The Information Structural Basis of Focus Intervention Effects

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Most of the early research into intervention effects in the sense of Beck (1996), where a focusing element in a question influences its acceptability or interpretation, reduced this phenomenon to syntactic (Pesetsky 2000) or semantic factors (Beck 2006). This paper argues against such analyses, and instead endorses the claim that intervention effects are information structural in nature, deriving from faulty realization of the information structure of questions (Tomioka 2007a,b). Evidence for this approach is of three types. First, we observe that certain contexts ameliorate or entirely eliminate intervention effects; as predicted by the approach adopted here, these contexts affect the information structure of the question, but not its syntax or semantics. Second, the information structural approach is able to explain differences in the status of intervention effects created by different types of questions, by connecting these differences to independently motivated pragmatic distinctions. Third, the almost complete absence of intervention effects in one language—Amharic—follows from the same information structural and prosodic factors attested in specific contexts and structures in other languages. These findings open a novel testing ground for theories of information structure, its representation and role in the grammar, and its interfaces with other modules of the grammar.

Keywords: pragmatics, semantics, information structure, prosody, *wh*-questions, alternative questions, focus, intervention effects

1. Introduction

Intervention in the sense intended here refers to a configuration in which a focused phrase precedes a *wh*-phrase in a *wh*-question, or a disjunctive phrase in an alternative question.1 In the case of *wh*-questions, such a configuration often results in judgments of degradedness across a wide range of unrelated languages. This is illustrated in (1a) for a focused *only*-phrase in Korean, and in (2a) for a negative polarity item (NPI) in Japanese. (1b) and (2b) show that these questions become acceptable if the *wh*-phrase is scrambled over the intervener.

(1) 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

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1 Although the literature often describes the elements causing intervention as focusing and/or quantificational, I argue here that only the former is a defining property of these elements. See section 2 for further discussion.
'Who did only Minsu see?' (Beck 2006:3)

(2) a. ?*daremo nani-o yom-ana-katta-no?
   anyone what-ACC read-NEG-PAST-Q
b. nani-o daremo yom-ana-katta-no?
   what-ACC anyone read-NEG-PAST-Q

'That no one read?'

Alternative questions, in which two alternatives are mentioned in a question in the form of a disjunction, also exhibit intervention effects; unlike wh-questions, however, the result is the absence of an alternative question reading for the sentence, rather than degradedness (Beck & Kim 2006). Thus, in (3), the intervener only preceding a disjunctive phrase in English leaves the question with just a yes/no interpretation, allowing it to be answered as in (b), but not (a).

(3) Does only John like Mary or Susan?
   a. #Mary. [*AltQ]
   b. Yes. [✓Yes/NoQ]

Although these patterns have been discussed at length in the theoretical literature, the issue of what underlies them has yet to be resolved. The fact that a change in word order eliminates intervention effects does not entail that they are syntactic in nature, nor does the loss of an interpretation necessarily mean that we are dealing with a semantic effect. This is particularly true of the data illustrated in (1)-(3), since the phenomenon of focus unquestionably involves not only the syntax and semantics, but also the prosody and information structure (see Beaver and Clark 2008 for detailed discussion). The questions this case raises, regarding where to locate deviance, have been around since the earliest work in generative grammar:

"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.” (Chomsky 1977:4)

Nevertheless, there are two facts all analyses of intervention agree on and must therefore account for, and it is important to present these before moving on to the ways in which existing approaches differ. First, as noted in Beck (2006), intervention effects seem to be universal, occurring in languages as diverse as Asante Twi, Bangla, English, French, Japanese, Mandarin Chinese, Passamaquoddy, Thai, and Turkish (see also Kim 2002, Simpson and Bhattacharya 2003, Beck 2006, and Kobele and Torrence 2006). Thus, they clearly reflect a basic property of the grammar, and must be explained with this in mind. Second, though the set of expressions which give rise to intervention effects differs to some extent from language to language, there is a core group of interveners

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3 We will see in section 3 that Amharic generally lacks intervention effects. However, their absence stems from the same factors which make intervention effects otherwise so pervasive; moreover, even Amharic seems to exhibit a restricted set of such effects.
which are the most crosslinguistically widespread, and which produce the most robust effects across speakers and languages. These interveners are identified by Kim (2002) and Beck (2006) as the focusing operators corresponding to English *only*, *even*, and *also*, as well as NPIs. Interestingly, these expressions are among those which Beaver and Clark (2008) classify as conventionally associating with focus; that is, their focus sensitivity is part of their lexical meaning, and they must have a focused—i.e. prosodically prominent—constituent in their scope.\(^4\) Interveners which are crosslinguistically less stable, such as negation and quantificational adverbs, are not conventionally focus-sensitive, and thus do not require overt phonological material in their scope with which they can associate. I return to this distinction in section 2.

Taking these observations into consideration, and the fact that intervention effects disappear when the *wh*-phrase precedes the intervener, existing analyses have attempted to reduce the effects to independently motivated properties of the grammar. A majority of these analyses have been syntactic, typically arguing that interveners interfere with the relation between \(C^0\) and the *wh*-phrase (Beck 1996, Hagstrom 1998, 2007, Pesetsky 2000, a.o.). Given theoretical and empirical problems with purely syntactic accounts, recent work has suggested an alternative explanation, whereby it is the process of semantic interpretation which breaks down in intervention configurations (Beck 2006). Although these two classes of approaches differ in many ways, they share the assumption that the relevant configurations are to be identified in the hierarchical structure, since this representation is used by both the syntax and the semantics. A major departure from these approaches is proposed in Tomioka (2007a,b), according to whom intervention effects result from the violation of information structural constraints on *wh*-questions. Roughly, the idea is that interveners appear in positions reserved for topical elements, but they cannot serve as such. Interveners can nonetheless be accommodated in *wh*-questions by placing the *wh*-phrase before the intervener, because this changes the information structure of the question, which is reflected in its prosody.

This paper challenges the prevailing syntactic and semantic class of analyses using several types of data, which include the components associated with intervention effects—a focused phrase c-commanding a *wh*-phrase or disjunctive phrase—and yet are judged as perfectly grammatical, or nearly so. Since their syntactic structure and semantics are either identical to corresponding structures which do exhibit intervention effects, or different in irrelevant ways, it is unclear how a syntactic or semantic analysis could explain the data. However, these examples are expected under an information structural approach, because it is precisely their information structure which distinguishes them from degraded sentences. Furthermore, in cases where a syntactic or semantic analysis could also claim to predict the absence of intervention effects, we will see that the information structural approach is nonetheless preferable. Unlike other analyses, this approach manages to connect the findings to independently supported claims regarding the pragmatic status of the examples in question, establishing a coherent and comprehensive explanation for a wide range of data.

Beyond providing an explanation for a specific phenomenon, the information structural approach advocated here has considerable implications of a general theoretical nature. The discovery that information structure may impose restrictions on word order,

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\(^4\) NPIs are known to be focus-sensitive (Tomioka 2007b); at least in certain languages they may be obligatorily dependent on focus if they consist of an *even*-type element and indefinite (see Lahiri 1998).
even if indirectly, introduces the possibility that other phenomena follow from similar considerations. Examples which come to mind are the ungrammaticality of clefted multiple *wh*-questions in certain languages (Lambrecht 1994), and the infelicity of focusing the subject in specificational copular clauses (Mikkelsen 2009). The information structural analysis of focus intervention also raises important questions regarding the relations between the information structure, syntax, and prosody; one particular issue to be addressed below concerns the assumption that the prosody simply reflects the information structure. Under an alternative view, there are some cases in which the prosody can dictate the information structure, and this may correlate with the extent to which the prosody is rigid in a given form. Accordingly, it may not be a coincidence that intervention effects occur in the same environments—*wh*-questions in *wh*-in-situ languages and alternative questions—in which prosodic prominence is fixed on the *wh*-phrase and disjunction, respectively. In addition to addressing the important role played by prosody in this phenomenon, the discussion will also take up the status of the various meaning components of questions. A novel theory of how to label and classify these components in different types of questions will be put forward, tying in to the way in which these questions pattern with respect to intervention effects.

The structure of the paper is as follows. Section 2 reviews existing analyses of intervention effects—syntactic, semantic, and information structural—pointing out how their predictions differ regarding when intervention effects will appear and when they will not. Section 3 presents the crucial data, which allows us to tease apart the competing analyses. In these examples, which include different types of *wh*-questions and alternative questions from a range of languages, the syntax and semantics are held constant, so to speak, while the information structure is manipulated in various ways. The fact that these changes in the information structure produce changes in judgments indicates that it is the relevant component underlying the judgments. In section 4 I discuss the general theoretical implications of these findings, and section 5 concludes the paper.

2. Existing analyses
2.1 Syntactic and semantic theories
In the first major attempt to account for intervention effects, Beck (1996) argued that they reflect constraints on movement at LF: interveners block the covert movement of in situ *wh*-phrases, but not their overt movement. This approach is viable as long as it is assumed that in situ *wh*-phrases necessarily undergo movement at LF (Huang 1982). However, this assumption has been abandoned in more recent work, and a number of mechanisms for interpreting a *wh*-phrase without movement have been proposed, including unselective binding (Pesetsky 1987, Tsai 1994, Cole & Hermon 1998) and quantification over choice functions (Reinhart 1998). Moreover, even if in situ *wh*-phrases did move, the claim that LF movement could be more constrained than overt movement is questionable. Theoretical considerations and empirical evidence suggest that LF movement is less restricted than overt movement (Huang 1982, Demirdache 1991), or that the same restrictions hold of both (Chomsky 1993, the Uniformity Condition of Hornstein, Nunes and Grohmann 2005). A final problem with this analysis, as well as many other theories, is that it does not provide a clear definition for the set of interveners.
Pesetsky (2000) provides an alternative syntactic analysis, within a framework which assumes three types of movement: overt phrasal movement, covert phrasal movement, and feature movement. Intervention effects are claimed to indicate feature movement, as opposed to covert phrasal movement. The former separates the restriction on wh-quantification from the quantifier, creating an intervention effect when a scope-bearing element appears between the two. Since Pesetsky links each type of movement to a number of properties, his theory makes clear predictions regarding phenomena that should be observed when intervention effects occur and when they do not. These are summarized in table 1.

<table>
<thead>
<tr>
<th>Feature Movement</th>
<th>Covert Phrasal Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doesn't license Antecedent</td>
<td>Licenses ACD</td>
</tr>
<tr>
<td>Contained Deletion (ACD)</td>
<td></td>
</tr>
<tr>
<td>No Superiority effects</td>
<td>Superiority effects</td>
</tr>
<tr>
<td>Intervention effects</td>
<td>No intervention effects</td>
</tr>
<tr>
<td>No Subjacency effects</td>
<td>Subjacency effects</td>
</tr>
<tr>
<td>Obeys Attract Closest</td>
<td>Obeys Attract Closest</td>
</tr>
</tbody>
</table>

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

Beyond conceptual difficulties pertaining specifically to this analysis, such as the use of the notion of covert phrasal movement from the pre-Minimalist era (see Mathieu 2002, Grohmann 2006), most of the problems with Pesetsky's theory are common to all structural approaches, and will therefore be addressed below.

Other syntactic accounts appeal to a variety of factors, including blocking of the Agree relation between \(C^0\) and the wh-phrase by the intervener, because they supposedly have the same relevant features (Kim 2005), and a linear constraint banning crossing A'-dependencies (Tanaka 1997, 2003). What they all share is the idea that the wh-phrase, or a feature associated with it, is above the intervener at some point in the derivation.

On the semantic side, Beck (2006) proposes an analysis which does not hinge on the assumption that the wh-phrase moves; as she points out, and as noted above, wh-phrases can be interpreted in situ. Rather, what is crucial for Beck is the semantic interpretation of the wh-phrase, which is short-circuited due to the semantic content of the intervener. The account works as follows. Interveners are the set of operators which can have focus affected readings, that is, those that have the focus operator ~ in the sense of Rooth (1992). In the general case, when the operator ~ applies to its complement, it resets the focus semantic value of the c-commanding node to its ordinary semantic value. Wh-phrases are similar to focused phrases in that they 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 ~ 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, as Beck does, 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.

Turning to alternative questions, which lose their yes/no reading when an intervener
precedes the disjunction, Beck and Kim (2006) extend Beck's (2006) semantic account. The logic is the same as in the case of wh-questions: the alternatives introduced by the disjunctive phrase need to be evaluated by the question operator, but the ~ operator associated with the intervener gets in the way. The yes/no reading is not affected because it does not involve alternatives to begin with.

On the one hand, Beck's approach has the advantage that it uniquely defines the set of interveners, a point which was often overlooked in earlier accounts. On the other hand, like the syntactic theories described above, hierarchical structure continues to play an essential role, since it is the relevant representation for interpretation. This is evident in the generalization posited by Beck whereby "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 we will discover below, this reliance on strict hierarchical relations is a drawback, because the latter seem to be orthogonal to the presence vs. absence of intervention effects in a variety of cases.

2.2 An information structural approach
A general critique of syntactic and semantic approaches, applicable to Beck (2006) as well as the other theories described above, is given in Tomioka (2007a,b). The critique is grounded in four observations which pose a problem for approaches 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: in Japanese and Korean, 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 both 'all (the) NP'), while Japanese nominative-marked subjects (as opposed to topic-marked subjects) unexpectedly constitute interveners; (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. All four observations can be satisfactorily explained, Tomioka argues, under an alternative, information structural analysis.

According to Tomioka, intervention effects reflect a mismatch between two things: certain properties of interveners which are relevant to information structure, on the one hand, and the information structure of wh-questions on the other. 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 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 position, 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 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: it is the counterpart of the link and lacks intonational prominence. I illustrate this partition with the English example from Vallduví (1990) in (4), 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'.

(4) [L. The boss] [R. HATES] broccoli. (Valduví 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 (5):

(5) […A… [Wh] …B…]  
      LINK  FOCUS  TAIL

Given such an information structural articulation, all non-wh-material must occupy the ground; however, an intervener can be neither a link nor (part of) the tail. First, it cannot serve as a link because of its inherent semantic properties. Rather than explaining this for each category of interveners separately, as Tomioka does, I propose a semantic generalization which applies to many interveners, if not all: they are expressions which do not refer to specific individuals. The inability of the latter to function as topics is well established in the literature (Reinhart 1981, Lambrecht 1994, a.o.), and is also reflected in the morphology of Japanese and Korean, where the class of interveners cannot be topic-marked, and are hence dubbed 'anti-topic items' (ATIs) by Tomioka (e.g. Korean *amuto-nun ‘anyone-top’). Regarding the aforementioned items which appear semantically similar but do not constitute interveners, such as Japanese subete-no NP-wa ‘all (the) NP-top’, two potential explanations suggest themselves. On the one hand, it is possible that their semantics is in fact different from that of interveners in a relevant way. On the other hand, perhaps the semantics of these expressions is the same, but it is the morphosyntactic, language-specific encoding of (anti-)topicality which determines if they constitute interveners. In Japanese and Korean, these expressions are compatible with topic marking, making them innocuous in intervention configurations.

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 in Japanese and Korean. Since this constraint on phonological reduction is non-violable, scrambling of the wh-phrase above the intervener is needed to derive an appropriate prosodic configuration. This places the intervener in the phonologically reduced domain which follows foci, including wh-phrases, allowing the intervener to function as the tail (cf. (6)). Thus, unlike their unsuitability as links, this problem with interveners can be resolved.

(6) [[Wh], …Int… t, …B…]  
      FOCUS  TAIL

Tomioka seems to assume that in Japanese and Korean, the linear position of interveners governs whether or not they can be tails, rather than their lexical properties.

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

6 The movement illustrated in (6) does not have to be driven by the syntax, and hence avoids the "look ahead" problem. One possibility is that the syntax can blindly produce multiple copies, which are evaluated later by other modules (see Richards 2006).
While linear position may play a role in certain languages, I suggest a broader generalization regarding compatibility with tailhood, appealing to the type of focus sensitivity associated with a potential intervener. The class of crosslinguistically robust interveners—only, even, also, and NPIs—consists of items whose association with focus is lexically encoded, and which therefore require a prosodically marked associate in their scope (Beaver & Clark 2008). As a result, these items are incompatible with tailhood by definition, and unavoidably create intervention effects. At least in Japanese and Korean, NPIs are further singled out as exhibiting the greatest degree of unacceptability. As Tomioka argues, this follows from the existence of phonological restrictions on their licensing. Because it is focused, a wh-phrase in Japanese and Korean 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 that includes their licenser.

Other potential interveners do not have a mandatory dependency on a prosodically prominent element; they exhibit either free association with focus (quantificational adverbs like always and often, and quantificational determiners like most and few) or quasi-association with focus (negation). This may explain the two kinds of variation which are reported in the literature regarding these items: variation between speakers within a given language (Tomioka 2007b), and variation between languages for a specific intervener (Beck 2006). The former could be a function of whether or not the speaker attempts to associate the intervener with an element preceding the wh-phrase. Since data on intervention effects has thus far been gathered through informal means, with no control of the context or the prosody intended for the sentence, such differences between speakers would not be surprising. Furthermore, this variation might be misconstrued as reflecting differences between non-core interveners across speakers, when no such consistent differences exist. Variation between languages regarding the status of an item as an intervener derives from idiosyncratic features of the focus system of each language. One kind of idiosyncrasy, relating to the positions and associates licit for a given focus particle, is found in the examples provided below. It is also possible that supposedly equivalent items in different languages belong to separate classes in terms of focus sensitivity. The fact that these items are translated as corresponding to one another does not mean that their lexical properties are truly the same.

A final type of variation, noted by Tomioka as a problem for syntactic and semantic approaches, concerns the position of the intervener: matrix subjects vs. embedded subjects and non-subjects. The improved status of sentences involving the latter as interveners can also be linked to properties of information structure. Although there remain questions about how to implement this, 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

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7 Expressions with lexically encoded focus sensitivity are also characterized as having an information structural function—to comment on the question under discussion—whereas other types of focus sensitive items relate to the world outside the discourse.
Although many of the predictions generated by the claims above will have to await future research to be tested, one such prediction can already be confirmed using available data from Chinese and Japanese. As mentioned in Xie (2008), the focus marker ‘only’ in Chinese may associate with an in situ wh-phrase or with another element preceding the wh-phrase. In the former case the sentence is acceptable (7a), since there is no element that precedes the wh-phrase and is incompatible with the informational articulation, whereas in the latter case an intervention effect arises (7b).

(7) a. ta zhi mai [SHENME]?
   he only sell what
   ‘What is the thing x such that he sells only x?’

b. */??ta zhi [MAI] shenme?
   he only sell what
   ‘What is the thing x such that he only [SELLS] x?’ (Xie 2008:33)

In Japanese, the domain of focus particles does not extend beyond their host (Kishimoto 2009), and they cannot attach directly to wh-phrases. Accordingly, intervention effects cannot be evaded as in (7a).

This difference between Chinese and Japanese, stemming from arbitrary features of their focus particles, is expected under the information structural approach, as is the correlation in Chinese between the occurrence of intervention effects and the linear position of the focus associate. In addition, sentences like (7) exemplify a potential source of the interspeaker variation documented in the literature and discussed above. If such sentences are provided to informants without a context and prosodic contour, inconsistent judgments are likely: speaker A might give the judgment for (7a) while speaker B would report (7b). However, this range of observations is a mystery for semantic and syntactic theories. Although Beck (2006) acknowledges that not all interveners are the same, her theory is unable to explain what sets apart certain interveners from others, since it assumes that they all share a fixed semantic property. Crosslinguistic and interspeaker variation is no less of a problem for this type of approach.

Moving on to alternative questions, which Tomioka does not address, I put forward essentially the same explanation proposed for wh-questions. In an alternative question, the disjuncts are the foci and the remainder is the ground, but interveners cannot typically be accommodated in the ground. They cannot be links because of their anti-topic status, while their association with a prosodically marked focus interferes with their functioning 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. Basically, they are like declaratives in that the focus is not fixed, meaning that the entire informational articulation is shaped by the specific context (see Hedberg 2007). Thus, no clash arises in yes/no questions: the potential intervener can be the focus and the remainder can serve as the ground.

All in all, Tomioka's information structural approach seems to handle the full range of

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8 Beck and Kim (2006) mention the issue of wh-phrases as focus associates, but seem to assume that this leads to ungrammaticality. In any case, their theory makes the wrong prediction with regard to Chinese.
observations reported in the literature better than competing syntactic or semantic analyses. Given minor amendments, it is also able to capture a number of observations it was not originally confronted with. The next section introduces an array of additional data, some of it novel and some collected from existing sources, which proves decisive in confirming this approach.

3. Ameliorating or eliminating intervention effects
3.1 Contexts without intervention effects
A number of authors have noted in passing that intervention configurations are judged acceptable under certain conditions. Such examples are gathered here for the first time and shown to fall under the information structural approach to intervention.

First, Eilam (2009) mentions that intervention effects in English alternative questions are ameliorated if the potential intervener is given in a context preceding the question. Thus, compare the standard example of an intervention effect repeated in (8) with (9)-(10), where the information that only John passed a certain exam is provided in advance. Judgments regarding alternative questions here and below refer only to the alternative question reading, and are therefore marked with '*' when this reading is unavailable.

(8) *Does only John like Mary or Susan? (=3)

(9) 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.

(10) Did only John pass syntax or phonology? (Eilam 2009:243)

Speakers judge (10) to be much better than (8) as an alternative question, if not perfectly acceptable. The contribution of (9) here is clear: it sets up only John as part of the backgrounded material in the subsequent question, and therefore allows it to be part of the ground in the informational articulation of the question. The information structural role of only John in (10) is also borne out in its reduced prosodic prominence. While the absence of an intervention effect in this case is expected under the information structural approach, syntactic and semantic analyses arguably fail to explain this finding. That is, there is no obvious syntactic or semantic difference between (8) and (10): the closest c-commanding binder to the disjunctive phrase is that associated with the intervener, and the semantics of the disjunctive phrase and focused intervener is the same in both sentences. Furthermore, the fact that the potential intervener in (10) is a standard focus in terms of its semantics (i.e. it contributes alternatives) also undermines Beck's (2006) appeal to the semantic notion of focus. As suggested by Tomioka (2007a), what is relevant for intervention is the information structural notion of focus, which tends to overlap with the semantic one, but does not have to. When the two are teased apart and the potential intervener is a focus only in terms of its semantics, as in (10), the result is grammatical, conflicting with the predictions of the semantic approach. Of course, in

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9 There is no evidence for the possible claim that in (10) the disjunction is not c-commanded by the intervener at LF. Unless independently justified, this claim only makes the syntactic or semantic analysis unnecessarily more complicated than the information structural one.

10 Besides being noteworthy in terms of its information structure, (10) is also an example of a second occurrence focus in which the focus precedes the nuclear accent. As mentioned in Beaver et al. (2007), this is a rather uncommon pattern.
this case and in the examples to be discussed below, a syntactic analysis could claim that there is some discourse-related feature which actually does the work. However, such an analysis would be at a disadvantage compared to the information structural approach, since the latter accounts for the same facts without the added machinery.

Similar examples can be found in other languages and configurations. For instance, in Chinese, providing a backgrounding context for the use of a focused phrase in a \(wh\)-in-situ question greatly improves the status of the question, as witnessed in (11) vs. (12)-(13) (see also Xie 2008 for a similar example).\(^{11}\)

(11) *?zhīyòu Lǐlí kàn-le nà-bèn shū?
only Lǐlí read-ASP which-CL book
'Which book did only Lǐlí read?' (Beck 2006:6)

(12) Context: The class was assigned two book reports. Lǐlí read one book that everyone else had read, but there was one book that only she had read.

(13) (?zhīyòu Lǐlí kàn-le nà-bèn shū)?\(^{12}\)
only Lǐlí read-ASP which-CL book
'Which book did only Lǐlí read?'

In French, negation is often claimed to create intervention effects in \(wh\)-in-situ questions, as in (14) (Chang 1997, Bošković 2000, Pesetsky 2000, Beck 2006). However, (15) shows that the effect disappears once the negative proposition is established in the discourse.\(^{13}\)

(14) a. Iłs ont rencontré qui?
they have met who
'Whom did they meet?'

b. #Il n'a pas rencontré qui?
he NEG.has NEG met who
'Whom did he not meet?' [only as echo question] (Beck 2006:7)

(15) A: Mon fils ne mange pas de POISSON.
my son NE eats NEG of 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)

A slightly different kind of contextual variability in intervention effects is also attested in French \(wh\)-in-situ questions. Specifically, floating quantifiers in French create intervention effects when they are contrastively focused, but not otherwise. In other

\(^{11}\) I thank Yanyan Sui for providing the Chinese judgments.

\(^{12}\) This order is always dispreferred compared to the order with the \(wh\)-phrase preceding the intervener, because the latter represents the ideal realization of information structure, in which the intervener is unambiguously positioned in the ground (see Tomioka 2007b, 2009 for further discussion).

\(^{13}\) It is not at all clear that negation should be treated like the other interveners discussed here. In any case, the unique discourse conditions often required by negative questions, and the fact that purely syntactic theories cannot explain their entire range of behavior, have long been recognized in the literature (Kroch 1989, Kuno & Takami 1997).
words, the prosody can be directly modified by the speaker, and the result is in line with
the information structural approach. (16) shows that floated *tous* 'all' may, but need not be,
contrastively focused, and (17) establishes that it yields illformedness only when
focused.

(16) a. *Ils ont tous mangé une PIZZA (et non pas une tarte à la crème).*
    they have all eaten a pizza and NEG a pie of the cream
    'They have all eaten a pizza, and not a cream pie.'

    b. *Ils ont TOUS mangé une pizza (*et non pas une tarte à la crème).*

(17) 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)

Admittedly, this observation is not conclusive evidence in and of itself in favor of the
information structural approach. A semantic explanation for it could be given, since the
contrastively focused quantifier invokes alternatives, and hence has the semantics of
interveners proposed by Beck (2006). Crucially, however, we also find this kind of
contextual variability in English, as demonstrated below; unlike the French examples,
young analysis of the English case that relies on c-command relations falls short, because
the intervener is below the disjunction introducing alternatives.

Specifically, Beck and Kim (2006) provide the example in (18) to prove, in their
terms, that the structural relation between the intervener and disjunctive phrase is
relevant. That is, since the disjunctive phrase is not c-commanded here by the potential
intervener *only Mary*, the absence of an intervention effect is said to be correctly
predicted.

(18) Did John or Susan invite only Mary? (Beck & Kim 2006:172)

However, Beck and Kim overlook the fact that (18) is acceptable as an alternative
question, yielding the answer *John or Susan*, only if the potential intervener *only Mary* is
prosodically reduced and the disjuncts are focused. Pronouncing it as in (19), where *only
Mary* is marked with a pitch accent, eliminates the alternative question reading, so that it
can only be answered with *yes* or *no*.

(19) *Did John or Susan invite only MARY?*

Thus, their example actually establishes that the structural relation is immaterial, and
hence serves to weaken syntactic or semantic accounts. Furthermore, it supports the idea
that manipulation of the prosody and information structure may be sensitive to linear
positions, as noted in section 2. It is possible to directly reduce the prosodic prominence
when the target of reduction follows the fixed focus (=the disjunctive phrase), as in (18);
this is a case of postnuclear focus, where pitch realization is generally suppressed (i.e.
postnuclear deaccenting; see Féry and Ishihara 2009). However, with prenuclear focus,
when the target precedes the fixed focus, as in (20), contextual support is needed (cf. (9)-

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14 Zubizarreta (2003) and Tomioka (2007a) also present sentences where free focus in French and Japanese
produces intervention effects. These sentences are similar to the floating quantifier examples in that the
focus is contextually dependent.
(10)).

(20) *Does only John like Mary or Susan? (=3)

3.2 Structures without intervention effects
In this section, the body of data that can be subsumed under an information structural approach will be expanded to include questions which differ from each other in their makeup and structure. In order to explain distinctions in acceptability among them, it will be necessary to introduce a novel typology of questions in terms of their meaning components.

The basic pattern to be accounted for is given in (21)-(23): *wh*-questions with an adjunct *wh*-phrase and clefted questions exhibit weak intervention effects or no effects at all. (21a) illustrates a standard intervention effect in Korean with the *wh*-argument *nuku* 'who', while (21b) shows that the same configuration with the *wh*-adjunct *encey* 'when' does not give rise to the same effect. In (22), similar results are obtained in Japanese when the *wh*-argument *nani* 'what' is replaced by the *wh*-adjunct *nahe* 'why', and (23) demonstrates that using a cleft question in English also removes the intervention effect (see Beck and Kim 2006).

(21) a. *amuto nuku-lul manna-chi anh-ass-ni?
   anyone who-ACC meet-CHI not.do-PAST-Q
   'Who did no one meet?'

b. (?)amuto encey sukce-lul cechulha-chi anh-ass-ni?
   anyone when homework-ACC submit-CHI not.do-PAST-Q
   'When did nobody submit their homework?' (Yoon 2008:381)

(22) a. ?*Ken-sika nani-o yom-ana-katta-no?
   Ken-except what-ACC read-NEG-PAST-Q
   'What did no one but Ken read?'

b. Ken-sika naze ko-nak-atta-no?
   Ken-except why come-NEG-PAST-Q
   'Why did no one but Ken come?' (Tomioka 2009:256)

(23) a. *Does only John like Mary or Susan? (=3)

b. Is it Mary or Susan that only John likes?

The observation that question types may differ in whether or not they can accommodate interveners is not novel (cf. Ko 2005, Yoon 2007, 2008, Tomioka 2009). However, each of the existing accounts has treated only a subset of the data in (21)-(23), and moreover, all but Tomioka (2009) propose a syntactic or semantic explanation. In addition to the weaknesses of such explanations already reviewed in previous sections, they face difficulties which are specific to the data exemplified in (21)-(23) and which will be noted below. Conversely, the information structural approach provides a consistent and comprehensive account of this data, which ties in to independently motivated pragmatic distinctions between the question types.

I argue that (21)-(23) reflect differences in the status of the existential proposition

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15 At least some speakers seem to allow direct reduction of prenuclear focus, but still find this easier when the focus is postnuclear.
associated with *wh*-questions and alternative questions, henceforth the associated proposition (AP). An example of an AP of a *wh*-question is given in (24): use of such a question is typically taken to indicate that the speaker believes that some referent instantiates the *wh*-phrase. (25) illustrates an alternative question AP.


The status of the AP of *wh*-questions is a longstanding issue in the semantic literature; it is usually claimed to be a presupposition (Katz & Postal 1964, Comorovski 1996) or a (generalized conversational) implicature (Ginzburg 2003). As for alternative questions, ever since Karttunen (1977), these have generally been assumed to carry an existential presupposition that one of the alternatives is true and a uniqueness presupposition that only one of the alternatives is true. Thus, the question in (25) is said to presuppose that John likes Mary or John likes Susan, but not both. For the purposes of this paper, the sole relevant meaning component, which is entailed by the supposed existential presupposition, is that labeled the AP in (25).

Contra the abovementioned authors, I follow Brandtler (2008) in claiming that the status of the AP depends on the type of question. However, I depart from the particular classification he suggests, presupposition vs. implicature, which seems inappropriate for two reasons. First, the AP does not appear to be part of the communicative intent of the speaker, which is a defining property of implicatures (as well as assertions) (see Simons 2007). That is, a speaker who asks a *wh*-question does not necessarily intend to convey that he believes that some referent instantiates the *wh*-phrase; this is at most a byproduct of him asking the question. Second, deriving the AP does not seem to involve Gricean-type inferential reasoning, as would be expected of an implicature. The hearer arrives at the AP simply by virtue of interpreting the question, and he does not have to calculate it based on the literal meaning of the utterance. Thus, while I retain the label of presupposition for the AP of adjunct *wh*-questions and clefted *wh*- and alternative questions, I submit that the AP of argument *wh*-questions and non-clefted alternative questions is associated with an epistemic bias, defined in (26) (cf. Romero & Han 2004, Tomioka 2009).\(^\text{16, 17}\)

(26) Bias: a speaker's belief, not necessarily shared by the hearer, that the probability that a proposition is true is greater than the probability that it is false.

Unlike a bias, a presupposition must be satisfied by the common ground, that is, shared by the discussants, before the common ground can be updated with the proposition expressed by the sentence (von Fintel 2007). This distinction is relevant to the issue of intervention effects because it affects the information structure of the question: a presupposition serves to background its content, but a bias does not. If the former includes a potential intervener, the intervener is backgrounded, and hence no clash with

\(^{16}\) A finer-grained partition between *why* and other adjunct *wh*-phrases is probably justified (see Tomioka 2009), but nothing here hinges on such a distinction. Also immaterial for our purposes is Fitzpatrick's (2005) claim that the presuppositional flavor of *why*-questions derives from an inference from the set of possible answers, rather than an actual presupposition.

\(^{17}\) According to Tomioka (2009), the AP itself can be a bias. It seems more accurate to assume, as I do, that it can be associated with a bias.
the information structure of a wh- or alternative question arises. In the case of a bias, no content is marked as backgrounded, and the effect of not being able to accommodate the intervener manifests itself in the form of unacceptability judgments.

There is ample support for the need to distinguish adjunct wh-questions and clefted wh- and alternative questions from argument wh-questions and non-clefted alternative questions. Three pieces of evidence are reviewed here: the felicity of negative answers, the felicity of suspension, and the ability to serve as an antecedent for too. First, as has been noticed previously (e.g. Brandtler 2008), the felicity of negative answers depends on the type of question. Thus, they are felicitous with argument wh-questions (27) and alternative questions (28), but not with adjunct wh-questions (29), clefted wh-questions (30), and clefted alternative questions (31).

(27) Q: Who failed the test?  
A: No one.

(28) Q: Did John or Mary fail the test?  
A: No one failed the test.

(29) a. Q: When did John buy that book?\(^{18}\)  
A: #Never.  
b. Q: Where did John buy that book?\(^{19}\)  
A: #Nowhere.

(30) Q: Who is it that failed the test?\(^{20}\)  
A: #No one.

(31) Q: Was it John or Mary who failed the test?  
A: #No one failed the test.

Negative answers are felicitous with certain types of questions because they are among the set of possible answers, as per Ginzburg (1995) and Fitzpatrick (2005). Questions that are associated with a presupposition do not have the negative answer in

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18 Analyses assuming that the AP of wh-questions is a presupposition often claim that a negative answer constitutes a denial of this presupposition (e.g. Comorovski 1996). However, not only does this leave the distinction between different types of questions in (27) vs. (29)–(30) unexplained, it also overlooks a distinction in the felicity of different types of answers: (29a) vs. (i) below. Under the approach proposed here, negative answers are logical answers to a question (cf. (27)), while presupposition denial requires a roundabout response, not directly answering the question, as in (i).

(i) Q: When did John buy that book?  
A: He didn’t.

19 The relevance of the distinction between wh-arguments and wh-adjuncts is even clearer if (29b) is compared to (i). Both involve the same wh-phrase, but only in (i) is it an argument and hence allows a negative answer. Thanks to Dave Embick for pointing out this observation.

(i) Q: Where did you go yesterday?  
A: Nowhere.

20 Unlike its non-clefted version in (27), the only way to negatively respond to (30) is by providing a complete sentence and stressing the element corresponding to the wh-phrase. This response denies the presupposition of the question.

(i) Q: Who is it that failed the test?  
A: (Huh?!) NO ONE failed the test.
the set of possible answers, and denial of their presupposition requires a particular kind of response (see fn. 18 and 20), which does not directly answer the question.

A second diagnostic separating question types is suspension (see Horn 1972): non-clefted \textit{wh}-questions allow suspension (32), but their clefted counterparts do not (33).

(32) Who, if anyone, failed the test?

(33) #Who is it that failed the test, if anyone?

Although these types of suspender \textit{if}-clauses are often assumed to apply to presuppositions (e.g. Abbott 2006), there is no necessary relation between the two, as indicated by the fact that implicatures can also be suspended in the same manner (Horn 1972). Accordingly, I claim that in (32) the speaker suspends his bias, that is, he signals that he does not necessarily believe that the probability the AP is true is greater than the probability it is false. Why, then, is it impossible to suspend the presupposition in (33)? While a full analysis is beyond the scope of this paper, one possibility is that the presupposition of cleft questions is associated with a hard trigger in the sense of Abusch (2002). These sorts of presuppositions do not allow suspension, because there is an alternative manner of expressing the same meaning without invoking the presupposition, namely, by using a non-cleft question. It would make no sense to use a cleft question, whose \textit{raison d'être} is the presupposition, only to suspend this presupposition.

Unfortunately, the suspension diagnostic is not applicable to alternative questions. As for adjunct \textit{wh}-questions, here we encounter a potential problem, since examples like (34) are acceptable. In other words, they appear to behave like non-clefted argument questions in terms of suspension.

(34) When, if ever, will you finish your dissertation?

This difference between adjunct \textit{wh}-questions and cleft questions arguably stems from the way in which their presupposition is derived. In the case of clefts, the presupposition is explicitly encoded in the form, and this form is chosen to convey the presupposition. Because of this, as noted above, it is impossible to retract the presupposition. In adjunct \textit{wh}-questions, it is simply a byproduct of world knowledge: an expressed event or state is ordinarily associated with a place and time, and vice versa (Brandtler 2008). This association is not an inherent property of the question form, and therefore one can convey doubt regarding an event/state—i.e. suspend the presupposition—by expressing doubt about the existence of a place and/or time for it.

A third and final pattern which distinguishes different kinds of questions is their ability to serve as an antecedent for \textit{too}.\footnote{I thank Florian Schwarz for suggesting this diagnostic.} Winterstein (2009) shows that almost any material can serve as an antecedent for the presupposition of \textit{too} (i.e. that the predication is true of an element in the alternative set), including conversational implicatures, conventional implicatures, and presuppositions. The latter, illustrated in (35), is crucial for our purposes: \textit{too} in the second sentence is felicitous because it can use the presupposition in the first, namely, that John used to smoke.

(35) John quit smoking. I used to smoke too.

Accordingly, if all types of questions were associated with a presupposition, we would expect them to uniformly be possible antecedents for \textit{too}. However, what we find is the
partition argued for here: adjunct wh-questions (36), clefted wh-questions (37), and clefted alternative questions (38) can be antecedents for too, whereas argument wh-questions (39) and non-clefted alternative questions (40) cannot. The relevant context for (38) and (40) is one in which the discussants were given a book report assignment for which they could read any book of their choice.

(36) Q: Where on campus did John give the lecture yesterday?  
   A: I don't know, but he gave it at Drexel too.

(37) Q: Who is it that had a meeting with the dean yesterday?  
   A: I don't know, but I did too.

(38) Q: Was it "The Hobbit" or "The Lord of the Rings" that John read?  
   A: I don't know, but I read Tolkien too.

(39) Q: Who had a meeting with the dean yesterday?  
   A: #I don't know, but I did too.

(40) Q: Did John read "The Hobbit" or "The Lord of the Rings"?  
   A: #I don't know, but I read Tolkien too.

Not much needs to be said with respect to the first group of questions, since it has already been established that presuppositions are possible antecedents for too. The behavior of the second group of questions is similarly in line with what I have claimed regarding the status of their AP. That is, an AP associated with a bias is not sufficient to license too because it is not part of the common ground. In (39), for example, the proposition that someone had a meeting with the dean is not necessarily assumed by either interlocutor, and so cannot be used by too.

Given that I am arguing against the widespread assumption that the AP of wh-questions is a presupposition, it is worth taking a moment to review some of the evidence provided for this assumption. As a matter of fact, this evidence does not hold up under scrutiny. For instance, it has been claimed that the AP cannot be canceled by the speaker who uttered the question, as in (41)-(42), making it look different from conversational implicatures, which can be canceled, as in (43).

(41) #Although nothing is on the table, what is on the table?  
   (Postal 1971:73)

(42) #I know that Mary doesn't read anything. What (exactly) does she read?  
   (Karttunen & Peters 1976:355)

(43) John has three cows, in fact ten.  
   (Levinson 1983:115)

However, Fitzpatrick (2005) notes that examples like (41)-(42) are ruled out simply because they violate the condition on question asking in (44).

(44) A speaker can only ask an information-seeking question if he or she does not know the answer(s).  
   (Fitzpatrick 2005:143)

Another argument in favor of a presuppositional analysis is given in Haida (2003), based on the infelicity of answering a wh-question with a positive indefinite replacing the

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22 In any case, the logic of the original claim is not entirely clear, since presuppositions are also defeasible under various conditions (see Levinson 1983). This supports Fitzpatrick's contention that the ill-formedness of (41)-(42) is not related to the status of their AP.
Thus, he maintains that the infelicity of (45) derives from the fact that the answer duplicates the information provided by the presupposition of the question.

(45) Q: Who called John?
   A: #/*Somebody called John.

To begin with, repeating material from the question in the answer is in and of itself a source of awkwardness. More importantly, an existential answer is not infelicitous given the appropriate intonation (46) and/or context (47). The L+H* tone in (46) represents Jackendoff's (1972) B accent (see Pierrehumbert 1980), typically marking (contrastive) topics.

(46) Q: Who called John?
   A: Somebody did.
   L+H*

(47) Q: Oh gosh, who locked up the house?
   A: Don't worry, someone did. I heard the keys turn as I walked below.

(Ginzburg 1995:474)

Answers of this sort are incomplete, and are therefore used when the answerer lacks more information and/or assumes that such a partial answer is sufficient for the questioner. In any case, their acceptability removes Haida's evidence for a presuppositional analysis of wh-questions.

All in all, it seems clear that treating wh-questions uniformly as presupposition triggers is inappropriate; instead, it is necessary to distinguish question types in terms of the status of their AP. The mere fact that clefted questions exist alongside non-clefted questions raises doubts regarding the widespread view that the latter presuppose. If this were true, what would be the difference between non-clefted and clefted questions, given the uncontroversial assumption that clefted questions are presuppositional on a par with their declarative counterparts?

The proposed classification of questions as being associated with a presupposition or a bias elegantly connects to differences in their information structure, and thus ultimately to distinctions in the status of intervention effects. Although syntactic explanations for subparts of the data have been offered in the literature, none of them propose a comprehensive explanation which ties together the observations, and it is difficult to see how they could do so. Why, for example, would the acceptability of negative answers have anything to do with the structural position of different wh-phrases?

At any rate, syntactic analyses also suffer from problems in accounting for the basic distinctions between question types with respect to intervention effects. Given that Ko

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23 The answer need not replace the wh-phrase with an indefinite: consider (i) in a context in which the answerer has been forbidden to provide additional details. I thank Peter Svenonius for this observation.

(i) Q: Who called John?
   A: Let me assure you, John was called.

24 One category of questions which is discussed in the literature but was ignored above is d-linked questions. As noted in Endo (2007), among others, this type of question tends to exhibit weaker intervention effects than plain wh-questions. Although I must leave an account of this distinction for future research, it clearly does not support a syntactic theory of intervention, contra Endo: whatever explanation one ends up with will have to make use of the pragmatic notion of d-linking or topicality, and any syntactic features invoked are merely redundant.
(2005) only deals with the behavior of why in intervention configurations, it is not clear how she would extend her syntactic analysis to the full range of data. Attempting to cover a broader set of data, Yoon (2007, 2008) hypothesizes that wh-adjuncts are generated higher than arguments, and particularly higher than NegP; that is, either as adjuncts somewhere above vP (when, how) or directly in SpecCP (why). Assuming that wh-phrases move at LF and that NegP is the actual intervener, wh-arguments will be prevented from reaching SpecCP by NegP, but wh-adjuncts will not. However, both these assumptions are suspect. First, there is reason to believe that wh-phrases do not have to move at all, as noted in section 2, and even if they did move, it is unlikely that covert movement would be restricted in a way in which overt movement is not. Second, the definition of NegP as the intervener is inadequate, given that many expressions which have no relation to negation may create intervention effects. In addition to these problematic assumptions, Yoon herself notes that the order in which the intervener precedes the wh-phrase is always dispreferred by speakers. This is unexpected under her syntactic analysis; if the wh-phrase is generated high enough, as in the case of wh-adjuncts, its status should not be dependent on the overt position of the intervener. These difficulties are not encountered in the information structural approach, and the disparate behavior of different question types vis-à-vis intervention thus provides further support for this approach.

3.3 A language without intervention effects
In this section I discuss the case of a language which almost entirely lacks intervention effects, making it seem crosslinguistically unique. I show that this exceptionality is not as fantastic as it appears to be, but rather follows from certain information structural and prosodic properties of the language. It is not, however, predicted by the syntax or semantics.

The language in question is Amharic, an SOV wh-in-situ language belonging to the Ethiopic branch of Semitic. The absence of intervention effects in the language has already been described in detail in Eilam (2009); here I provide a summary of the relevant data. Unlike any other language documented until now, and contra the descriptive generalization suggested in Beck (2006) whereby intervention effects are universal, Amharic does not generally exhibit degradedness when a focusing element precedes a wh-phrase. Thus, the intervention configurations with bəčča ‘only’ in (48a), dägmo ‘also’ in (49a) and -mm + ħnk‘an ‘even’ in (50a) are fully acceptable. In fact, these are preferred over the versions in (b), on a par with run-of-the-mill wh-questions in Amharic (see Halefom 1992), making it an almost ideal mirror image of languages like Japanese and Korean.

(48) a. haile bəčča mən/yäťänə-wən mäš’haf anäbbäb-ä?

25 See fn. 12.
26 The Amharic transcription is as follows: č’, k’, p’, s’ and t’ are ejective stops; ŋ is the palatal nasal; superscribed w represents labial secondary articulation; ə is a high central vowel and ā is a mid-central vowel.
27 The following abbreviations are used for the Amharic data: ACC = accusative, AUX = auxiliary, COP = copula, DEF = definite, FOC = focus, IMP = imperfect, M = masculine, NEG = negation, PER = perfect, REL = relative marker, S = singular, TOP = topic.
28 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 languages use post-
Haile only what/which-ACC book read.PER-3MS
b. mən/yätañňaw-ən mäs'haf haile bačča anäbbäb-ä?
'What/which book did only Haile read?'

(49) a. haile dägmo mən/yätañňaw-ən mäs'haf anäbbäb-ä?
Haile also what/which-ACC book read.PER-3MS
b. mən/yätañňaw-ən mäs'haf haile dägmo anäbbäb-ä?
'What/which book did Haile also read?'

(50) a. haile-mm ankʷ an mən/yätañňaw-ən mäs'haf anäbbäb-ä?
Haile-FOC even what/which-ACC book read.PER-3MS
b. mən/yätañňaw-ən mäs'haf haile-mm ankʷ an anäbbäb-ä?
'What/which book did even Haile read?'

Similarly, placing an intervener before a disjunctive phrase does not exclude the alternative question reading in Amharic, as demonstrated in (51).

(51) haile bačča šay wäyöss buna tät'-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

The only clear-cut case of intervention in Amharic is observed with NPIs, which elicit judgments of degradedness when preceding a wh-phrase (52a). Since scrambling the wh-phrase above the intervener does not result in an ideal sentence in Amharic (52b), as noted above, speakers tend to prefer the cleft strategy illustrated in (53) when using an NPI in a wh-question.

(52) a. ?mannamm mən al-anäbbäb-ä-mm?
anyone what NEG-read.PER-3MS-NEG
b. mənmannamm al-anäbbäb-ä-mm?
'What did no one read?'

(53) mandän năw mannamm y-al-anäbbäb-ä-w?
what COP.3MS anyone REL-NEG-read.PER-3MS-DEF
'What is it that no one read?'

In order to explain this data, a semantic theory of intervention could claim either that the semantics of Amharic wh-phrases and/or focus is unique, or that Amharic intervener are above the Q operator in C⁰. If the latter were true, the Q operator, rather than the intervener, would be the closest c-commanding potential binder to the wh-phrase, and hence no intervention effects would be expected. A syntactic approach would likewise have to appeal to a particular clausal structure, in which potential interveners do not come between C⁰ and the wh-phrase.

nominal focus particles, 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 bačča were somehow unique this would not extend to the entire set of potential interveners.
The first option is discarded because there is no indication of crosslinguistic variation in the interpretation of wh-phrases or focus operators, nor of something unusual about their semantics in Amharic. Although the second option, whereby interveners in Amharic occur above C\textsuperscript{0}, seems more reasonable, there is evidence showing that it cannot be the explanation we are after. Specifically, Amharic interveners, and subjects in general, can occupy positions above C\textsuperscript{0}; however, this is not their only possible position, and in any case, the absence of intervention effects is independent of whether or not the intervener is in such a position.

Before discussing Amharic clausal structure, it is necessary to rule out an alternative explanation based on Pesetsky's (2000) theory of movement, mentioned in section 2. Under this theory, wh-phrases do not create intervention effects if they are licensed through overt phrasal movement, because the restriction on the wh-phrase is not separated from it, precluding a scope-bearing element from appearing between the two. The data in (54) shows that this option cannot be correct for Amharic: wh-phrases are acceptable inside relative clauses in Amharic (54a) despite the fact that the latter are islands for overt movement (54b).

(54) a. haile astämari-w là-man yā-sātt'-ā-w-an mās'ḥaf anābbāb-ā?
   Haile teacher-DEF to-who 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?'

b. *lä-man haile astämari-w yā-sātt'-ā-w-an mās'ḥaf anābbāb-ā?
   to-who Haile teacher-DEF REL-give.PER-3MS-DEF-ACC book read.PER-3MS

Since Pesetsky assumes uniform constraints on overt and covert movement, the lack of Subjacency effects in (54a) proves that Amharic wh-phrases do not undergo covert phrasal movement. If we follow Pesetsky, this leaves the option of feature movement, which is expected to create intervention effects; their absence must therefore be explained on independent grounds.

Returning to the issue of the position of interveners in Amharic, the clearest examples of elements occupying positions in the C domain are found in clefts. Constituents can appear above the cleft focus, which is the subject in SpecIP (or moved through SpecIP) and controls agreement on the copula. This is demonstrated for an object in (55a) and a subject in (55b); in both examples '#' marks a low boundary tone and optional pause.

(55) a. girma-n # haile näw yā-tāqānañ-ā-w.
   Girma-ACC Haile.COP.3MS REL-meet.PER-3MS-DEF
   'Speaking of Girma, it is Haile that met him.'

b. girma-ss # āssu näw haile-n yā-tāqānañ-ā-w.
   Girma-TOP he.COP.3MS Haile-ACC REL-meet.PER-3MS-DEF
   'As for Girma, it is he that met Haile.'

As expected of the left periphery, the clause-initial constituents in such examples are topics: they are intonationally set off from the rest of the clause by a low boundary tone and/or pause, used to demarcate intonational phrases, as illustrated in (55), they can take morphological topic marking (55b),\textsuperscript{29} and, as shown in (56), they cannot be nonspecific indefinite NPs, which are incompatible with topicalhood.

\textsuperscript{29} The contrastive "as for" topic in (55b), marked by the suffix -ss, is to be distinguished from the non-contrastive "speaking of" or thematic topic of (55a) (see Demeke and Meyer 2007).
In order for the syntactic approach to successfully account for the lack of intervention effects in Amharic, subjects, including interveners, must always occupy this type of left peripheral position. However, beyond the fact that standard subjects do not necessarily exhibit the range of properties associated with the clause-initial constituents in (55), there are a number of independent observations which directly refute the possibility that they are fixed in the C domain. I review three such observations here. First, quantified subjects in Amharic allow a narrow scope, nonspecific interpretation which should not be available if they are uniformly dislocated in the C domain (see Alexiadou and Anagnostopoulou 1998, Baker 2003, Frascarelli 2007). Thus, (57) 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'.

(57) 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.'

Second, the absence of intervention effects in Amharic extends to configurations in which the intervener is an embedded subject (58).

(58) girma haile bačća mon änd-anäbbäb-ä y-asäb-all?
Girma Haile only what that-read.PER-3MS 3MS-think.IMP-AUX.3MS
'What does Girma think that only Haile read?'

In order to contend with this fact, the syntactic analysis would have to assume that both the matrix and embedded subject are above C. This leads to the prediction, schematized in (59), that both subjects could precede adverbs associated with the matrix clause. The prediction fails, as shown in (60).

30 I thank Julie Legate for suggesting this prediction.
A final observation confirming that subjects, including interveners, are not necessarily in a left peripheral position, and that such a position is not relevant for the issue of intervention, involves an interpretational distinction overlooked until now. Returning to the basic example of a wh-question with a potential intervener, as in (61), we find that it actually has two possible readings.

(61) haile bečča man anäbbäb-ä?
    Haile only what read.PER-3MS
    a. 'What did only Haile read?'
    b. 'Only speaking of Haile, what did he read?'

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 (62) and the subsequent question-answer pairs in (63)-(64): the answer in (63) reflects the (a) reading of the question, while that in (64) reflects the reading in (b). The

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31 The fact that the matrix adverb may immediately precede the matrix verb indicates that it can right-adjoin to VP, and that the verb raises to I', thus surfacing to the right of the adverb. In any case, this does not bear on the position of the embedded subject.
latter reading is felicitous in a context in which each book was read by more than one person.

(62) 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".

(63) Q: haile bačča mān anábbāb-ā?
   A: "The Hobbit".

(64) Q: haile bačča mān anábbāb-ā?

The critical datum against a syntactic analysis of intervention in Amharic is given in (65): the (b) reading of the question is lost when the wh-phrase precedes the subject, rendering the reply below infelicitous given the context in (62).

(65) Q: mān haile bačča anábbāb-ā?
   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 (65) shows that the topic interpretation is necessarily associated with a left peripheral position; I submit that this is the same topic position illustrated in the clefts in (55). The upshot of this is that a clause-initial subject, as in (61), may be in one of two possible hierarchical positions—the canonical SpecIP position or a higher, left peripheral position—but that intervention effects are nonexistent regardless of its location.

In light of the data presented above, we conclude that the clausal structure of Amharic is not as unusual as a syntactic approach to intervention would predict. Interveners, as well as subjects in general, can be above C0, but are not required to. Thus, the absence of intervention effects in Amharic cannot be attributed to its syntax, and a different explanation must be sought.

The alternative to semantic and syntactic theories of intervention is the information structural one advocated here. As anticipated by the latter theory, there indeed exist characteristics of Amharic prosody and the way in which it realizes information structure which distinguish it from languages that exhibit intervention effects. Attending first to the prosody, 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 (see also Eilam 2009). 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 (Lp) ending right before the edge of the prosodic domain and a following high boundary tone (Hp), while final P-phrases are associated with a low boundary tone (Lp) (see Hayward 1992). I-phrases are characterized by a boundary tone, which is low in statements (Ll) and high in questions (Hl). This phonological phrasing is schematized for a simple transitive sentence
in (66).  

\[(66) \quad ((\text{haile})_p \ (\text{aorit})_p \ (\text{zälewawayn})_p \ (\text{anäbbäb-ä})_p)_I \]

Haile book Leviticus read.PER-3MS

'Haile read the Book of Leviticus.'

Associating the subject in (66) with the focus particles -mm + ank\(^w\)an 'even' creates a different phrasing in (67): 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.

\[(67) \quad ((\text{haile-mm ank\(^w\)an})_p \ (\text{aorit})_p \ (\text{zälewawayn})_p \ (\text{anäbbäb-ä})_p)_I \]

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

'Even Haile read the Book of Leviticus.'

A full analysis of this tonal pattern, which also characterizes the other focus particles mentioned in this section, is beyond the scope of this paper;\(^{33}\) what is important for our purposes is to examine what happens to the realization of this type of focus in \textit{wh}-questions. As predicted by the information structural theory, the focus-triggered phrasing is removed: in the standard intervention configuration in (68), there is a prosodic boundary following the \textit{wh}-phrase (realized as a pitch peak, as is common in \textit{wh}-in-situ languages; see Ladd 1996), and an I-phrase-final high boundary tone typical of questions, but no other boundary tones.

\[(68) \quad ((\text{haile-mm ank\(^w\)an man})_p \ (\text{anäbbäb-ä})_I \]

Haile-FOC even what read.PER-3MS

'What did even Haile read?'

The connection between the fact that focus particles show no phonological correlates of focus in a \textit{wh}-question and the absence of intervention effects in Amharic is 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 \textit{wh}-phrase over the intervener—to derive the appropriate prosodic representation. 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 \textit{wh}-question. Careful examination of the prosody of \textit{wh}-questions is required to resolve this issue: does all material preceding a \textit{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 earlier, namely, NPIs. These elements did trigger a certain degree of unacceptability when preceding a \textit{wh}-phrase, reflecting the type of intervention effect found in other

\[\text{32} \quad \text{Here and below I indicate only phrasing, disregarding the tones themselves, since they are not relevant for the purposes of this paper.} \]

\[\text{33} \quad \text{See Li (2002) for description of a similar tonal structure in the related Ethiosemitic language Chaha, Truckenbrodt (1995, 1999) for other cases of focus-conditioned phonological phrasing, and Downing (2005) for rephrasing triggered specifically by focus particles.}\]
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, 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 (69), the latter exhibits an unambiguous H_P boundary tone (cf. (68)).\footnote{The absence of a prosodic boundary on the wh-phrase in (69) is putatively the type of post-focus reduction also observed with NPIs in Japanese (Ishihara 2007).}

As noted in section 2, NPIs in other languages are also distinct in constituting the most robust type of interveners; moreover, while differing in its details, the explanation for this finding in Japanese and Korean is similarly phonological.

\begin{align*}
(69) & \ ?(({\text{mannamm}})_P \text{ mën al-anäbbäb-ä-mm})_I \\
& \text{anyone \ what \ NEG-read.PER-3MS-NEG} \\
& \text{’What did no one read?’}
\end{align*}

Turning to information structure, recall the finding that wh-questions like (70) actually have two possible readings, (a) and (b), the latter roughly meaning that the question \textit{What did he read?} refers exclusively to Haile.

\begin{align*}
(70) & \text{haile } bəčča \text{ män anäbbäb-ä?} \\
& \text{Haile only \ what \ read.PER-3MS} \\
& \text{a. ’What did only Haile read?’} \\
& \text{b. ’Only speaking of Haile, what did he read?’}
\end{align*}

The interpretation in (a), I assume, is sanctioned by virtue of the prosodic facts described above, allowing the focused phrase to be in the ground. In the (b) reading, the focus particle \textit{bəčča} takes the topic as its argument, rather than the prejacent proposition (i.e. \textit{What did Haile read}), as English only does. Thus, \textit{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. In other words, the constituent modified by \textit{bəčča} is a type of contrastive topic.\footnote{This supports Tomioka’s (2010) claim that contrastive topics are possible in questions.}

The fact that Amharic enables focus particles like \textit{bəčča} to take a topic as their argument provides it with a second way to evade intervention effects. There is no degradedness in such cases because the contrastive topic is an extra-sentential element, not integrated in the information structure of the question. 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 informational 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).\footnote{Japanese does allow \textit{dake} ‘only’ to associate with \textit{wa}-marked phrases. While there seems to be some interpretational affinity with the combination of \textit{bəčča} and the topic in Amharic, the fact that \textit{dake-wa} is not permissible in questions (Hara 2006, 2007) suggests that the two are not the same.}

An additional noteworthy aspect of the Amharic data, which similarly sets it apart from other languages, is the fact that although possible, overt morphological marking of the subject is not necessary to obtain the topic interpretation.\footnote{An example of the topic marker -\textit{ss} is given in (55b).}
The account of why Amharic lacks intervention effects in wh-questions extends as is to alternative questions. First, interveners can be tails even when preceding the disjunctive phrase since they do not carry the phonological correlates of focus. Second, when interveners are interpreted as contrastive topics they do not create intervention effects because they do not need to be incorporated in the information structure of the alternative question.

To conclude, we have reviewed three categories of evidence which establish the validity of the information structural approach to intervention proposed in Tomioka (2007a,b). The absence of intervention effects in certain contexts, structures, and languages was shown to be associated with particular prosodic and information structural properties, but not necessarily with any distinguishing semantic or syntactic characteristics. The following section considers this finding from a general theoretical perspective: what it tells us about the representation of information structure and its position in the grammar, and about its relations with other modules of the grammar.

4. Implications

The discovery that wh-questions in wh-in-situ languages and alternative questions in other languages, such as English, share a common, rigid information structure is no coincidence. This is precisely the configuration that Vallduví (1990) proposes as the universal representation of information structure, consisting of a link, focus, and tail in the order schematized in (71).

(71) [LINK] [FOCUS] [TAIL]

According to Vallduví, this configuration is overtly manifested in a language like Catalan, where links and tails move to peripheral positions outside the IP hosting the focus, while in a language like English alignment with the information structural configuration is achieved covertly. Thus, the information structural level of representation is analogous to the level reflecting logico-semantic relations, LF. In some sense, however, the case for an information structural level of representation is now even stronger than that for LF: evidence for the latter is by and large conceptual, rather than empirical, leading researchers like Simpson (2000) to question its existence. There are no more than a handful of examples of overt quantifier raising (QR), as in Hungarian (Brody & Szabolcsi 2003), and the behavior of wh- phrases does not provide unequivocal support for the existence of LF, as noted in section 2.

Regardless of the legitimacy of LF, the fact that the information structural configuration in (71) is observable under certain conditions across a wide range of languages, perhaps even universally, establishes its import, arguably as a property of UG. Furthermore, this shows the need to recognize information structure as an independent module, or level of representation, in the grammar, as argued by Vallduví (1990). Not only does this module indirectly trigger overt movement in some languages, but it also constrains the surface word order of various constructions in others. The information structure module may also underlie other phenomena which have been accounted for until now by appealing exclusively to syntactic considerations. These include, for

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38 In Vallduví's work, this representation is viewed as hierarchical, with links and tails dislocated in A'-positions. I leave the issue of linear vs. hierarchical relations in information structure aside for now, but see Tomioka (2008) for further discussion.
example, weak crossover effects, whose sensitivity to the information structural notions of focus and topicality has long been known (see Erteschik-Shir 1997, Simpson 2000, a.o.), as well as additional phenomena mentioned in section 2.

An obvious question, then, is why many languages represent the universal configuration of information structure at the surface only in specific constructions. This configuration becomes overtly relevant, I argue, when the information structural focus of the sentence is predetermined and fixed. In wh-questions in wh-in-situ languages and in alternative questions, the focus is invariably the wh-phrase and the disjunctive phrase, respectively; this is not contextually determined, and cannot be altered. Recall that even in those cases, discussed in section 3, where intervention effects could be ameliorated by providing a backgrounding context or moving the wh-phrase, it was not the focus which changed, but rather the information structural status of other elements in the sentence. The rigid designation of a specific element as the focus of the sentence imposes a rigid information structure on the entire sentence, forcing the remainder to be the ground. The specific positioning of the link as initial and tail as final is then determined by the universal configuration in (71) (see Vallduví 1990).

If there indeed exist fixed focus structures, which entail a fixed informational articulation, one might wonder why they are not universal, and in particular why not all languages exhibit this informational articulation in their wh-questions. In English, for example, the focus of a wh-question can be any of the elements in the question, on a par with declaratives; the information structure is not fixed, and no intervention effects arise. Since the crucial difference between wh-questions in a language like English vs. the wh-in-situ languages under discussion is their prosody, I hypothesize that the latter is responsible for the attested variation. That is, the mandatory accentuation of wh-phrases in wh-in-situ languages identifies them as the focus of the question, whereas languages in which wh-phrases are not obligatorily accented do not require them to be the informational focus. If correct, this hypothesis means that the relation between information structure and prosody is rather symmetrical, at least at the level of the entire grammar. The informational articulation of a given sentence may affect its intonational phonology, but the opposite is also true: the intonational phonology associated with particular items and structures may impose constraints on the information structure.

Much further work is obviously needed in order to substantiate this hypothesis; it would be advantageous, for example, to examine a wh-in-situ language in which the wh-phrase is not prosodically prominent, if such a language exists. It is also important to look into the prosody of adjunct wh-phrases following a potential intervener, to determine whether the superior status of such configurations is correlated with prosodic reduction of the wh-phrase.

In addition to the information structure-phonology interface, the study of intervention effects also bears on the interface between information structure and two other modules, namely, the syntax and semantics. Regarding the first of these, the findings here do not

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39. The examples of alleged intervention effects in English wh-questions provided by Pesetsky (2000) are all multiple questions, primarily involving negation and quantificational elements, which lose their pair-list reading. They apparently do not reflect the same phenomenon as the one addressed here.

40. Similar proposals regarding the relation between the phonology, information structure, and word order can be found in Neeleman and Reinhart (1998) and related work. The current proposal, however, pertains to specific items and structures in a given language, rather than the language as a whole.
challenge the generally accepted view of the relations between the syntax and other components of the grammar. Despite the fact that syntactic movement seems to be motivated in some cases by a desire for alignment with the informational structural configuration, there is no need to assume that the connection is direct. Rather, the information structural module may come into play late, and select from among a set of structures derived by the syntax (see also fn. 6).

As for the semantics, the possibility of manipulating intervention effects noted in section 3 confirms the need to separate the information structural and semantic notions of focus, as argued inter alia by Vallduví and Vilkuna (1998). Recall that a potential intervener can be neutralized given a backgrounding context while retaining its focus semantics, and the result is then acceptable. As noted in fn. 10, this is also an example of the phenomenon of second occurrence focus, which has received much attention in the theoretical literature (see Beaver et al. 2007 and Féry and Ishihara 2009 for recent discussion). What this example contributes to the existing data, which until now has been collected by directly testing production and perception in an experimental setting, is a natural, indirect test of perception. The fact that hearers judge such an example as acceptable indicates that they do not perceive the recurring focused phrase as identical to the focused phrase which has not been backgrounded, and that they use this distinction in online speech processing. Unfortunately, this result does not tell us whether hearers make use of the distinction between second occurrence foci and non-foci, claimed to exist by Beaver et al. (2007) and Féry and Ishihara (2009) based on production and perception experiments. For the purposes of processing and providing a grammaticality judgment, hearers may be treating the second occurrence focus as a non-focus. Moreover, since the focus operator is adjacent to the intended focus associate in the examples given here, the association necessary for a correct interpretation of the sentence may be achieved linearly. If carefully manipulated in future work, similar examples could nonetheless be helpful in resolving various theoretical issues related to second occurrence focus.

5. Conclusion
In this paper, I made the case for viewing focus intervention effects as an information structural phenomenon, following Tomioka (2007a,b). To this end, I presented examples in which the absence of intervention effects aligns with the predictions of the information structural, but not the syntactic or semantic, approach. These included manipulations of the context in which an intervention configuration is set, the use of structures which are associated with particular information structural properties, and an entire language where intervention effects are by and large not observed. Given that the effects are not caused by interference in the relation between two elements, “intervention effects” is something of a misnomer; a more appropriate label would be focus mismatch or misplacement effects.

As a corollary of the analysis put forward here, I have been able to confirm the claim of Vallduví (1990) that there exists a universal configuration of information structure. Even in languages which are typically unconstrained in their association of a sentence with a particular information structure, such as English, this configuration is sometimes overtly revealed. I have attempted to explain why this occurs only in certain structures, and argued that the existence of such a configuration and the way in which it interacts with other components of the grammar supports the status of information structure as an
independent module.

The claim that focus intervention effects have an information structural basis does not mean that all phenomena categorized in the literature as cases of "intervention" should be subsumed under this account. Beck and Kim (2006) correctly note that syntactic minimality effects in the sense of Rizzi (1990) are of an entirely different nature than the focus-related phenomenon discussed here. Nonetheless, their semantic analysis fails to cover the full range of relevant data: some interveners do not fall under their description, while others vary in ways they do not expect. The information structural theory endorsed here is able to capture both the universal generalizations and the variation within and across languages.
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