-à-vis their ability to account for the exceptionality of Amharic. Although it is *prima facie* possible to handle the exceptional status of Amharic by simply ascribing the presence or absence of intervention effects to a parameter, such a solution is uninteresting and stipulative. An alternative solution, both empirically possible and theoretically preferable and hence taken up here, is to reduce the status of Amharic to independent properties of the language. By doing so, one can retain the idea that intervention effects are derivative, while acknowledging that the properties which conspire to produce them are subject to crosslinguistic variation.

⁴ While information structure may be sensitive to hierarchical notions, such as constituenthood, this study argues against the relevance of such notions for intervention effects. We are thus justified in describing information structural theories in this context as non-structural or linear (see also Tomioka 2008b).

In order to account for the fact that Amharic does not show intervention effects, the structural approach must appeal to its clausal structure. Specifically, the hypothesis to be explored below is that potential interveners in Amharic, like subjects in general, are positioned above the Q operator in C^0 . This hypothesis looks promising at first: assuming, for example, that intervention effects stem from the binding of a *wh*-phrase by a focus-sensitive operator (i.e., the intervener), instead of the required Q operator in C^0 (Beck 2006), the data is successfully explained. That is, the position of interveners in Amharic does not preclude the necessary relation between Q and the *wh*-phrase from being established, and hence no intervention effects are found. However, beyond general difficulties with structural accounts of this type, outlined in Tomioka (2007a,b) and detailed below, this analysis also leads to predictions which are specific to Amharic and are not confirmed by the data.

In view of these problems, an alternative approach is considered, in which the hierarchical structure does not play a role. According to this theory, proposed by Tomioka (2007a,b), intervention effects result from faulty realization of the information structure of questions, the latter construed as in Vallduví (1990, 1995). Thus, *wh*-questions are divided into a focus (the *wh*-phrase) and a ground, with the ground further partitioned into a topic-like link and tail. Interveners, like all non-*wh*-phrases, must occupy the ground, but they cannot do so: their inherent anti-topicality prevents them from serving as links, while their linear position is not that of a tail, due to prosodic considerations. These factors work together to produce the degradedness of intervention configurations described above. If this approach is correct, one expects there to be properties of Amharic prosody and/or information

structure which distinguish it from languages which have intervention effects; as demonstrated below, this is indeed the case. Given the choice between this non-structural approach, which consistently lines up with the linguistic observations, and the structural approach, which does not, the former should obviously be the preferred analysis, not only for Amharic but also as a general account of intervention effects.

The structure of the paper is as follows. Section 2 reviews existing analyses of intervention effects, focusing on the theories of Beck (2006) and Tomioka (2007a,b) as representatives of the two principal approaches to the issue. Section 3 then provides the relevant data from Amharic, establishing that the language generally does not show intervention effects. A range of potential interveners is considered, in accordance with the typology outlined above; in addition to various types of *wh*-phrases, alternative questions are also discussed. Section 4 attempts to capture the findings of section 3 under a structural analysis, such as Beck (2006), proposing a clausal structure in which the absence of intervention effects is expected. Although this structure appears to find some support in the data, it also results in incorrect predictions which are addressed in detail, alongside more general problems with the approach it is embedded in. Section 5 explains the Amharic data following Tomioka's (2007a,b) non-structural theory of intervention effects, tying in the absence of the latter to certain characteristics of Amharic information structure and prosody, and also arguing in favor of a non-structural approach to intervention effects in general. Section 6 concludes the paper.

2. Existing analyses of intervention effects

The review of existing analyses here follows a thematic and chronological order: the

early literature, to be discussed first, consists solely of structural theories building on or replacing one another with the emergence of new facts or frameworks, while non-structural theories have appeared only recently, and will thus be described subsequently.

The first major attempt to account for intervention effects, Beck (1996), focused on the observation that scrambling of a *wh*-phrase above an intervener yields a grammatical result. Given the received view at the time that in situ *wh*-phrases undergo movement at LF (Huang 1982), the conclusion was that intervention effects reflect constraints on such movement; specifically, intervening quantifiers were claimed to block LF movement, but not overt movement, of an in situ *wh*-phrase. This approach has since been abandoned, because the basic assumptions underlying it are no longer thought to hold: restrictions on overt movement and LF movement are nowadays believed to be identical (Chomsky 1993, *the Uniformity Condition* of Hornstein, Nunes & Grohmann 2005); moreover, many current theories do not assume that in situ *wh*-phrases move at all (e.g., Tsai 1994, Reinhart 1998). An additional problem with this analysis, as well as other theories, is that it does not provide a clear definition for the set of interveners⁵.

Pesetsky (2000) links intervention effects to other phenomena in the domain of movement, situating them within a model which assumes three types of movement: overt phrasal movement, covert phrasal movement, and feature movement. Without going into too many details, intervention effects are claimed to indicate feature movement, as opposed to covert phrasal movement. The former separates the

⁵ See also Beck and Kim (2006) for arguments against movement-based accounts of intervention in light of the behavior of alternative questions.

restriction on *wh*-quantification from the quantifier, creating an intervention effect when a scope-bearing element appears between the two. A list of the other properties and phenomena associated with feature movement, as well as those related to covert phrasal movement, is provided in table 1 below.

Feature Movement	Covert Phrasal Movement
– Doesn't license Antecedent Contained Deletion (ACD)	– Licenses ACD
– No Superiority effects	– Superiority effects
– Intervention effects	– No intervention effects
– No Subjacency effects ⁶	– Subjacency effects
– Obeys Attract Closest	– Obeys Attract Closest

Table 1: Properties of Feature Movement vs. LF Phrasal Movement (Pesetsky 2000)

Of interest here are the following predictions, based on this theory, regarding a configuration that lacks intervention effects: (i) it licenses *wh*-phrases through covert phrasal movement; (ii) it will exhibit Superiority effects; (iii) it will not allow *wh*-phrases inside islands.

Most of the problems with Pesetsky's theory are common to all structural approaches, and will thus be addressed below. Issues pertaining specifically to this analysis are the use of the notion of covert phrasal movement from the pre-Minimalist era, which may be conceptually problematic, and the lack of an explanation for why interveners block feature movement (cf. Mathieu 2002, Grohmann 2006).

More recent accounts which are purely syntactic include Lipták (2001) and Kim (2005). The former views intervention effects as blocking of feature movement,

⁶ Although Soh (2005) claims that in Mandarin, feature movement is sensitive to Subjacency while phrasal movement is not, there is little evidence for this crosslinguistic parameterization (see also Sprouse 2007). I therefore follow Pesetsky in using the lack of Subjacency effects as a diagnostic for feature movement (see section 4).

specifically arguing that various adverbs in Hungarian block movement of the [+wh] feature of a *wh*-phrase to the C^0 probe, and hence prevent the uninterpretable [+wh] feature of C^0 from being checked. However, it is not clear why adverbs like *mindig* 'always' block this type of feature movement, given that they do not share relevant features with either the probe or the target. Similarly, Kim (2005) construes intervention effects as Relativized Minimality effects (Rizzi 1990, Chomsky 2001), in which a focus operator with an interpretable focus feature blocks the Agree relation between C^0 and the *wh*-phrase. Again, it is difficult to establish that C^0 , the focus operator and the *wh*-phrase necessarily have a feature in common.

Recently, researchers studying intervention effects have recognized the importance of uniquely defining the set of interveners, which was often overlooked in earlier accounts, and have thus taken this issue as their starting point. Beck (2006) is a theory of this sort, in which the semantic content of interveners plays a crucial role, as does their position in the hierarchical structure. She proposes that interveners are the set of operators which can have focus affected readings, i.e., those that have the focus operator \sim in the sense of Rooth (1992). The semantics works as follows. In the general case, when the operator \sim applies to its complement, it resets the focus semantic value of the c-commanding node to its ordinary semantic value, and hence alternatives introduced below the operator cannot be used by operators higher up. *Wh*-phrases introduce alternatives into the computation (i.e., the set of answers to the question; Hamblin 1973), but unlike focused phrases, their ordinary semantic value is undefined. Thus, when \sim applies to a complement containing a *wh*-phrase, the result is undefined, and this undefinedness is inherited by the larger structure. The Q

operator ends up with this structure, which has neither a well-defined ordinary semantic value nor a focus value, as its argument, and the entire question is then undefined and uninterpretable. Assuming that uninterpretability is a possible source of ungrammaticality, the question is also ungrammatical. *Wh*-phrases demand the Q operator for interpretation, which uses the focus semantic value and outputs it as the ordinary semantics of the question.

The clear, crosslinguistically applicable prediction arising from Beck's theory is that "a *wh*-phrase may never have a focus-sensitive operator other than the Q operator as its closest c-commanding potential binder" (Beck 2006:46). As in other structural theories, hierarchical structure is involved here in the form of c-command relations, due to the way in which LF representations are assumed to be organized. Beck incorporates an additional aspect of previous structural theories by suggesting that her account is a translation of Pesetsky's notion of feature movement into semantic terms. Of course, her account could be right even if the predictions of Pesetsky's theory were not confirmed.

Although Beck's proposal is an interesting attempt to tackle intervention from a semantic point of view, the main issue with it is the claim that all interveners give rise to focus affected readings. While this may be trivial for the core set of interveners, *only*, *even*, *also*, and NPIs, it is debatable whether it can be extended to other members of this class, such as disjunctive NPs and existential quantifiers (Tomioka 2007b; see also Szabolcsi 2006). A more general critique of structural approaches, applicable to Beck (2006) as well as the other theories described above, is given in Tomioka (2007a,b). He lists four observations which pose a problem for theories of

this type: (1) there is a great deal of interspeaker variability in judging intervention configurations; (2) there exist intraspeaker distinctions in the acceptability of configurations involving different interveners: NPIs always lead to the greatest degree of unacceptability, while other interveners vary in their degradedness; (3) some quantificational NPs do not give rise to intervention effects (e.g., Japanese *subete-/zenbu-no-NP*, Korean *motun-NP* 'all (the) NP'), while Japanese nominative-marked subjects (as opposed to topic-marked subjects) unexpectedly constitute interveners, albeit weaker than others; (4) intervention effects are much weaker when the intervener is an embedded subject and when it is not a subject, at least in Japanese and Korean (as noted also by Choi 2007). All four observations can be satisfactorily explained, Tomioka (2007a,b) argues, under an alternative, non-structural analysis.

According to Tomioka, intervention effects reflect a mismatch between the properties and linear position of interveners and the information structure of *wh*-questions. Following Vallduví (1990, 1995), the informational articulation of a sentence is divided into two major parts, a focus and a ground, with the ground further partitioned into a topic-like link and tail. The focus constitutes the informative part of the sentence, and the ground is its complement, indicating to the hearer where and how the information contributed by the focus is to be entered into his knowledge store. Within the ground, the link is analogous to the more familiar notion of topic, but restricted to sentence-initial position⁷, and its function is to point to the specific address in the hearer's knowledge store *where* the information must be recorded. Lastly, the tail signals *how* the information carried by the sentence is to be entered

⁷ Thus, ground elements which are not sentence-initial are not links by definition, including the type of low, familiar topic described *inter alia* in Frascarelli (2007). See also Brunetti (2009) for an analysis of these expressions as tails.

under a given address. Unlike the focus and link, which are universally associated with some property (i.e., intonational prominence and sentence-initial position, respectively), the tail is only negatively characterized as the counterpart of the link and as lacking intonational prominence. I illustrate this partition with the English example from Vallduví (1990) in (5), where [L] delimits the link and [F] the focus, the latter bearing intonational prominence as indicated by the capital letters. In this case, the hearer is instructed to go to the entry 'the boss' and substitute the new information 'hates' for V in the existing record 'The boss V broccoli'.

(5) [L The boss] [F HATES] broccoli. (Vallduví 1990:64)

In the case of *wh*-questions, Tomioka follows the common assumption that the *wh*-phrase constitutes the focus (e.g., Krifka 2001) and the remainder of the sentence is the ground; the information structure of a *wh*-in-situ question is thus as schematized in (6):

(6) [...A... [Wh] ...B...]
 LINK FOCUS TAIL

Given such an information structural articulation, all non-*wh*-material must occupy the ground, and this is where the problem with interveners arises. On the one hand, they cannot serve as links because of their inherent semantic properties; in fact, this is the trait which uniquely defines all interveners. Nonspecific indefinite expressions, for example, are not suitable links because their referents are not familiar to the discourse participants⁸. Moreover, there is morphological evidence for this

⁸Although Tomioka (2007b) explains the incompatibility between the link function and each category of interveners separately, using the file card metaphor of Vallduví (1990, 1995), many of them can be subsumed under the class of nonreferring expressions. The anti-topical status of the latter is well

distinction: the class of interveners cannot be topic-marked in Japanese and Korean, and are hence dubbed 'anti-topic items' (ATIs) by Tomioka (e.g., Korean **amuto-nun* 'anyone-top')⁹, whereas items which appear semantically similar but are compatible with topic marking do not constitute interveners, such as Japanese *subete-no NP-wa* 'all (the) NP-top'¹⁰.

On the other hand, there is also incompatibility between interveners and tails, which Tomioka explains on phonological grounds: tails must be prosodically reduced, but material to the left of *wh*-phrases and focused phrases receives secondary stress and cannot be reduced, at least in Japanese and Korean. In other words, what prevents interveners from being tails is not a lexical property intrinsic to them, but rather their linear position in the sentence. As for other languages, in theory there could be variation both in the source of the prosodic prominence which characterizes interveners (i.e., whether it is conventionally associated with them or follows from their linear position) and in the possibility of manipulating this prominence in situ. As expected under Tomioka's account, when prominence can be reduced, interveners (as well as non-interveners) preceding a *wh*-phrase or focused phrase can function as tails. For example, Amharic typically reduces prosodic constituent boundaries to the left of a *wh*-phrase and allows interveners in this position, as will be observed below, while in English alternative questions, a focused phrase preceding the disjunctive phrase (which is itself focused) can be made less

established in the literature (Reinhart 1981, Lambrecht 1994, a.o.).

⁹ As pointed out by an anonymous reviewer, this term is not to be confused with "antitopic" in the sense of Lambrecht (1994).

¹⁰ There does not appear to be a one-to-one correspondence, both within a language and crosslinguistically, between the information structural notion of anti-topicality, arguably rooted in semantic properties, and the morphosyntactic exponence of this notion, such as the unavailability of topic marking. It is the latter, i.e., the language-specific encoding, which determines whether or not the expression will constitute an intervener.

prominent and is then acceptable (see fn. 57). Similarly, the status of a French *wh*-in-situ question involving a floating quantifier depends on whether or not the latter is prosodically prominent:

(7) a. Ils ont tous mangé quoi?

they have all eaten what

'What have they all eaten?'

b. *Ils ont TOUS mangé quoi? (Zubizarreta 2003:363)

In a language like Japanese or Korean, where the constraint on phonological reduction is non-violable, scrambling of the *wh*-phrase above the intervener is needed to derive an acceptable prosodic configuration. Since the portion of the sentence to the right of a focus, including a *wh*-phrase, is phonologically reduced, it can accommodate a tail (cf. (8)). Thus, unlike their unsuitability as links, this problem with interveners can be circumvented¹¹.

(8) [[Wh]_i ...Int... t_i ...B...]
 FOCUS TAIL →

Having shown that his theory explains the well-known observations regarding intervention effects, such as the existence of a constrained set of potential interveners and the role of scrambling, Tomioka argues that this framework also resolves the difficulties for structural accounts noted above. First, the variability between speakers in judging intervention configurations is related to their pragmatic nature: speakers

¹¹ While an anonymous reviewer assumes that this proposal entails a prosody-driven syntax, and hence raises various problems for current conceptions of the grammar, this is not necessarily the case. There are a number of ways to prevent the syntax from "looking ahead" to the output of the phonology; for example, the syntax could blindly create multiple copies, to be later filtered out by the phonology. This and other ideas are discussed in numerous recent studies dedicated to the syntax-phonology interface (e.g., Richards 2006).

differ in the extent to which they can accommodate pragmatic difficulties caused by less-than-perfect realization of information structure. It is perhaps more precise to say that this flexibility is due to the non-fixed association between (context-free) sentences and information structure, and is hence not expected with semantic or syntactic phenomena, aside from cases of ambiguity. Second, the robust unacceptability of intervention configurations involving NPIs follows from the existence of phonological restrictions on their licensing, at least in Japanese and Korean. Because it is focused, a *wh*-phrase places an intermediate phrase boundary to its left, and hence separates a clause-initial NPI from its licenser in terms of phonological phrasing. Thus, NPIs not only fail to surface in the ground portion of the sentence, like other interveners, but also violate a phonological locality condition, which states that they must be in the same intermediate phrase (or major phrase) that includes their licenser¹². A third observation that seems mysterious under existing structural accounts, namely, the fact that some quantificational NPs do not cause intervention effects in Japanese and Korean, is predicted by Tomioka's account: these quantificational NPs can be topic-marked, indicating that they are not interveners¹³. Although Tomioka's generalization regarding compatibility with topic marking may be language-specific, the data establishes that it is necessary to employ a criterion of this type for anti-topicality, which will often, but not always, overlap with semantic or pragmatic diagnostics (see fn. 10). Finally, the improved status of sentences in which the intervener is an embedded subject or a non-subject can also be linked to

¹² NPIs are also subject to a syntactic locality condition, requiring clausemate negation for their licensing.

¹³ Readers are referred to Tomioka (2007b) for discussion of the opposite case, i.e., Japanese nominative-marked subjects which surprisingly function as interveners.

properties of information structure. Although the details remain to be worked out, it appears that such interveners can be backgrounded more easily; for example, while matrix subjects in Japanese will generally be interpreted as focused if not topic-marked, this is not true of non-matrix subjects and non-subjects (Tomioka 2007b). If there are such distinctions between the information structure of root and embedded contexts, it is not surprising that the status of interveners may differ accordingly.

While Tomioka's analysis, which appeals to linear notions of information structure and prosody, leaves a number of issues unresolved, it seems *prima facie* better equipped to deal with the data reported in the literature than analyses which refer exclusively to hierarchical structure. The extent to which it is specific to certain languages or subsets of the data and not applicable elsewhere, a concern expressed by Beck (2006) and Hagstrom (2007), is an empirical question. Novel data from Amharic to be presented below suggests that the analysis is on the right track, and that structural approaches, whatever their particulars, are not.

3. The absence of intervention effects in Amharic

Amharic is an SOV *wh*-in-situ language, belonging to the Ethiopic branch of Semitic. Unlike any other language documented until now, and contra the descriptive generalization suggested in Beck (2006) whereby intervention effects are universal, Amharic does not exhibit degradedness when a quantificational or focusing element precedes a *wh*-phrase, regardless of whether or not the latter is nominal (9), adverbial (10), or a d-linked 'which'-phrase (11)^{14,15}. Note than in the following examples, the

¹⁴ Some languages exhibit distinctions among these categories. In Mandarin, for example, intervention effects do not occur with nominal *wh*-phrases, at least for some speakers, but rather only with 'which'-

(a) versions represent intervention configurations, which are expected to be degraded, while the (b) versions have the *wh*-phrase preceding the potential intervener and hence should be acceptable crosslinguistically. In Amharic the preferred order is in fact (a), on a par with run-of-the-mill *wh*-questions, and the order in (b) is generally judged to be awkward (cf. Halefom 1992), making Amharic an almost ideal mirror image of languages like Japanese and Korean.

(9) a. haile bəčča mən anäbbäb-ä?^{16,17,18} (only + *wh*-nominal)

Haile only what read.PER-3MS

b. mən haile bəčča anäbbäb-ä?

'What did only Haile read?'

(10) a. haile bəčča lämən ya-n mäs'haf anäbbäb-ä? (only + *wh*-adverb)

Haile only why that-ACC book read.PER-3MS

phrases and *wh*-adverbs (Soh 2005, Beck 2006). In Japanese and Korean, d-linked *wh*-phrases and *why* do not result in the same degradedness as nominal *wh*-phrases (Ko 2005, Tomioka 2008a).

¹⁵ Amharic has an additional, oft-used *wh*-question formation strategy, in which the *wh*-phrase is clefted. This strategy enables one to circumvent the intervention configuration by placing the *wh*-phrase above the potential intervener (ia), but it also allows word order variants which are *prima facie* expected to give rise to intervention effects and yet are perfectly acceptable, as in (ib) and (ic).

- (i) a. mändən näw haile bəčča y-anäbbäb-ä-w?
 what COP.3MS Haile only REL-read.PER-3MS-DEF
 b. haile bəčča mändən näw y-anäbbäb-ä-w?
 c. haile bəčča y-anäbbäb-ä-w mändən näw?
 'What is it that only Haile read?'

¹⁶ The Amharic transcription more or less follows the conventions of the descriptive literature (Leslau 1995, 2000): č', k', p', s' and t' are ejective stops; ñ is the palatal nasal; superscribed w represents labial secondary articulation; ə is a high central vowel and ä is a mid-central vowel.

¹⁷ The following abbreviations are used for the Amharic data: ACC = accusative, AUX = auxiliary, COP = copula, DEF = definite, F = feminine, FOC = focus, IMP = imperfect, M = masculine, NEG = negation, subscribed O = object, P = prepositional suffix, PER = perfect, PL = plural, POSS = possessive, REL = relative marker, S = singular, TOP = topic.

¹⁸ The fact that the focus particle *bəčča* 'only' is post-nominal and derived from the adverb 'alone' does not seem relevant to the analysis, since these properties are not unique to Amharic. Many of the languages discussed here use post-nominal particles (e.g., Korean in (2)), and their equivalents of 'alone' in its exclusive particle function also give rise to intervention effects (e.g., Japanese; Satoshi Nambu, p.c.). Moreover, even if *bəčča* were somehow unique this would not extend to the entire set of potential interveners.

b. läməṇ haile bəčča ya-n mäs'haf anäbbäb-ä?

'Why did only Haile read that book?'

(11) a. haile bəčča yätəññaw-ən mäs'haf anäbbäb-ä? (only + 'which'-phrase)

Haile only which-ACC book read.PER-3MS

b. yätəññaw-ən mäs'haf haile bəčča anäbbäb-ä?

'Which book did only Haile read?'

This is true of almost all potential interveners, including the core set of *bəčča* 'only', as illustrated in (9)-(11), *dägmo* 'also' in (12)-(13) and *-mm + ən^wan* 'even' in (14)-(15), as well as quantificational elements like *hullum* 'everyone' ((16)-(17))¹⁹, and disjunctive NPs ((18)-(19)). Examples of other potential interveners of all types can be found in the appendix.

(12) a. haile dägmo mən/yätəññaw-ən mäs'haf anäbbäb-ä? (also)

Haile also what/which-ACC book read.PER-3MS

b. mən/yätəññaw-ən mäs'haf haile dägmo anäbbäb-ä?

'What/which book did Haile also read?'

(13) a. haile dägmo läməṇ ya-n mäs'haf anäbbäb-ä? (also)

Haile also why that-ACC book read.PER-3MS

b. läməṇ haile dägmo ya-n mäs'haf anäbbäb-ä?

'Why did Haile also read that book?'

(14) a. haile-mm ən^wan mən/yätəññaw-ən mäs'haf anäbbäb-ä? (even)

Haile-FOC even what/which-ACC book read.PER-3MS

¹⁹ Questions with *hullum* 'everyone' allow a single-answer and a pair-list reading, regardless of the position of the *wh*-phrase (unlike German, where an intervening *jeder* 'every(one)' rules out a single-answer reading; Beck 1996).

b. mən/yätəññaw-ən mäs'haf haile-mm ənkw an anäbbäb-ä?

'What/which book did even Haile read?'

(15) a. haile-mm ənkw an lämən ya-n mäs'haf anäbbäb-ä? (even)

Haile-FOC even why that-ACC book read.PER-3MS

b. lämən haile-mm ənkw an ya-n mäs'haf anäbbäb-ä?

'Why did even Haile read that book?'

(16) a. hullumm mən/yätəññaw-ən mäs'haf anäbbäb-u? (bare universal)

everyone what/which-ACC book read.PER-3MPL

b. mən/yätəññaw-ən mäs'haf hullumm anäbbäb-u?

'What/which book did everyone read?'

(17) a. hullumm lämən ya-n mäs'haf anäbbäb-u? (bare universal)

everyone why that-ACC book read.PER-3MPL

b. lämən hullumm ya-n mäs'haf anäbbäb-u?

'Why did everyone read that book?'

(18) a. haile wäyæss girma mən/yätəññaw-ən mäs'haf anäbbäb-u? (or)

Haile or Girma what/which-ACC book read.PER-3MPL

b. mən/yätəññaw-ən mäs'haf haile wäyæss girma anäbbäb-u?

'What/which book did Haile or Girma read?'

(19) a. haile wäyæss girma lämən ya-n mäs'haf anäbbäb-u? (or)

Haile or Girma why that-ACC book read.PER-3MPL

b. lämən haile wäyæss girma ya-n mäs'haf anäbbäb-u?

'Why did Haile or Girma read that book?'

An additional class of intervention effects, which has not been discussed here until now, involves alternative questions. While this case has received much less attention in the literature, it appears to constitute a robust effect similar to its *wh*-question counterparts across many languages (Beck & Kim 2006). Unlike *wh*-questions, however, the result is the absence of an alternative question reading for the sentence, rather than degradedness. Thus, in (20), an intervener like *only* preceding a disjunctive phrase in English leaves the question with only a yes/no interpretation, allowing it to be answered as in (b), but not (a).

(20) Does only John like Mary or Susan?

a. #Mary. [*AltQ]

b. Yes. [✓Yes/NoQ]

Amharic is once again distinct: an intervener before a disjunctive phrase does not rule out the alternative question reading in (21).

(21) haile bəčča šay wäyæss buna t'ät'-a?

Haile only tea or coffee drink.PER-3MS

'Did only Haile drink tea or coffee?'

a. šay. [✓AltQ]

tea

b. awo. [✓Yes/NoQ]

yes

Lastly, there is one class of interveners—NPIs—which behave differently in Amharic, eliciting judgments of degradedness when preceding a *wh*-phrase (22a), much like interveners in other languages, although perhaps to a lesser extent.

Furthermore, since scrambling the *wh*-phrase above the intervener does not result in an ideal sentence in Amharic (22b), as noted above, speakers tend to prefer the cleft strategy mentioned in fn. 15 and illustrated again in (23) when using an NPI in a *wh*-question. This data will be discussed in section 5.

(22) a. ?mannəmm mən al-anäbbäb-ä-mm?

anyone what NEG-read.PER-3MS-NEG

b. mən mannəmm al-anäbbäb-ä-mm?

'What did no one read?'

(23) mändən näw mannəmm y-al-anäbbäb-ä-w?

what COP.3MS anyone REL-NEG-read.PER-3MS-DEF

'What is it that no one read?'

These observations raise two key questions, the answer to the second dependent on the first: (i) What could explain the exceptionality of Amharic? and (ii) What does the exceptionality of Amharic tell us about the underlying cause(s) of intervention effects? One possibility, which can be quickly dismissed, is that intervention effects are parameterized, and Amharic simply has the negative setting for this parameter. Not only does this idea have no independent empirical support, it also flies in the face of the abundant evidence suggesting that intervention effects derive from something basic in the grammar of natural language. Another option, in line with Beck (2006), is that the semantics of Amharic *wh*-phrases and/or focus is unique. While this proposal is more interesting than the previous one, it is similarly problematic: a theory allowing for crosslinguistic variation in the interpretation of *wh*-phrases or focus operators, contrasting with existing frameworks (see Higginbotham 1985), should be

grounded in more than just the phenomenon it is meant to explain (cf. also fn. 18).

We are then left with two primary candidates for crosslinguistic variation. First, it is possible that the clausal structure of Amharic differs from that of the other languages described in the literature on intervention effects. Under structural theories, whatever their specifics, if a potential intervener does not actually come between C^0 and the *wh*-phrase in hierarchical terms, intervention effects are predicted to be absent. Consider, for example, Beck's (2006) claim, mentioned in section 2, that "a *wh*-phrase may never have a focus-sensitive operator other than the Q operator as its closest c-commanding potential binder" (p. 46). Accordingly, a hypothesis to be explored in the following section is that in Amharic interveners are above the Q operator in C^0 , so that the latter is indeed the closest c-commanding potential binder to the *wh*-phrase.

A second possible source of crosslinguistic variation which could explain the presence vs. absence of intervention effects is information structure and prosody, in accordance with Tomioka (2007a,b). Finding the precise locus of this variation is an empirical task, and not an easy one at that, given the dearth of research on crosslinguistic differences in information structure and the almost complete absence of work on information structure and prosody in Amharic. Nevertheless, this possibility will be taken up in section 5.

4. A structural analysis

4.1 Evidence for a structural analysis

As noted in section 3, all structural approaches to intervention, regardless of their details, appeal to the relation between the Q operator in C^0 and the *wh*-phrase; intervention is on this path. Moreover, this relation is viewed in hierarchical, rather than linear, terms. Thus, this section will be devoted to the possibility that interveners in Amharic, like subjects in general, do not occur between the *wh*-phrase and C^0 , but rather above the latter²⁰.

Before going into the details of this idea, it is important to rule out another possible syntactic explanation for the lack of intervention effects in Amharic, which is specific to the theory of Pesetsky (2000). Recall that Pesetsky puts forward a three-way classification of movement—overt phrasal movement, covert phrasal movement, and feature movement—and associates each with certain phenomena and properties (see table 1 in section 2). Crucially, in this system *wh*-phrases licensed through covert phrasal movement do not create intervention effects, because the *wh*-phrase is not c-commanded by the intervener at LF (or, alternatively, because the restriction on the *wh*-phrase is not separated from it, precluding a scope-bearing element from appearing between the two). Although this would account for the Amharic data, it also predicts that the language will exhibit Subjacency effects, contra to fact²¹: as (24a) illustrates, *wh*-phrases in situ are acceptable inside islands²², while (24b) shows that a relative clause is indeed an island for overt movement in Amharic.

(24) a. haile astāmari-w lä-man yä-sät't'-ä-w-ən mäs'haf anäbbäb-ä?

²⁰ A brief summary of the arguments for this structural analysis can also be found in Eilam (2008).

²¹ Covert phrasal movement is correlated with other phenomena in this system, including Superiority effects, which Amharic lacks as well (see below). In any case, the evidence regarding Subjacency is sufficient to exclude this as an explanation.

²² This is true of relative clause and adjunct islands. I illustrate with a *wh*-nominal and leave the issue of whether *wh*-adverbials pattern differently in islands for future research (for this distinction in Mandarin see Tsai 1994).

Haile teacher-DEF to-who REL-give.PER-3MS-DEF-ACC book read.PER-3MS

b. *lä-man haile astämari-w yä-sät't'-ä-w-ən mäs'haf anäbbäb-ä?

to-who Haile teacher-DEF REL-give.PER-3MS-DEF-ACC book read.PER-3MS

'Who is the person x such that Haile read the book that the teacher gave to x?'

Thus, we can conclude that under Pesetsky's (2000) theory, *wh*-phrases in Amharic remain below the intervener at LF and are licensed through feature movement; the lack of intervention effects is unexpected and must be explained on independent grounds²³.

Returning to the hypothesis that interveners in Amharic occur above C^0 , we can now consider the evidence available to support it. There does not seem to be any morphological data pointing one way or the other: elements arguably marking the position of C^0 , like complementizers and question particles, do not occur in simple *wh*-questions. Moreover, even if these did surface, they would not help, since Amharic is a head-final language with specifiers to the left. Thus, elements in C^0 will typically surface at the right edge of the clause, while interveners and subjects in general end up at the left edge. As for possible syntactic evidence, which is necessarily more indirect, there are four observations that warrant examination.

The first relevant observation is that Amharic is a null subject language with obligatory, rich subject agreement, marked for person, number and gender. (25) shows that the subject need not be overtly expressed, while (26) establishes that subject agreement is necessary.

²³ There is a third type of movement, overt phrasal movement, which would also predict no intervention effects. However, if Amharic *wh*-phrases overtly raised, despite appearances to the contrary (see Simpson and Bhattacharya (2003) for such a proposal for Bangla), constituents preceding the *wh*-phrase would have to be higher than SpecCP. Thus, the implications of this idea parallel those of the hypothesis that interveners are above C^0 and need not be discussed separately.

(25) sak'-äčč.

laugh.PER-3FS

'She laughed.'

(26) aster doro-wa-n arräd-*(äčč).

Esther hen-DEF-ACC butcher.PER-3FS

'Esther butchered the hen.'

Following Alexiadou and Anagnostopoulou (1998), among others, one could assume that agreement is pronominal in null subject languages. It would therefore occupy SpecIP, and overt subjects would have to be dislocated in a higher position in the C domain. This type of correlation between agreement and dislocation has been argued for in a wide variety of languages (see Baker 2003 for recent discussion), raising numerous questions; for example, are the agreement markers indeed arguments or do they simply license null *pro* arguments in A-positions, and is the dislocated NP base-generated in its surface position or does it arrive there by movement. Since these questions are tangential to the goals of this paper, they can be left aside for now. Similarly, although an interesting and worthy topic for research in its own right, the precise position of dislocated subjects in the left periphery is not crucial for determining the validity of the structural analysis. That is, pace the opinion of an anonymous reviewer, an articulated left periphery of the type proposed in Frascarelli (2007), in which functional projections are dedicated to particular discourse-related interpretations and associated with specific intonational contours, will not fare better than a simpler framework, involving adjunction of discourse grammar categories to the CP node. This will become clear in section 4.2, where a critique of the structural

analysis is presented: many of the problems with such an analysis are not limited to a particular view of the left periphery, but rather arise under any theory which assumes that subjects in Amharic are necessarily above C^0 . I therefore assume an adjunction analysis, leaving the applicability of a cartographic approach to Amharic for future research.

A second potential piece of evidence for the hypothesis that interveners in Amharic are above C^0 comes from adverb placement: sentential adverbs may follow the subject in Amharic, as in (27) and (28). While the order in (27) is also possible in English (*The police, fortunately, caught the thief*), in (28) 'mənələbatə' *probably* is able to take sentential scope from its position following the subject, which seems to be impossible in the English equivalent (??*No one probably read the book*).

(27) polis-u dägğənnātu leba-w-ən yaz-ä.

police-DEF fortunately thief-DEF-ACC catch.PER-3MS

'Fortunately, the police caught the thief.'

(28) mannəmm mənələbatə mäs'haf-u-n al-anäbbäb-ä-mm.

anyone probably book-DEF-ACC NEG-read.PER-3MS-NEG

'Probably, no one read the book.'

Assuming that this class of adverbs is adjoined to IP (e.g., Jonas & Bobaljik 1993), we can infer that the subject is positioned higher up²⁴. Unfortunately, the behavior of other types of adverbs does not allow such a straightforward conclusion. Although manner adverbs in Amharic can appear between the subject and verb (29) or object

²⁴ An anonymous reviewer suggests that these adverbs are located in dedicated functional projections high in the I domain. Insofar as this hypothesis derives the same prediction as the adjunction analysis, I do not explore it further.

(30), in order for this to bear on the position of the subject, one has to adopt a set of debatable assumptions, namely, that Amharic has V-to-I movement, and that adverbs cannot adjoin to the X' level (Alexiadou & Anagnostopoulou 1998). The former assumption seems to have no support beyond arguments for a general correlation between V-to-I movement and null subject languages (Alexiadou & Anagnostopoulou 1998) or rich subject-verb agreement languages (Platzack 2003), while the latter has been disputed (e.g., Chomsky 1995).

(29) aster tolo č'affär-äčč.

Esther quickly dance.PER-3FS

'Esther danced quickly.'

(30) aster bät'anək'uk'ə bär käffät-äčč.

Esther carefully door open.PER-3FS

'Esther carefully opened a door.'

A third observation bearing on the hypothesis comes from an Amharic construction which seems to displace elements in the C domain, but nonetheless allows them to remain below the subject. Displacement could be "hidden" in this way if subjects, including potential interveners, are above the position of the displaced element; i.e., higher in the C domain (see Uribe-Etxebarria 2002 and Simpson and Bhattacharya 2003 for other cases of putative "masked" movement). Although this string-vacuous clitic-left-dislocation (CLLD) differs from other left dislocation phenomena in not requiring a phrase in the clause-initial position (van Riemsdijk

Object marking (OM) as in (32b) is restricted in a way that is expected if the NP referred to is a topic, and hence arguably in the C domain, the component of the clause structure which licenses discourse dependencies²⁸. First, nonreferential pronouns and *wh*-words are incompatible with OM, as shown in (33) and (35), respectively; (34) and (36) provide the corresponding data from CLLD in Lebanese Arabic. The ungrammaticality of (33) with OM derives from the fact that referentiality is an obligatory property of topics (Reinhart 1981, Lambrecht 1994, a.o.)²⁹, while in (35) a *wh*-phrase, being inherently focused, cannot also serve as a topic (Bresnan & Mchombo 1987, Polinsky & Potsdam 2001)³⁰.

(33) *aster* and *nəgər ayy-äčč-(*əw)*.

Esther a thing see.PER-3FS-3MS_O

'Esther saw something.' (Amberber 1996:139)

(34) **waahed šeft-o mbeerif*.

someone see.PER.1MS-3MS_O yesterday

'Someone, I saw him yesterday.' (Lebanese Arabic)

(35) *aster mən ayy-äčč-(*əw)?*

Esther what see.PER-3FS-3MS_O

'What did Esther see?' (Amberber 1996:139)

²⁸ OM seems to primarily be a cataphoric device, correlated with the recurrence of the marked object in subsequent sentences (Haile 1970, Hetzron 1971, Gasser 1983). This is a typical property of topics in the sense of Givón (2001). It is sometimes also said that OM is used to mark "emphasis" and/or is a marker of contrastive focus (Demeke 2003b, Yabe 2003), but this claim is difficult to assess, since no independent evidence is provided.

²⁹ An anonymous reviewer notes that indefinites like the pronoun in (33) can be topicalized, at least in some languages, provided that they are specific. This predicts that (33) may be grammatical under certain conditions, given that the specific interpretation of indefinites is the non-default, context-dependent option (Geurts 2002), but does not refute the proposed relation between OM and topichood.

³⁰ This generalization is often cited in the literature, but may require refinement given the claim that in various cases *wh*-phrases can be topicalized (see below; Wu 1999, Jaeger 2004, Grohmann 2006).

(36) *šu štriit-o mbeeriʕ?

what buy.PER.2MS-3MS_O yesterday

'What did you buy yesterday?'

(Lebanese Arabic)

Second, the forms used as reflexive pronouns can only have their nonreflexive interpretation if referred to by OM, so that in (37b) *rasun* is understood as meaning 'his head' rather than the reflexive 'himself'. Reflexive pronouns are not possible topics due to their nonreferentiality (Polinsky & Potsdam 2001, following Reinhart 1981, Lambrecht 1994, a.o.).

(37) a. haile ras-u-n ayy-ä.

Haile head-POSS.3MS-ACC see.PER-3MS

'Haile saw himself.'

b. haile ras-u-n ayy-ä-w.

Haile head-POSS.3MS-ACC see.PER-3MS-3MS_O

'Haile saw his head/*himself.'

Beyond its interpretive properties and related distributional characteristics, which suggest displacement in the C domain, OM has a reflex in linear order. This is not observed with respect to the subject, as illustrated above, but rather is evident when OM resumes a phrase base-generated below an object; since the latter is not in the high left periphery, it does not hide displacement which places phrases in a higher position. Thus, (38a) is an example of a simple transitive verb with a direct object and PP adjunct, while in (38b) the prepositional suffix *-bb-*³¹ and OM *-ät* referring to the

³¹ The prepositional suffixes *-ll-* and *-bb-* are derived from the prepositions *lä-* and *bä-*, respectively, and carry a range of meanings similar to the latter two forms (Leslau 1995).

PP have been added to the verb. Crucially, the PP must then precede the direct object.

(38c) illustrates the same point with a slightly different structure, in which the PP surfaces without a preposition, and instead takes the topic marker *-ən*.

(38) a. aster bet-u-n bā-mät'rägiya-w t'ärräg-äčč.

Esther house-DEF-ACC with-broom-DEF clean.PER-3FS

'Esther cleaned the house with the broom.' (Yabe 2007:80)

b. aster <bā-mät'rägiya-w> bet-u-n <??bā-mät'rägiya-w>

Esther with-broom-DEF house-DEF-ACC with-broom-DEF

t'ärräg-äčč-əbb-ät.³²

clean.PER-3FS-P-3MS_o

'Esther cleaned the house with the broom.'

c. aster <mät'rägiya-w-ən> bet-u-n <*mät'rägiya-w-ən>

Esther broom-DEF-TOP house-DEF-ACC broom-DEF-TOP

t'ärräg-äčč-əbb-ät.³³

clean.PER-3FS-P-3MS_o

'Esther cleaned the house with the broom.' (Yabe 2007:82)

Note that the question of whether or not (38a) is the base-generated order is not essential for the issue at hand. If it is, (38b-c) indicate that the PP adjunct necessarily takes a higher position than the direct object only when it is resumed through OM, that is, having undergone CLLD. If (38a) is not the base-generated order, but rather

³² Yabe (2007) says that leaving the PP adjunct in the lower position is dispreferred only by some speakers, while Haile (1970) claims that it is ungrammatical. I have found some interspeaker variation in such cases.

³³ Pace Yabe (2007), (38c) is not an applicative construction: the alleged applied argument does not exhibit the hallmark properties of argumenthood found crosslinguistically with applicatives, such as allowing passivization (Baker 1988, Peterson 2007).

PP-direct object is, (38b-c) show that the direct object cannot be higher than the PP adjunct solely when the latter is referred to by OM, arguably because CLLD positions phrases in the high left periphery, whereas scrambling as in (38a) does not³⁴.

Considering (38a) from another perspective provides further demonstration that subjects are high in the C domain. (39) is a variant of this sentence with scrambling of the PP adjunct (or its base order; see above), establishing that scrambling can displace elements locally. However, as shown in (40), scrambling does not enable phrases to precede the subject, conceivably because it is limited to adjunction to IP, VP or AP, on a par with German, Japanese, etc. (Grewendorf & Sternefeld 1990, Müller & Sternefeld 1993), while CLLD derives this order, because it is associated with the C domain. If the subject remained within IP, it is not clear what would preclude another phrase from scrambling over it.

(39) aster bā-mät'rägiya-w bet-u-n t'ärräg-äčč.

Esther with-broom-DEF house-DEF-ACC clean.PER-3FS

'Esther cleaned the house with the broom.'

(40) wəšša-w-ən_i aster t_i mätt-äčč-*(əw).³⁵

dog-DEF-ACC Esther hit.PER-3FS-3MS_o

'Esther hit the dog.'

(Amberber 1996:138)

To summarize, Amharic possesses a construction which resembles clitic-left-

³⁴ I use the term "scrambling" to refer to a process that derives non-canonical word order without a resumptive element. The properties of this process in Amharic and its affinity to scrambling in other languages are beyond the scope of this paper.

³⁵ There is some interspeaker variation in the acceptability of (40) without OM, perhaps suggesting that some speakers allow scrambling to target CP-adjoined positions. I leave this issue for future research.

dislocation in other Semitic languages: a phrase is resumed in the verb, and consequently takes on topic-like functions typically associated with the high left periphery. Unlike these languages, however, Amharic does not require the phrase which has putatively undergone CLLD to appear clause-initially. The hypothesis that subjects are also displaced in the C domain easily captures this peculiarity; the CLLDed phrase could then surface to the left or to the right of the subject, depending on its adjunction site. For the sake of simplicity, I assume that the subject is adjoined to CP rather than in SpecCP, since the latter analysis would require postulating different types of adjunction sites for CLLDed phrases, and in particular adjunction to the X' level of a lower CLLDed phrase³⁶.

Before wrapping up this section, it is necessary to address a fourth and final set of data, which is predicted under the account presented thus far and hence serves to reinforce it. If lexical subjects in declarative sentences occupy a CP-adjoined position in Amharic, there is no a priori reason other types of elements could not also be placed in such a position. Furthermore, Amharic clausal structure should allow multiple elements of this type, given the recursive nature of adjunction. This appears to be what we find in multiple *wh*-questions. Although Amharic is a *wh*-in-situ language, displacement of *wh*-phrases is visible when more than one such phrase is involved. Crucially, this displacement does not obey Superiority: (41) shows the

³⁶ Possible further support for the claim that subjects are not in SpecCP comes from sentences involving *lämən* 'why'. If Ko (2005) is correct in stating that *wh*-in-situ languages generate *why* in SpecCP, the canonical order exemplified in (i) indicates that the subject, as well as the CLLDed object, are higher than SpecCP. Of course, this is also evidence, albeit fragile, for the left peripheral position of subjects and CLLDed objects.

(i) *astāmari-w tāmari-w-ən lämən wäk'k'äs-ä-w?*
 teacher-DEF student-DEF-ACC why reprimand.PER-3MS-3MS_o
 'Why did the teacher reprimand the student?'

(Leslau 2000:153)

assumed underlying order of a question with three *wh*-phrases, and (42)-(44) illustrate three possible permutations of this order, where *mäče* 'when' has raised above *man* 'who', and *mən* 'what' remains in place (42), surfaces above *man* 'who' (43), or appears clause-initially (44). All these permutations are violations of Superiority, since it is not the closest *wh*-phrase that is attracted³⁷.

(41) *man mäče mən gäzz-a?*

who when what buy.PER-3MS

'When did who buy what?'

(42) a. *mäče_i man t_i mən gäzz-a?*

when who what buy.PER-3MS

'When did who buy what?'

b. *tənant Kassa mäs'haf gäzz-a.*

yesterday Kassa book buy.PER-3MS

'Yesterday Kassa bought a book.' (Demeke 2003a, in Aboh 2007:304)

(43) a. *mäče_i mən_j man t_i t_j gäzz-a?*

when what who buy.PER-3MS

'When did who buy what?'

b. *tənant mäs'haf Kassa gäzz-a.*

yesterday book Kassa buy.PER-3MS

'Yesterday Kassa bought a book.' (Demeke 2003a, in Aboh 2007:304)

(44) a. *mən_j mäče_i man t_i t_j gäzz-a?*

³⁷ I consider Superiority effects to be a violation of Attract Closest (Chomsky 1995), although nothing in the analysis hinges on this.

what when who buy.PER-3MS

'When did who buy what?'

b. mäs'haf tənant Kassa gäzz-a.

book yesterday Kassa buy.PER-3MS

'Yesterday Kassa bought a book.' (Demeke 2003a, in Aboh 2007:304)

The fact that all these Superiority-violating examples are perfectly grammatical in Amharic indicates that displacement of the *wh*-phrases is motivated by something other than checking the [+wh] feature of C^0 ; i.e., focus movement (Bošković 2002) or *wh*-topicalization (Wu 1999, Jaeger 2004, Grohmann 2006)³⁸, both of which are known to disregard Superiority. Moreover, given that (42)-(44) allow single-answer readings and not just pair-list interpretations, as illustrated above, we can conclude that, as in (41), none of the *wh*-phrases are in SpecCP (Bošković 2002). Rather, *wh*-phrases apparently occupy the same CP-adjoined positions targeted by lexical NPs in declaratives³⁹.

On the whole, we have amassed a reasonable amount of data and observations to back up the hypothesis that subjects in Amharic, and potential interveners among them, are in the C domain. Findings from subject agreement, adverb placement, string-vacuous CLLD, and multiple *wh*-questions suggest that interveners do not

³⁸ According to Demeke (2003a), the leftmost *wh*-phrase in Amharic multiple questions is the most "prominent". While for Aboh (2007) this implies that it is a focused *wh*-phrase, topicalized *wh*-phrases are also known to indicate what a question primarily requests information about (Jaeger 2004). Determining which of the two possibilities is correct goes beyond the scope of this paper.

³⁹ It is difficult to rule out scrambling of the *wh*-phrases to IP-adjoined positions, which also does not create Superiority effects (Nishigauchi 1990). One option is to maintain that subject *wh*-phrases, just like lexical NP subjects, are in the C domain, and therefore any movement above them cannot be scrambling. In any case, pace the opinion of a reviewer, a uniform adjunction approach is valid if one does not adopt a rigid, one-to-one relation between discourse grammar categories and hierarchical positions (see, for example, Neeleman and van de Koot 2008).

occupy a position between the *wh*-phrase and the Q operator in C^0 , but rather are above the latter, enabling the necessary relation between Q and the *wh*-phrase to be established and hence precluding intervention effects. If this hypothesis is correct, one could in principle maintain a structural approach to intervention, and in particular Pesetsky's (2000) framework of movement types and their correlates, as well as Beck's (2006) basic ideas regarding the defining property of interveners, the underlying cause responsible for intervention effects, and the relevance of hierarchical structure for the phenomenon at hand. However, the story does not end here. Beyond a variety of reservations regarding these findings, some of which were noted above in passing, and general problems with structural approaches, outlined in section 2, the structural analysis does not successfully explain the entire range of data, and it derives a number of predictions which are not confirmed by the data. I turn to these problems next.

4.2 Problems with a structural analysis

Although the structural explanation for the absence of intervention effects in Amharic, appealing to the hierarchical position of interveners, handles the findings presented thus far, it suffers from a fundamental weakness: the data used to support it only establishes that subjects, including interveners, *can* be above C^0 , and not that they *must* be. As will be shown below, there is explicit evidence that subjects can remain in the I domain; moreover, when they are interveners, intervention effects nonetheless do not arise. The obvious conclusion is that the position of the subject is not related to the presence or absence of intervention effects, and a structural analysis

must therefore be rejected.

To begin with, Amharic does not exhibit the distributional and interpretational characteristics expected if dislocation were a fixed property of subjects. Thus, when functioning as subjects, nonreferential indefinite NPs surface in the same position as other subjects and are obligatorily agreed with, as in (45). Given the incompatibility between nonreferential NPs and the C domain (Baker 2003), this indicates that subjects may occupy SpecIP and that subject agreement does not have to be pronominal (see Sheehan 2006 for a similar claim regarding Romance null subject languages)⁴⁰.

(45) mannəmm ya-n mäs'haf al-anäbbäb-ä-mm.

anyone that-ACC book NEG-read.PER-3MS-NEG

'No one read that book.'

In addition, quantified subjects in Amharic allow a narrow scope, nonspecific interpretation which should not be available if they were uniformly dislocated (Alexiadou & Anagnostopoulou 1998, Baker 2003, Frascarelli 2007): (46) is ambiguous between a wide scope reading for the subject (i.e., 'some specific policeman stood in front of every bank') and a narrow scope reading, according to which 'in front of every bank stood a different policeman'.

(46) tənant and polis kä-yyä bank fit k'om-ä.

yesterday a policeman at-every bank front stand.PER-3MS

'A policeman stood in front of every bank yesterday.'

⁴⁰ This observation is at odds with (28), where a nonreferential NP was claimed to be in the C domain. It may be the case that Baker's (2003) generalization is overly strong, although this would mean that (45) does not prove that subjects can be in SpecIP.

Just as the behavior of subjects in general was used to argue for the left peripheral position of interveners, the conclusion that subjects are not necessarily dislocated in the left periphery should be extended to interveners. Furthermore, there are three data points which directly support this claim. First, consider (47)-(48), in which a potential intervener is a non-matrix subject and a non-subject, respectively; neither exhibits the degradedness of an intervention effect.

(47) girma haile bəčča mən ənd-anəbbäb-ä y-asəb-all?

Girma Haile only what that-read.PER-3MS 3MS-think.IMP-AUX.3MS

'What does Girma think that only Haile read?'

(48) girma lä-haile bəčča mən sät't'-ä?

Girma to-Haile only what give.PER-3MS

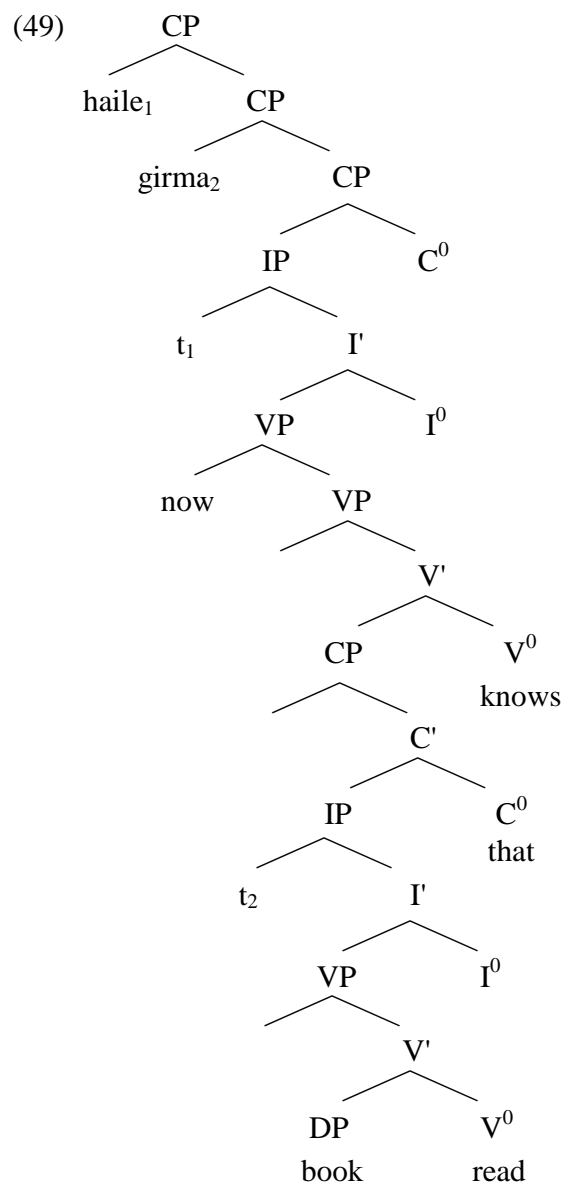
'What did Girma give only to Haile?'

To explain these facts within the structural approach, one could maintain that in such cases both the matrix subject and the potential intervener are adjoined to the matrix CP, so that neither interferes with the relation between C^0 and the *wh*-phrase.

However, by doing so, one muddles the putative relation between verbal marking, whether subject agreement or object marking, and displacement in the C domain, and it becomes difficult to identify what is in the left periphery and what is not⁴¹. At any rate, the idea that embedded subjects surface so high in the clause leads to the prediction, schematized in (49), that they could precede adverbs associated with the

⁴¹ While it is true, as an anonymous reviewer comments, that dislocation is not limited as a rule to matrix subjects, the argument for its application in this case would have to be circular, based only on the absence of intervention effects. Moreover, the operation itself would have to apply at every level of embedding ad infinitum, and simply does not accord with the adverb placement data presented below.

matrix clause⁴². This prediction fails, as shown in (50).



- (50) <ahun> haile <ahun> girma <*ahun> tənant mäs'haf-u-n
 now Haile now Girma now yesterday book-DEF-ACC
 ənd-anäbbäb-ä <ahun> y-awk'-all.⁴³

⁴² I thank Julie Legate for suggesting this prediction. Note that it holds of any analysis in which embedded subjects are in the matrix C domain, and does not depend on a particular implementation of this domain.

that-read.PER-3MS now 3MS-know.IMP-AUX.3MS

'Haile now knows that Girma read the book yesterday.'

A second observation suggesting that interveners can be in the I domain pertains specifically to non-subjects, which do not trigger intervention effects. While this by itself is difficult to reconcile with the structural analysis, there is a subset of cases which are even more problematic; namely, when the non-subject cannot take object marking and hence intervention effects are explicitly expected. If an NP is incompatible with object marking, it is assumed that it cannot undergo clitic-left-dislocation, and therefore necessarily remains in its low base-generated position, below C^0 . Such NPs nevertheless do not cause intervention effects, as shown below.

(51) girma lä-haile bəčča mən sät't'-ä-w?

Girma to-Haile only what give.PER-3MS-3MS_o

'What did Girma give only to Haile?'

(52) girma lä-ras-u bəčča mən sät't'-ä-(*w)?

Girma to-himself only what give.PER-3MS-3MS_o

'What did Girma give only to himself?'

(51) is identical to (48) above but for the addition of object marking referring to the indirect object *lähaile* 'to Haile', which is perfectly acceptable. In (52) this indirect object has been replaced by a reflexive and the result is still grammatical, despite the fact that the reflexive is incompatible with object marking (at least under its reflexive

⁴³ Barring displacement of the entire embedded clause, the fact that the matrix adverb can immediately precede the matrix verb seems to indicate that it can right-adjoin to VP, and that the verb raises to I^0 , thus surfacing to the right of the adverb. In any case, this does not bear on the position of the embedded subject.

interpretation; see above). Excluding the type of circular argument mentioned in fn. 41, the structural approach has no explanation for this finding.

At this point, alert readers may wonder whether cases in which the potential intervener is an embedded subject or a non-subject are indeed as damaging to the structural analysis as they seem. Specifically, recall that among the problems for structural approaches listed by Tomioka (2007a,b) is the observation that intervention effects in Japanese and Korean are significantly ameliorated when the intervener is an embedded subject or a non-subject. The findings from Amharic could then be part of a general, crosslinguistic pattern, rather than something as exceptional as the behavior of matrix subject interveners in the language. However, this does not make the task of a structural analysis any simpler; on the contrary, it adds to the body of data which it is arguably unable to account for.

A third problematic data point for the structural analysis of intervention in Amharic laid out in the previous subsection concerns an interpretational distinction between subjects, which seems to be associated with specific structural positions. Modifying the analysis to accommodate this data produces an undesirable result: one relinquishes the structural explanation for the absence of intervention effects. Returning to the basic example of a *wh*-question with a potential intervener, as in (53), we find that it actually has two possible readings, only one of which was noted in section 3⁴⁴.

⁴⁴ The same two readings are not linked to a particular clause type, and are hence also available in alternative questions (see below for declaratives):

(i) haile bəčča šay wäyæss buna t'ät'-a?
Haile only tea or coffee drink.PER-3MS
a. 'Did only Haile drink tea or coffee?'
b. 'Only speaking of Haile, did he drink tea or coffee?'

(53) haile bəčča mən anäbbäb-ä? (=9a)

Haile only what read.PER-3MS

a. 'What did only Haile read?'

b. 'Only speaking of Haile, what did he read?'⁴⁵

The (a) interpretation, mentioned above, is the same as in the corresponding English sentence, while in (b), which is missing from the English sentence, the speaker indicates that the question *What did he read?* refers exclusively to Haile.

To illustrate the distinction between the two readings more clearly, consider the context in (54) and the subsequent question-answer pairs in (55)-(56): the answer in (55) reflects the (a) reading of the question, while that in (56) reflects the reading in (b).

(54) Context: There are four students in the class. All four have read "The Neverending Story" and "Harry Potter and the Philosopher's Stone", but only Haile has read "The Hobbit".

(55) Q: haile bəčča mən anäbbäb-ä?

A: "The Hobbit".

(56) Q: haile bəčča mən anäbbäb-ä?

A: "The Neverending Story", "Harry Potter and the Philosopher's Stone", "The Hobbit".

Comparable readings can be found in simple declaratives like (57), where under the (b) reading the speaker asserts that 'Haile read that book' and conveys that this

⁴⁵ The translation "speaking of" is intended to differentiate this interpretation from that of a contrastive, "as for" topic (see below).

proposition is the only proposition he makes with respect to the question under discussion.

(57) haile bəčča ya-n mäs'haf anäbbäb-ä.

Haile only that-ACC book read.PER-3MS

a. 'Only Haile read that book.'

b. 'Only speaking of Haile, he read that book.'

As expected, the sentence in (57) is compatible with a context in which each book was read by more than one person.

The critical datum against the structural analysis of intervention is given in (58): the (b) reading of the question is lost when the *wh*-phrase precedes the subject, rendering the reply below infelicitous given the context in (54) (cf. (56))⁴⁶.

(58) Q: mən haile bəčča anäbbäb-ä? (=9b)

what Haile only read.PER-3MS

'What did only Haile read?'

A: # "The Neverending Story", "Harry Potter and the Philosopher's Stone", "The Hobbit".

The finding in (58) shows that the "speaking of" interpretation is necessarily connected to a high left peripheral position. In attempting to explain why the subject in (58) is not, and cannot, be in this position, the structural analysis encounters a problem: since it claims that subjects are universally displaced in the left periphery, and that *wh*-phrases can also freely adjoin to CP, what is to distinguish the subject in

⁴⁶ An anonymous reviewer suggests that the question lacks this reading because contrastive topics are incompatible with *wh*-questions. Beyond the questionable status of the latter claim (Tomioka to appear), as well as my assumption that the (b) reading does not involve a contrastive topic (see fn. 45), this hypothesis fails to explain the acceptability of (56).

(58), when it follows the *wh*-phrase, from that in (53), when it is clause-initial⁴⁷? In order to handle this data, it seems necessary to adopt a different set of assumptions. The *wh*-phrase in (58) must be adjoined to IP, rather than CP⁴⁸, and therefore the subject is in SpecIP, which is also the canonical position of subjects in Amharic. Furthermore, when the subject is clause-initial, as in (53), this actually hides two possible hierarchical positions: one is the canonical SpecIP position, not associated with any peculiar interpretation, and the other is a higher, CP-adjoined position, where the "speaking of" interpretation is derived. I tentatively suggest that the latter represents a type of hanging topic left dislocation, which is a base-generated dependency between a topic and a pronominal element (cf. Grohmann 2000, a.o.). Accordingly, a subject in this position can be linked to an element inside an island, and is intonationally set off from the rest of the clause by a low boundary tone and optional pause⁴⁹, as demonstrated in (59).

- (59) girma # haile yä-s'af-ä-w-ən mäs'haf näw y-anäbbäb-ä-w.
 Girma Haile REL-write.PER-3MS-DEF-ACC book COP.3MS REL-read.PER-3MS-DEF
 'Speaking of Girma, the book that Haile wrote is the one he read.'

Returning to the list of properties which were claimed to show that subjects are in the C domain, such as the pronominal status of subject agreement and the post-

⁴⁷ Given an expanded left periphery, one could assume that the subjects under both readings (53a) and (53b) are topics in the C domain, differing in the height of the topic projection which houses them, and that the lower of these projections hosts the subject in (58). However, we would then expect both types of topic to exhibit certain prosodic correlates which differentiate them from non-topical constituents (cf. Frascarelli 2007). While such a correlate exists in the case of high topics, as described below, canonical subjects as in (53a) and (58) have the prosodic characteristics of IP-internal material.

⁴⁸ This would fit in with the hypothesis that the *wh*-phrase has been scrambled to its clause-initial position, given the earlier assumption that an IP-adjoined position is the highest possible target for scrambling in Amharic. However, it also causes problems in explaining (40), where the clause-initial position should be available for a scrambled object if the subject is simply in SpecIP.

⁴⁹ See the description of the tonal properties of the intonational phrase in section 5.

subject position of sentential adverbs, these are attributable to the possibility of subjects being hanging topics. However, the most important by-product of the clausal structure in which subjects can be in SpecIP is the conclusion that their position is orthogonal to the presence or absence of intervention effects. As shown in (53), repeated here as (60), intervention effects are not observed in Amharic regardless of whether the subject is in the position of a hanging topic above C^0 , and thus associated with a "speaking of" interpretation, or in the lower SpecIP position.

(60) haile bəčča mən anäbbäb-ä?

Haile only what read.PER-3MS

a. 'What did only Haile read?'

b. 'Only speaking of Haile, what did he read?'

The attempt to implement a structural analysis, whereby Amharic evades intervention effects because it places subjects, including interveners, above C^0 seems to have ended in failure. While numerous findings regarding Amharic clausal structure may be retained and further examined in future work, they do not provide a satisfactory explanation for the absence of intervention effects. Non-structural factors must be considered, and these are the topic of the next section.

5. A non-structural approach

The absence of intervention effects in Amharic is a challenge for all existing approaches to the phenomenon, since they are generally believed to reflect basic properties of the grammar. Maintaining the latter idea, this section is devoted to an alternative take on intervention effects, proposed in Tomioka (2007a,b), in which

information structure and prosody are the crucial components, and the effects are accordingly read off the linear string. I begin by recapping the basic features of the theory, which were described in section 2, and then apply it to the Amharic data introduced in section 3. If Tomioka's proposal is correct, we expect that characteristics of information structure and/or prosody in Amharic would distinguish it from languages which exhibit intervention effects; indeed, this is exactly what we find. Following presentation of these characteristics, Tomioka's theory is extended to alternative questions, which have not yet been addressed in this framework, but follow from it rather straightforwardly. The outcome is not only a general argument in favor of non-structural approaches to intervention and against structural ones, but also a case for more judicious consideration of other phenomena which seem at first glance to be structural in nature.

Recall that in the informational partition of *wh*-questions Tomioka adopts, the *wh*-phrase is the focus and the rest of the question is the ground. Intervention effects then come about because this information structure has difficulty accommodating a certain class of elements, namely, interveners. Intervenors cannot serve as links since they are intrinsically anti-topical, and they cannot be (part of) the tail because of phonological reasons. According to Tomioka, the phonological cause in Japanese and Korean is the inability to reduce material to the left of *wh*-phrases and focused phrases, which clashes with the requirement that tails lack intonational prominence. Intervention effects are not observed in these languages when the *wh*-phrase scrambles above the intervener because the latter ends up in the phonologically reduced part of the sentence to the right of the *wh*-phrase, which serves as the tail.

Other languages could have alternative means of ensuring that the intervener does not bear prominence, thus achieving a prosodic representation which aligns with the information structure.

Tomioka's account has a number of advantages over structural approaches, as described in section 2; it not only covers the data which all analyses attempt to handle, but also explains a number of additional observations which have generally gone unnoticed. As for its applicability to languages other than Japanese and Korean, I now proceed to show that certain properties of Amharic prosody and information structure line up as predicted by the theory, yielding the absence of intervention effects in the language. These findings serve to further undermine structural approaches, and they refute suggestions by Beck (2006) and Hagstrom (2007) that Tomioka's theory is overly language-specific.

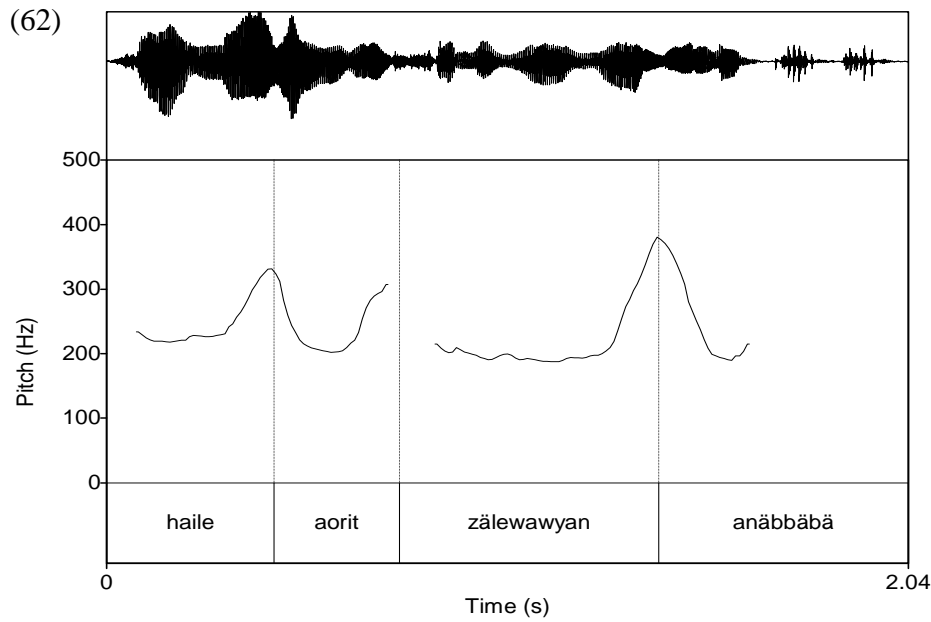
First, Amharic interveners do not exhibit the tonal correlates of focus when preceding a *wh*-phrase, and therefore satisfy the phonological condition on tails. In order to spell out this claim, a brief description of the intonational phonology of Amharic is in order. There are two levels of phonological phrasing, the phonological phrase (P-phrase) and intonational phrase (I-phrase), the former roughly corresponding to a maximal projection, while the latter is the higher, clause-level unit. Non-final P-phrases are associated with a rising contour, composed of a low phrasal tone (L_P) ending right before the edge of the prosodic domain, and a following high boundary tone (H_P), while final P-phrases are associated with a low boundary tone (L_P) (cf. Hayward 1992). I-phrases are characterized by a boundary tone, which is low in statements (L_I) and high in questions (H_I). These tonal events

are illustrated in the pitch track (62) for the simple transitive sentence (61), in which prosodic constituents have been indicated⁵⁰.

(61) ((haile)_P (aorit)_P (zälewawyan)_P (anäbbäb-ä)_P)_I

Haile book Leviticus read.PER-3MS

'Haile read the Book of Leviticus.'



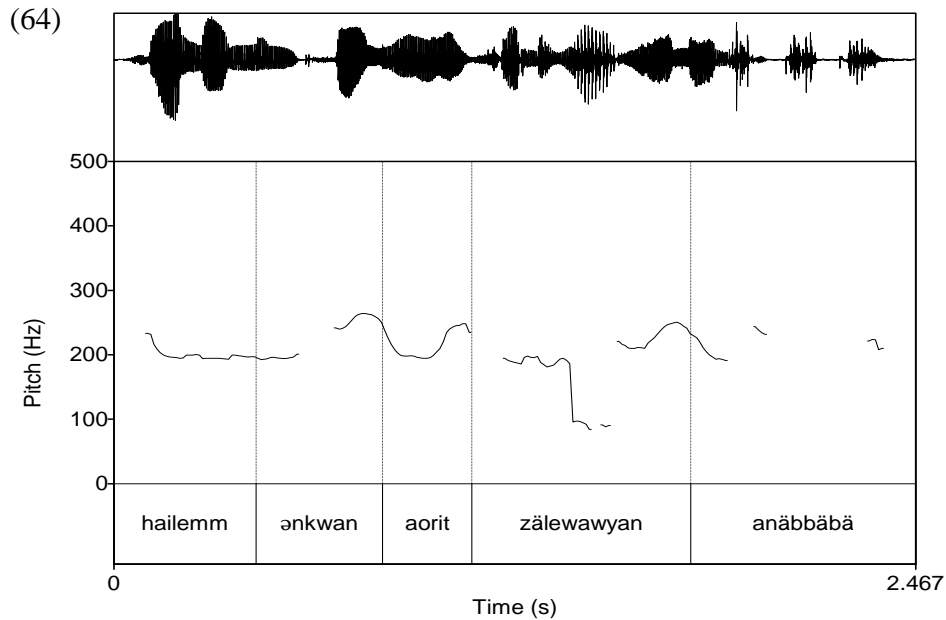
Associating the subject in (61) with the focus particles *-mm + ən^wan* 'even', as in (63), creates a different phrasing in (64): while the two constituents that make up the object retain their P-phrase high boundary tones, the subject does not. Rather, *haile* is phrased together with the following focus particle, which has its own high boundary tone.

(63) haile-mm ən^wan aorit zälewawyan anäbbäb-ä

⁵⁰ Recordings were done with four native speakers of Amharic, three females and one male, who read written materials directly into Praat (Boersma & Weenink 2008), installed on a PC laptop. The pitch tracks presented here are from two of the four speakers, but all four produced the same general pitch contours.

Haile-FOC even book Leviticus read.PER-3MS

'Even Haile read the Book of Leviticus.'



An analysis of this tonal pattern, which also characterizes the other focus particles mentioned in section 3, is beyond the scope of this paper⁵¹; what is important for our purposes is to examine what happens to this phonetic realization of focus in *wh*-questions. As predicted by Tomioka's theory, it is removed: the pitch contour of the standard intervention configuration in (65), given in (66), shows a pitch peak on the *wh*-phrase, as is common in *wh*-in-situ languages (Ladd 1996), and an I-phrase-final high boundary tone typical of questions, but no other boundary tones⁵².

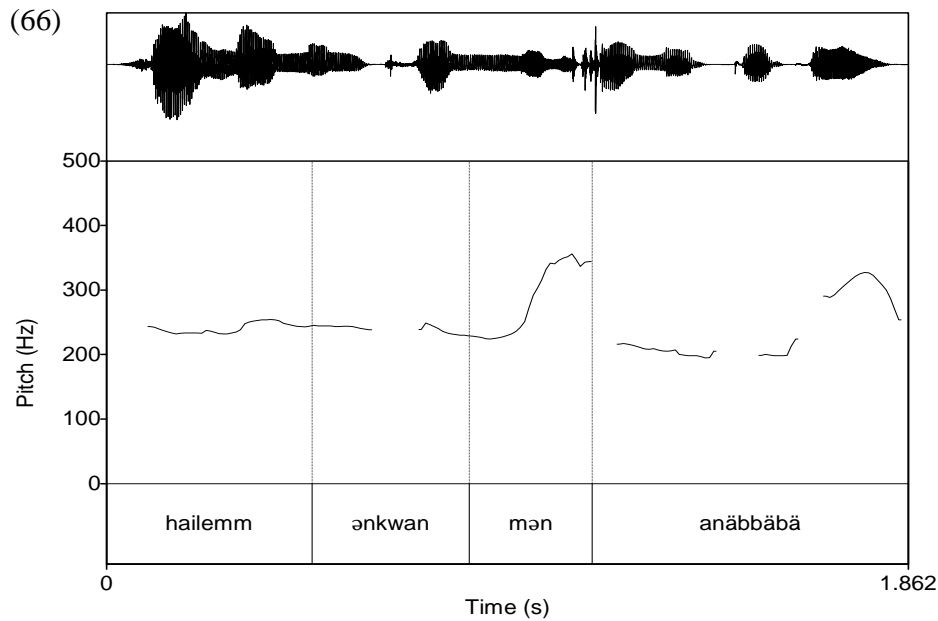
(65) haile-mm ənkw^wən mən anäbbäb-ä?

Haile-FOC even what read.PER-3MS

'What did even Haile read?'

⁵¹ See Li (2002) for description of a similar tonal structure in the related Ethiosemitic language Chaha.

⁵² This pitch contour represents only the standard, non-hanging topic interpretation of the subject. The prosodic features of the latter were described in section 4.2.

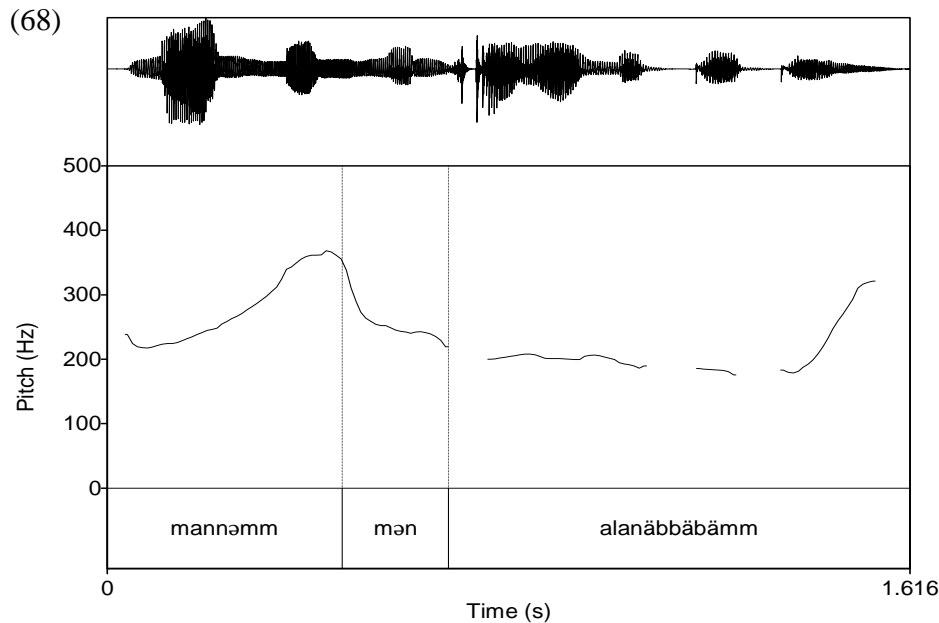


The connection between the fact that focus particles show no phonological correlates of focus in a *wh*-question and the absence of intervention effects in Amharic seems fairly straightforward. Simply put, Amharic allows in situ manipulation of the prosody of interveners, making it possible for them to be interpreted as (part of) the tail, whereas languages like Japanese and Korean require a syntactic operation—scrambling of the *wh*-phrase over the intervener—to derive the appropriate prosodic representation. Note that I leave open the question of whether this in situ manipulation is a default property of the intonational phonology of Amharic; i.e., a type of automatic pre-focal dephrasing, or an option which speakers make use of to accommodate a focused phrase in a *wh*-question. Careful examination of the prosody of *wh*-questions is required to resolve this issue: does all material preceding a *wh*-phrase lose its prosodic constituent status, including expressions which can be links and hence need not be reduced, or is this only true of anti-topic items?

Before moving on to a discussion of the relevant information structural properties of Amharic, it is necessary to address one class of potential interveners which was singled out in section 3, namely, NPIs. These elements did trigger a certain degree of unacceptability when preceding a *wh*-phrase, reflecting the type of intervention effect found in other languages but not elsewhere in Amharic. The difference between NPIs and other potential interveners in Amharic, and hence the cause underlying their divergent behavior in *wh*-questions, I suggest, is the fact that NPIs do not permit in situ modification of their tonal correlates, and therefore cannot function as tails. Thus, when speakers are asked to produce a *wh*-question involving an NPI, as in (67), the latter exhibits an unambiguous H_P boundary tone (cf. (68))⁵³. As noted in section 2, NPIs in other languages are also distinct in constituting the most robust type of intervener; moreover, while differing in its details from the reasoning given for Amharic, the explanation for this finding in Japanese and Korean is similarly phonological.

- (67) ?mannəmm mən al-anäbbäb-ä-mm? (=22a)
 anyone what NEG-read.PER-3MS-NEG
 'What did no one read?'

⁵³ The absence of a pitch peak on the *wh*-phrase in (68) is putatively the type of post-focus reduction also observed following NPIs in Japanese (Ishihara 2007).



Although the phonetic data from Amharic fits in nicely with Tomioka's account of intervention effects, and therefore provides support for the theory, it should obviously be augmented by a formal analysis of the cues to focus induced by focus particles and NPIs and the way in which these cues are altered in certain environments. An additional issue which must be left for future research is the status of those members of the class of interveners which do not seem a priori to be focus-sensitive, such as quantificational phrases. The fact that these expressions do not cause intervention effects in Amharic could stem from their inherent lack of focus correlates, or from the eradication of these correlates before a *wh*-phrase, on a par with focus particles. Similarly, the reason that these elements are not interveners in many languages, and are hence not included in the core set of interveners, may be phonological: they are usually not lexically associated with intonational prominence, and therefore would only create intervention effects if the intonational phonology of the language forced all material preceding a *wh*-phrase to be prominent, as in

Japanese and Korean.

Turning to information structure, recall the finding that *wh*-questions like (69) actually have two possible readings, (a) and (b), the latter roughly meaning that the question *What did he read?* refers exclusively to Haile.

(69) haile bəčča mən anäbbäb-ä?

Haile only what read.PER-3MS

a. 'What did only Haile read?'

b. 'Only speaking of Haile, what did he read?'

While the (a) reading, I assume, is sanctioned by virtue of the prosodic facts described above, allowing the focused phrase to be in the ground, the interpretation in (b) requires additional discussion. I use the declarative in (70) for the purpose of clarity and brief exposition, but the facts remain the same in questions.

(70) haile bəčča ya-n mäs'haf anäbbäb-ä. (=57b)

Haile only that-ACC book read.PER-3MS

'Only speaking of Haile, he read that book.'

In examples like (70), the focus particle *bəčča* takes the hanging topic as its argument, as schematized in (71), rather than the prejacent proposition (e.g., *Haile read that book*), as English *only* does. Thus, *bəčča* here does not signal exhaustification over the proposition, but rather over the address in the hearer's knowledge store where the information contributed by the focus is to be entered.

(71) [[haile]_{TOP}]_{ONLY} he read that book.

The fact that Amharic enables focus particles like *bəčča* to take a topic as their argument provides it with a second way to evade intervention effects. The reasoning behind this is simple: there is no degradedness in such cases because the focused hanging topic is an extra-sentential element, not integrated in the information structure of the question⁵⁴. No attempt to accommodate the focused phrase in the ground portion of the question is made, and hence no clash between its information structural properties and the information structural articulation of the question arises. Other languages seem to lack this option; they ban this order of topic marking and focus particle and/or the interpretation which it derives in Amharic (or the combination of topic marking and focus particles altogether, as in Tsez; Polinsky & Potsdam 2001)⁵⁵. An additional noteworthy aspect of the Amharic data, which similarly sets it apart from other languages, is the fact that although possible⁵⁶, overt morphosyntactic marking of the subject is not necessary to obtain the topic interpretation.

A final issue which must be addressed within Tomioka's framework is alternative questions, both from a general, theoretical point of view and specifically in Amharic. As noted in section 3, alternative questions were subsumed under Beck's (2006)

⁵⁴ The structural analysis is able to capture the absence of intervention effects with the hanging topic interpretation, given the assumption that the intervener is indeed above C^0 in such cases. However, we have abandoned this analysis altogether at this stage.

⁵⁵ Japanese does allow the combination of *dake* 'only' and the topic marker *-wa*, in that order. While there seems to be some interpretational affinity with the combination of *bəčča* and the hanging topic in Amharic, the fact that *dake-wa* is not permissible in questions (Hara 2006, 2007) suggests that the two are not the same.

⁵⁶ For example, with the marker *-ss*:

(i) haile-ss bəčča ya-n mäs'haf anäbbäb-ä.
 Haile-TOP only that-ACC book read.PER-3MS
 'Only as for Haile, he read that book.'

Demeke and Meyer (2007) argue that *-ss* marks contrastive topics, while sentence-initial position in Amharic indicates non-contrastive topics.

structural analysis of intervention by Beck and Kim (2006), who contend that the effect is basically the same as in *wh*-questions; in the latter case the problem involves a *wh*-phrase, while in alternative questions it is the disjunctive phrase which ends up lacking the alternatives required for interpretation. The result is that examples like (72) only have a yes/no reading, which can be answered with (b), but not (a).

(72) Does only John like Mary or Susan? (=20)

a. #Mary. [*AltQ]

b. Yes. [✓Yes/NoQ]

Although Tomioka did not extend his theory to alternative questions, it can easily account for the effect found in (72). In an alternative question, the disjunct is the focus and the remainder is the ground, but interveners are not easily accommodated in the ground, at least when preceding the focus. They cannot be links because of their anti-topical status, while their tendency to attract intonational prominence interferes with their serving as tails. The polar reading of the question is nonetheless retained in the presence of an intervener because yes/no questions have a different information structure. This information structure is arguably very similar to that of a declarative, and in any case does not have a fixed focus, so that the focus-ground partition is much more amenable to speaker modification and hearer accommodation than in alternative questions (see Hedberg 2007). Interestingly, we have come to the conclusion that alternative questions in a language like English parallel *wh*-questions in *wh*-in-situ languages like Japanese and Korean, which accords with the assumption that the articulation of information structure and many associated properties are universal in nature. Furthermore, one can remove the intervention effect from

alternative questions by placing the disjunctive phrase in a phonologically reduced position which naturally houses the ground; for example, in the non-clefted part of an it-cleft (73) (see Vallduví 1990 for similar declarative examples, where the associate of *only* is claimed not to constitute the focus)⁵⁷. This is the equivalent of scrambling the *wh*-phrase to eliminate intervention effects in *wh*-in-situ languages⁵⁸.

(73) Is it Mary or Susan who only John likes? (Beck & Kim 2006:167)

a. Mary. [✓AltQ]

b. Yes. [✓Yes/NoQ]

Unsurprisingly, Amharic allows interveners to precede the disjunctive phrase in alternative questions, akin to the findings from *wh*-questions, and the alternative question reading is not excluded. Moreover, the same two interpretations observed in *wh*-questions and declaratives, linked to the status of the subject, are also found in this case, as noted in fn. 44.

(74) haile bəčča šay wäyæss buna t'ät'-a? (=21)

Haile only tea or coffee drink.PER-3MS

'Did only Haile drink tea or coffee?' /

'Only speaking of Haile, did he drink tea or coffee?'

⁵⁷ In fact, intervention effects can be greatly ameliorated in alternative questions by setting up a context which renders the focused phrase part of the background information, as in (i); (ii) is then acceptable as an alternative question.

(i) Context: The graduate students in linguistics took two preliminary exams, in syntax and phonology, last week. The results were surprising: there was one exam that all the students, including John, passed, but no one except John passed the other.

(ii) Did only John pass syntax or phonology?

Assuming that intervention in alternative questions reflects the same phenomenon as in *wh*-questions, as Beck and Kim (2006) do, this data constitutes decisive evidence against structural approaches. See Eilam (in prep.) for further discussion.

⁵⁸ Of course, for Beck and Kim (2006) and other structural explanations, what is crucial in (73) is the fact that *only* does not c-command the disjunct.

a. šay. [✓AltQ]

tea

b. awo. [✓Yes/NoQ]

yes

The explanation for the exceptionality of Amharic in this case is the same as in *wh*-questions. Interveners can be tails even when preceding the disjunctive phrase since they do not carry the phonological correlates of focus, and when they are interpreted as hanging topics they do not create intervention effects because they do not need to be incorporated in the information structure of the alternative question.

6. Conclusions and remaining issues

This paper took as its starting point the novel observation that intervention effects are nonexistent (or nearly so) in Amharic, making it unique in the fairly broad typological picture of the phenomenon currently available. Assuming that this peculiarity follows from some property of Amharic grammar, and is not a primitive resistant to explanation, I surveyed the two existing approaches to intervention effects in terms of their ability to explain the Amharic data. I first attempted to apply a structural theory, focusing on Beck's (2006) semantic analysis, in which hierarchical structure plays a crucial role. Under such a theory, Amharic necessarily has an exceptional clausal structure, which it hides under a linear string that is identical to that of other SOV languages which do exhibit intervention effects. While this approach seems to have some merit, it also has numerous problems, in terms of its ability to explain the entire range of existing data, both in Amharic and in other

languages, in a satisfactory manner. In addition, the discussion on alternative questions briefly alluded to what appears to be a critical datum against structural approaches to intervention; namely, the fact that they are context-sensitive in a way not expected of truly structural phenomena.

The alternative non-structural approach of Tomioka (2007a,b) was consequently considered, where intervention is viewed as a violation of information structural constraints, interacting with prosody and linear order, on *wh*-questions. Beyond its advantages over structural theories vis-à-vis languages which have intervention effects, the approach was found to elegantly correlate with independent aspects of Amharic prosody and information structure, correctly predicting that the language should pattern differently. Furthermore, Tomioka's approach was applied for the first time to alternative questions, with seemingly positive results. The final outcome was a plausible non-structural explanation for the absence of intervention effects in Amharic, as well as corroboration of this type of explanation for intervention effects in general.

The analysis proposed here falls in line with a growing body of work establishing that intervention effects are not structural in nature. Engdahl (2006), for example, shows that the degradedness of French *in situ* questions with negation, often taken to reflect an intervention effect (e.g., Pesetsky 2000), is reducible to conditions on the use of negative questions; accordingly, setting up a discourse as in (75) renders the question in B acceptable.

(75) A: Mon fils ne mange pas de POISSON.

my son NE eats NEG fish

'My son doesn't eat fish.'

B: Et ta fille, elle ne mange pas QUOI?

and your daughter she NE eats NEG what

'What about your daughter? What doesn't she eat?' (Engdahl 2006:100)

This study should also be viewed in the broader context of work attempting to discriminate between phenomena that are truly structural and those that are not (e.g., Kroch 1989 on long movement of nonreferential *wh*-phrases and negative islands). Since native speaker judgments are an indirect reflex of the grammar at best, and deviance could stem from any number of linguistic or extra-linguistic reasons⁵⁹, one must proceed with caution in determining whether degradedness indicates ungrammaticality, or rather unacceptability, susceptible to the influence of context and other non-structural factors. Having concluded in favor of a non-structural approach, this study also has implications for syntactic theories which use intervention effects as a structural diagnostic, such as Richards (2001) and Simpson and Bhattacharya (2003).

Of course, this is not to say that there exist no intervention effects with a structural basis. However, this class of phenomena, usually known as minimality effects (Rizzi 1990), has characteristics which clearly distinguish it from the effects under consideration in this paper. Indeed, although Beck and Kim (2006) propose a structural analysis for the latter which is entirely different from the one promoted here, they also contend that the two phenomena should be treated separately (pace, for example, Shields 2008). As for other minimality effects which seem to involve

⁵⁹ Cf. Chomsky (1977:4): "We may make an intuitive judgment that some linguistic expression is odd or deviant. But we cannot in general know, pretheoretically, whether this deviance is a matter of syntax, semantics, pragmatics, belief, memory limitations, style, etc."

focus but are not necessarily associated with questions, such as multiple focus constructions and NPI licensing (see Beck 2006, Guerzoni 2007), whether or not they ought to be subsumed under the current framework is an empirical question; at this point there is no reason to rule out an information structural analysis.

Much work on the approach first outlined in Tomioka (2007a,b) and expanded here remains to be done. Besides further studies on various properties of Amharic, including the details of its intonational phonology and the behavior of the entire range of interveners, future research could continue the comparison between structural and non-structural approaches to intervention by examining cases where c-command and linear precedence do not line up. If examples of this sort are constructed so as to be relevant to the questions at issue, the two types of approaches could easily be tested, since they yield opposing predictions. For instance, if intervention effects are found when an intervener is in a position linearly preceding but not c-commanding a *wh*-phrase, this is obviously a problem for the class of structural approaches but could be accounted for by a non-structural theory.

I conclude with two observations which will hopefully serve as the basis for further research. First, recall that alternative questions generally give rise to intervention effects when an intervener appears before the disjunctive phrase, manifested in the lack of an alternative question reading. I claimed that this stems from a clash between the need to background the non-disjunctive portion of the question and the inherent properties of interveners, as well as their linear position. However, the patterning of alternative questions appears *prima facie* baffling in comparison with another class of questions, *why*-questions. As noted in fn. 14,

intervention configurations with *why* in Japanese and Korean show much weaker intervention effects than those involving other *wh*-phrases, if at all (Ko 2005, Tomioka 2008a). In order to account for this within his general framework, Tomioka (2008a) appeals to the fact that *why*-questions presuppose the proposition that corresponds to the non-*wh* portion of the sentence, which includes the intervener, as exemplified in (76):

(76) Why did only Sue leave early? Presupposes: Only Sue left early.

The intervener is necessarily in the ground, no mismatch with the information structure of the question arises, and therefore speakers judge such questions as significantly more acceptable than intervention configurations with argument *wh*-phrases.

If this line of reasoning is correct, one might expect alternative questions to behave on a par with *why*-questions. Alternative questions are claimed to trigger a presupposition, which would include an intervener if present; specifically, that one (and only one) of the alternatives is true (Karttunen 1977), as illustrated in (77).

(77) Does only John like Mary or Susan? Presupposes: Only John likes Mary or only John likes Susan, but not both.

Why then do the two types of questions differ in terms of acceptability judgments when interveners are involved? I suggest that the disparity derives from the different implications which different types of questions have, affecting the information status of the intervener. Questions involving *wh*-arguments—*who* and *what*—have an existential *implicature*, whose content is not backgrounded in information structural terms (cf. Geurts 1999 and Ginzburg 2003); likewise for standard alternative

questions, pace the received view mentioned above. *Wh*-questions with a *wh*-adjunct (*when*, *how* and *why*) and clefted alternative questions, however, carry an existential *presupposition*, in which the intervener is backgrounded, ameliorating or eliminating the intervention effect. This correlation between acceptability judgments and pragmatic implications, taken up in detail in Eilam (in prep.), is another observation which structural accounts would be hard-pressed, if not unable, to explain.

A second issue worthy of further examination concerns the information structure status of various quantified phrases, some of which tend to function crosslinguistically as interveners. While it is possible that some or all of what was said in this paper, which focused on the core set of interveners—focus operators and NPIs—is applicable to quantificational NPs, it is also conceivable that the latter follow the same pattern of exceptionality in Amharic for another reason. One speculative idea, inspired by Gundel (1999, in Gundel and Fretheim 2004) and Portner and Yabushita (1998), is that this class of elements can be links in Amharic, unlike other languages, because it is the discourse referent representing the domain of quantification, rather than the entire quantified phrase, which actually serves as the link in terms of information structure. Moreover, Amharic would allow this even in cases where the domain is not overtly expressed, but must be constructed based on the context. Thus, the equivalent of (78) in Amharic could be construed as a proposition about a pre-established group of people, and the discourse referent representing the group would be the link.

(78) Every man left.

If true, intervention effects would not be expected with such elements because they fit into the information structure of *wh*-questions and alternative questions⁶⁰.

Appendix: Remaining potential interveners

- (79) a. haile-mm mən/yätəññaw-ən mäs'haf anäbbäb-ä? (also)

Haile-also what/which-ACC book read.PER-3MS

- b. mən/yätəññaw-ən mäs'haf haile-mm anäbbäb-ä?

'What/which book did Haile also read?'

- (80) a. haile-mm lämən ya-n mäs'haf anäbbäb-ä? (also)

Haile-also why that-ACC book read.PER-3MS

- b. lämən haile-mm ya-n mäs'haf anäbbäb-ä?

'Why did Haile also read that book?'

- (81) a. haile mən/yätəññaw-ən mäs'haf al-anäbbäb-ä-mm? (negation)

Haile what/which-ACC book NEG-read.PER-3MS-NEG

- b. mən/yätəññaw-ən mäs'haf haile al-anäbbäb-ä-mm?

'What/which book didn't Haile read?'

- (82) a. haile lämən ya-n mäs'haf al-anäbbäb-ä-mm? (negation)

Haile why that-ACC book NEG-read.PER-3MS-NEG

- b. lämən haile ya-n mäs'haf al-anäbbäb-ä-mm?

'Why didn't Haile read that book?'

- (83) a. haile zäwätər mən/yätəññaw-ən mäs'het yə-gäz-all? (often)

⁶⁰ For this explanation to be valid, one would obviously have to show that in a language like Japanese this option is not available, but Portner and Yabushita (1998) argue that it is, at least for quantified NPs with an explicit domain of quantification. Also, it could in principle be applicable to NPIs.

Haile often what/which-ACC magazine 3MS-buy.IMP-AUX.3MS

b. mən/yätəññaw-ən mäs'het haile zäwätər yə-gäz-all?

'What/which magazine does Haile often buy?'

(84) a. haile zäwätər lämən ya-n mäs'het yə-gäz-all? (often)

Haile often why that-ACC magazine 3MS-buy.IMP-AUX.3MS

b. lämən haile zäwätər ya-n mäs'het yə-gäz-all?

'Why does Haile often buy that magazine?'

(85) a. haile hulgize mən/yätəññaw-ən mäs'het yə-gäz-all? (always)

Haile always what/which-ACC magazine 3MS-buy.IMP-AUX.3MS

b. mən/yätəññaw-ən mäs'het haile hulgize yə-gäz-all?

'What/which magazine does Haile always buy?'

(86) a. haile hulgize lämən ya-n mäs'het yə-gäz-all? (always)

Haile always why that-ACC magazine 3MS-buy.IMP-AUX.3MS

b. lämən haile hulgize ya-n mäs'het yə-gäz-all?

'Why does Haile always buy that magazine?'

(87) a. hullu tämari mən/yätəññaw-ən mäs'haf anäbbäb-ä? (universal)

every student what/which-ACC book read.PER-3MS

b. mən/yätəññaw-ən mäs'haf hullu tämari anäbbäb-ä?

'What/which book did every student read?'

(88) a. hullu tämari lämən ya-n mäs'haf anäbbäb-ä? (universal)

every student why that-ACC book read.PER-3MS

b. lämən hullu tämari ya-n mäs'haf anäbbäb-ä?

'Why did every student read that book?'

- (89) a. säw mən/yätəññaw-ən mäs'haf anäbbäb-ä? (indefinite)

someone what/which-ACC book read.PER-3MS

- b. mən/yätəññaw-ən mäs'haf säw anäbbäb-ä?

'What/which book did someone read?'

- (90) a. säw lämən ya-n mäs'haf anäbbäb-ä? (indefinite)

someone why that-ACC book read.PER-3MS

- b. lämən säw ya-n mäs'haf anäbbäb-ä?

'Why did someone read that book?'

- (91) a. abzañaw tämari-očč mən/yätəññaw-ən mäs'haf anäbbäb-u? (most)

most student-PL what/which-ACC book read.PER-3MPL

- b. mən/yätəññaw-ən mäs'haf abzañaw tämari-očč anäbbäb-u?

'What/which book did most of the students read?'

- (92) a. abzañaw tämari-očč lämən ya-n mäs'haf anäbbäb-u? (most)

most student-PL why that-ACC book read.PER-3MPL

- b. lämən abzañaw tämari-očč ya-n mäs'haf anäbbäb-u?

'Why did most of the students read that book?'

- (93) a. yätawässänu tämari-očč mən/yätəññaw-ən mäs'haf anäbbäb-u? (few)

few student-PL what/which-ACC book read.PER-3MPL

- b. mən/yätəññaw-ən mäs'haf yätawässänu tämari-očč anäbbäb-u?

'What/which book did few students read?'

- (94) a. yätawässänu tämari-očč lämən ya-n mäs'haf anäbbäb-u? (few)

few student-PL why that-ACC book read.PER-3MPL

b. lāmən yätāwässānu tāmari-očč ya-n mäs'haf anäbbäb-u?

'Why did few students read that book?'

(95) a. kä-amst yannəsu tāmari-očč mən/yätəññaw-ən mäs'haf anäbbäb-u? (*less than*)

from-five less.than student-PL what/which-ACC book read.PER-3MPL

b. mən/yätəññaw-ən mäs'haf kä-amst yannəsu tāmari-očč anäbbäb-u?

'What/which book did less than five students read?'

(96) a. kä-amst yannəsu tāmari-očč lāmən ya-n mäs'haf anäbbäb-u? (*less than*)

from-five less.than student-PL why that-ACC book read.PER-3MPL

b. lāmən kä-amst yannəsu tāmari-očč ya-n mäs'haf anäbbäb-u?

'Why did less than five students read that book?'

(97) a. əskä amst tāmari-očč mən/yätəññaw-ən mäs'haf anäbbäb-u? (*at most*)

at.most five student-PL what/which-ACC book read.PER-3MPL

b. mən/yätəññaw-ən mäs'haf əskä amst tāmari-očč anäbbäb-u?

'What/which book did at most five students read?'

(98) a. əskä amst tāmari-očč lāmən ya-n mäs'haf anäbbäb-u? (*at most*)

at.most five student-PL why that-ACC book read.PER-3MPL

b. lāmən əskä amst tāmari-očč ya-n mäs'haf anäbbäb-u?

'Why did at most five students read that book?'

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