The Intervention Effect as a Syntactic Phenomenon in Japanese[*]

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1 Introduction

Syntax is supposedly a scientific discipline where theories and hypotheses are initially made based on observations and empirical data. In syntax, empirical data is obtained through native speakers' judgment of sentences made mostly by linguists. However, it is sometimes questioned whether the procedure above in syntax is really scientific because native speakers' judgment sometimes differs among themselves. In Japanese syntax, there is a phenomenon which strongly resists unanimous judgment: the intervention effect. The following examples and their grammatical judgments are from Tomioka (2007: 1571):

(1)　??Daremo-ga　　nani-o　　yonda　no?
　　　everyone-Nom　what-Acc　read　　Q
　　　'What did everyone read?'

(2)　??? Ken-ka Mary-ga　　nani-o　　yonda　no?
　　　　　-or　　　　-Nom　what-Acc　read　　Q
　　　　'What did Ken or Mary read?'

(3)　??Dareka-ga　　nani-o　　yonda　no?
　　　someone-Nom　what-Acc　read　　Q
　　　'What did someone read?'

(4)　?*Daremo　nani-o　　yomanakatta　no?
　　　anyone　what-Acc　read.not　　　Q
　　　'What did no one read?'

As the examples above show, there are certain phrases which cannot be placed before *wh*-expressions in Japanese, which is called the intervention effect. This phenomenon is first noted by Hoji (1985) and discussed extensively

in the literature (see Beck (1996), Beck and Kim (1997), Tanaka (1997), Hagstrom (1998), Endo (2007), Morita (2009), Tomioka (2007, 2009) and Yang (2008) among many others). However, as Tomioka (2007) claims, grammatical judgment of the intervention effect is notoriously variable and unstable. It can not only vary among speakers but also change inside the mind of the same speaker occasionally. Because of this problem, there are two types of accounts for the intervention effect: a pragmatic account by Tomioka (2007, 2009) and a syntactic one by others.

In this paper I hope to defend syntax as a scientific discipline by showing that the intervention effect is truly a syntactic phenomenon and the judgment variability with regard to the effect can be explained in a simple and logical manner once we recognize that there are two kinds of *wh*-questions in Japanese: one with Agree and the other with binding.[1]

The rest of the paper is organized as follows. In section two I will introduce syntactic and non-syntactic approaches to the intervention effect and problems with both approaches. In section three I will present four kinds of evidence to show that there are two types of *wh*-questions in Japanese and one of them does not require *wh*-movement. In section four I will show how linguistic as well as extralinguistic factors affect the choice of two types of *wh*-questions, and will define what an intervener is. Furthermore, I will argue that there are two types of interveners, and hence, two types of intervention effects. In section five I will conclude the paper and discuss theoretical consequences of the present claim.

2 Previous studies on the intervention effect

In this section I will introduce syntactic and non-syntactic accounts of intervention effects.

2.1 Syntactic accounts: Morita (2009) and Hagstrom (1998)

Following Huang (1982) and Lasnik and Saito (1984, 1992), Morita (2009) argues that a *wh*-expression is covertly raised to the spec of C, where a question particle such as *ka* and *no* appears. Intervention effects arise when

interveners such as *daremo(-ga)* 'everyone(-Nom)', *dareka* 'someone', *A ka B* 'A or B', and NPIs (e.g. *A-sika* 'A-only' and *daremo* 'no one') intervene in *Agree* between C and a *wh*-expression. In other words, an intervener may be regarded as the wrong goal for C, so that it cannot appear between C and a *wh*-expression. Therefore, if *wh*-expressions are scrambled and placed before interveners, intervention effects disappear as follows, which are from Tomioka (2007: 1572):

(5) Nani-o$_i$ daremo-ga t_i yonda no?
     what-Acc   everyone-Nom   read   Q
     'What did everyone read?'

(6) Nani-o$_i$ Ken-ka Mary-ga t_i yonda no?
     what-Acc -or   -Nom read   Q
     'What did Ken or Mary read?'

(7) Nani-o$_i$ dareka-ga t_i yonda no?
     what-Acc   someone-Nom   read   Q
     'What did someone read?'

(8) Nani-o$_i$ daremo t_i yomanakatta   no?
     what-Acc anyone   read.not   Q
     'What did no one read?'

In the grammatical examples above, suppose covert movement follows Spell-Out. Then nothing intervenes in *Agree* between C and *nani* 'what', and hence, no intervention effect arises. In this manner, the intervention effect can be explained with the economy condition such as the Minimal Link Condition (MLC).

Moreover, following an essential idea of Hagstrom (1998), Morita (2009) claims that a *wh*-expression inside an island (excluding a *wh*-island) is pied-piped and the entire island is covertly *wh*-moved to spec-C. Thus, even if an intervener c-commands a *wh*-expression in an island, no intervention effect is observed because what is moved is not the *wh*-expression but the whole island. In other words, Agree occurs between C and the edge of an island, so that an intervener inside the island does not block the Agree. The following examples are from Hagstrom (1998: 54):

(9)　a.?*<u>John-ka Bill-ga</u>　　　nani-o　　katta no?
　　　　　-or　-Nom　what-Acc bought Q
　　　'What did John or bill buy?'

　　b. Mary-wa [<u>John-ka Bill-ga</u>　　nani-o　　katta　atode] dekaketa　no?
　　　　　-Top　　　-or　　-Nom what-acc bought after　left　　　Q
　　　'Mary left after John or Bill bought what?'

In (9)*a* an intervener *John-ka Bill-ga* 'John-or Bill-Nom' interferes with *Agree* between C and the *wh*-phrase, and hence, it is ungrammatical. In contrast, in (9)*b* no intervention effect is observed. This is because the entire island, *John-ka Bill-ga nani-o katta atode* 'after John or Bill left', is pied-piped and covertly raised to spec-C. See Morita (2009) for several pieces of evidence for this claim.

　However, Tomioka (2007) presents several problems with the syntactic accounts introduced above. To mention some of them, the accounts have difficulty explaining i) why speakers judge differently, ii) why some interveners cause severer ungrammaticality than others, iii) why intervention effects seem to be lifted in (non-island) embedded contexts, and iv) why it is difficult to characterize a syntactic feature of interveners.

2.2 A pragmatic account: Tomioka (2007)

Next we turn to Tomioka's (2007) pragmatic account of intervention effects. He poses several questions to syntactic accounts such as the ones introduced above. First of all, as already mentioned, "grammatical judgments on these intervention effects are notoriously subtle, and the variability among native speakers is vast" (Tomioka 2007: 1572). Furthermore, the degree of deviancy differs among interveners: universal quantifiers such as *daremo*-*ga* 'everyone-Nom' and *dono gakuseimo* 'every student' cause mild ungrammaticality whereas NPIs are the worst, and existential quantifiers (e.g. *dareka* 'someone') and disjunction phrases are somewhere between.

　Second, intervention effects get weaker not only in islands but also in non-island embedded contexts. Consider the following examples, which are from Tomioka (2007: 1573):

(10) ?(?) Kimi-wa [_{CP} <u>daremo</u> nani-o   yomanakatta to] omotteiru no?
        you-Top   anyone what-Acc read.not Comp   think   Q
        'What do you think that no one read?'

(11) Kimi-wa [_{CP} <u>daremo-ga</u>   nani-o   yonda to] omotteiru no?
     you-Top   everyone-Nom what-Acc read Comp think   Q
     'What do you think that everyone read?'

(12) Kimi-wa [_{CP} <u>John-ka Bill-ga</u>   nani-o   yonda to] omotteiru no?
     you-Top   -or   -Nom what-Acc read Comp think   Q
     'What do you think that John or Bill read?'

According to Tomioka (2007), although NPIs still cause certain deviancy as in (10), other interveners do not seem to induce intervention effects in embedded context. If there is such a contrast, it needs an explanation for a syntactic account.

Third, not all quantifiers cause intervention effects, so it seems difficult to propose a common syntactic feature which interferes with *Agree* between C and a *wh*-expression. For example, quantifiers such as *hotondo* 'most', *minna* 'everyone', *subete-no N* 'all-Gen N', and *A matawa B* 'A or B' do not cause intervention effects.

As with Kim (2002) and Beck (2006), one could propose that (phrases with) focus particles are interveners. However, as noted in Yanagida (1996) and Hagstrom (1998), not all focus particles cause intervention effects as follows:

(13) Ken-<u>dake</u>-ga   nani-o   katta   no?
        -only-Nom   what-Acc   bought   Q
     'What did only Ken buy?'

(14) Mary-<u>mo</u>   nani-o   katta   no?
        -also   what-Acc bought Q
     'What did also Mary buy?'

Dake 'only' and *mo* 'also' are focus particles; nevertheless, they do not cause intervention effects as in (13) and (14). Thus, it seems difficult to characterize interveners in terms of syntactic features. (However, in section 4.2 I will argue that interveners are contrastive-focused phrases.)

Considering that the syntactic approaches do not have an account for the problems above, Tomioka (2007) offers a pragmatic account, which I briefly introduce below. He claims that interveners cannot serve as a Topic, which he calls "Anti-Topic Items". For example, it is impossible to say these items with a topic marker *wa* as *daremo-wa 'everyone-Top', *dareka-wa 'someone-Top', and *John-ka Mary-wa 'John-or Mary-Top' suggest. Following Vallduví (1992, 1995), he further assumes that a sentence is divided into two parts, a focus and a ground. A focus is regarded as a new information part of the sentence while a ground is regarded as old information of the sentence. A ground is further divided into a link and a tail. A link is used to relate the sentence to the previous context, which is normally achieved by the topic marker *wa* in Japanese. A tail is the rest of the old information part in the sentence. Normally a link is placed at the initial position of the sentence, and *wh*-expressions are considered to be foci. Accordingly, the following contrast is accounted for:

(15) John-wa/?? John-ga   nani-o   yonda no?
          -Top   -Nom what-Acc read   Q
    'What did John read?'   (The judgment is Tomioka's (2007: 1574).)
If the sentence starts with a topic-marked phrase, it sounds natural. In contrast, if it starts with a phrase with the nominative case *ga*, it sounds slightly unnatural. If the contrast is real, it supports that a link, if any, should be placed before a *wh*-expression, which is a focus.

With the assumptions above, Tomioka (2007) argues that examples such as (1), (2), (3) and (4) sound unacceptable because interveners there are Anti-Topic Items, and hence, cannot be links. In contrast, scrambled examples such as (5), (6), (7), and (8) are acceptable because *wh*-expressions are now in an initial position and Anti-Topic Items are regarded as part of the tail of the sentence. Similarly, since Anti-Topic Items are not in an initial position in embedded context, intervention effects are not (strongly) observed in (10), (11) and (12).

There are a few problems with Tomioka's (2007) pragmatic account too. First, even if the contrast between *wa*-marked and *ga*-marked subjects is real, intervention effects seem to cause more severe deviancy than *ga*-marked

subjects. Contrast the following pair:

(16) Mary-ni-wa$_i$ Ken-ga t_i nani-o   ageta   no ?
       -Dad-Top   -Nom   what-Acc   gave   Q
   'Talking about Mary, what did Ken give to her?'

(17) *Mary-ni-wa$_i$ dareka-ga t_i nani-o   ageta   no ?
       -Dat-Top   someone-Nom   what-Acc   gave   Q
    'Talking about Mary, what did someone give to her?'

Since the *Mary-ni-wa* 'Mary-Dat-Top' becomes a link, the subject with a nominative case is not a link. Thus, (16) sounds fine in contrast to (15). However, (17), which is the same as (16) in terms of information structure, still sounds ungrammatical. Thus, intervention effects are not totally due to the information structure of the sentences.

Secondly, there is a case in which Anti-Topic Items can precede a *wh*-expression. Examine the following sentence:

(18) <u>Daremo-ga(/*wa)</u>   sorezore nani-o   katta   no?
   everyone-Nom(/-Top) each   what-Acc bought Q
   'What did everyone each buy?'

                           (Miyagawa (2002: 10), slightly adapted)

Somehow with the addition of *sorezore* 'each', the intervener *daremo-ga* stops being an intervener. This is naturally explained in a syntactic account. Following May (1985), Miyagawa (2002) claims that the universal quantifier with *sorezore* is raised to spec-C; consequently, there is no intervener between C and the *wh*-phrase, and no intervention effect follows (the analysis of which will be discussed further in section 4.2.2). However, it is not clear why (18) is fine in Tomioka's account, particularly because *daremo* continues to be an Anti-Topic Item even with *sorezore*.

The last problem, which is a problem not only for the pragmatic but also for the syntactic account, is that with an appropriate context provided, the ungrammatical examples of intervention effects become acceptable. For example, consider the following context and example:

(19) **context**: when the principal passes along a classroom on Monday morning, she finds that every student wears the same new T-shirt, so she guesses that all of them went to the same place during the weekend. But she does not know which (or what) place it is. Later she asks one of the students the following question.

> Q: Daremo-ga(/*-wa)   (ittai)   doko-ni   itta   no?
> everyone-Nom/-Top   the.hell   where-to   went   Q
> 'Where (the hell) did everyone go?'

The fact that the *wh*-question in (19) is grammatical indicates that the context seems to have a great effect on the grammatical judgment.[2] Thus, the syntactic account needs to account for why intervention effects are sometimes lifted (see section 4.1 for details). Similarly, the example above seems to be a problem for Tomioka's (2007) pragmatic account. Although effects on judgment due to context such as above are normally examined within pragmatics, Tomioka's pragmatic account does not explain the phenomenon because *daremo* 'everyone' remains to be an Anti-Topic Item and it is not clear how the context above helps to resolve his version of information structure account.

3 Two kinds of *wh*-questions

In this section I will claim that there are two kinds of *wh*-questions in Japanese; one requires Agree between *wh*-expressions and C whereas the other requires C to bind *wh*-expressions. Since the latter type does not employ Agree, it does not show intervention effects, which are thought to arise due to prevention of Agree in syntactic accounts such as Hagstrom (1998) and Morita (2009). To support this claim, I will present four pieces of evidence for the claim that *wh*-expressions which escape intervention effects are not operators, so that they do not initiate Agree.

3.1 Lack of scope rigidity

The first piece of evidence is that *wh*-elements which somehow escape intervention effects do not show scope rigidity. As noted in Hoji (1985),

without overt movement of phrases such as scrambling, quantifiers in a sentence do not show scopal ambiguity in Japanese as follows:

(20) Dareka-ga   daremo-o   hometa.

     someone-Nom everyone-Acc praised

     'Someone praised everyone.'

     ('someone' >> 'everyone'; *'everyone' >> 'someone')

(20) is in a canonical word order, and the existential quantifier must take scope over the universal one. (Incidentally, both of the quantifiers are interveners.) Unlike in English, the universal quantifier cannot take scope over the existential one in (20). The fact that canonical word order dictates scopal interaction is called scope rigidity.

     However, one interesting fact about intervention effects in Japanese is that *wh*-expressions and interveners (which are mostly quantifiers) do not seem to show scope rigidity when intervention effects do not surface. Consider the *wh*-question in (19) again with its answers:

(21)   Q: <u>Daremo-ga</u> (ittai)   doko-ni itta no? (= (19))

       'Where did everyone go?'

    A_1: Disneyland desu. (Single-list answer)

              Cop

      'To Disneyland.'

    A_2: *Ken-ga yama-ni, Mary -ga umi-ni, John-ga … (distributive answer)

         -Nom mountain-to-Nom sea-to   -Nom

      'Ken went to the mountain, Mary went to the sea, …'

We have seen that intervention effects are lifted in appropriate context such as (19). In the case of (21), if the speaker presupposes that everyone went to the same place, no intervention effect is detected, and hence, the question is perfectly grammatical.[3] However, interestingly, the scope rigidity observed in (20) is no longer observed in (21). Specifically, if the scope rigidity persists, we expect the universal quantifier to take scope over the *wh*-phrase in (21), and hence, distributive answers such as A_2 in (21) to follow. But distributive answers are not possible in (21).[4] Accordingly, *wh*-expressions which somehow escape intervention effects do not show scope rigidity.

     Here, one may want to pose a possibility that the intervention effect in

Japanese is a not syntactic but semantic constraint by claiming that the reason why the question in (21) is (sometimes) subject to the intervention effect is because *daremo-ga* 'everyone-Nom' simply cannot take wide scope over a *wh*-expression, and hence, disallowing distributive answers such as A$_2$ in (21). As a result, scope rigidity is violated and this situation makes people feel strange about the sentence. Moreover, the fact that (5), where a *wh*-expression is placed before an intervener through scrambling, continues not to provide distributive readings and is grammatical seems to support this possibility.

   Although I agree that *daremo* without *sorezore* does not permit distributive readings, I do not believe that the intervention effect in Japanese is semantic. Examine the following sentence:

(22) Subete-no gakusei-ga doko-ni jibun-no   jitensha-de itta no?
       all-Gen   student-Nom where-to oneself-Gen bicycle-in went Q

   'Where did all of the students go in their bicycles?' (*every >> where)

Although *subete-no gakusei* 'all of the students' c-commands the *wh*-expression, it cannot generate distributive answers, indicating that the universal quantifier semantically cannot take scope over *wh*-expressions.[5] However, no intervention effect (or scope rigidity) is detected in (22). Accordingly, it is not possible to attribute the intervention effect to interveners' inability to provide distributive readings.

3.2 Lack of multiple-pair readings

The second evidence comes from Dayal (2002), who claims that multiple-pair readings from multiple *'which-NP'* expressions arise when both overtly moved and in-situ *wh*-expressions are in C at LF, whereas single-pair readings are available when a binding mechanism (such as Reinhart's (1998) choice function) is applied to in-situ *wh*-expressions. Consider the following two examples and their possible answers from Dayal (2002: 512):

(23)   Which professor likes which linguist?

(24)   Which linguist will be offended if we invite which philosopher?

According to Dayal (2002), sentences such as (23) freely allow multiple-pair readings, and hence, an answer such as 'Professor Smith likes Professor

Brown and Professor King like Professor Matthew' is possible. On the other hand, sentences such as (24) permit only single-pair readings, so that only one pair such as 'Professor Smith will be offended if we invite Professor Brown' is possible. Dayal argues that the reason why multiple-pair readings are unavailable in (24) is that the in-situ *wh*-expression cannot reach the matrix C due to the subjacency condition.

One important fact is the use of *which NP* in the examples above. This type of *wh*-expressions requires a single referent as an answer. Consider the following English and Japanese examples:

(25) Which student came to the party yesterday?

(26) Dono gakusei-ga   paatii-ni kimasita ka
      which student -Nom party-to came   Q
      'Which student came to the party?'

In both of the questions it is presupposed that there is only one student who went to the party. However, as Higginbotham and May (1981) and Dayal (2002) note, if there is more than one *which NP* in a question, the above presupposition disappears as the following examples show:

(27) Which student came to which party yesterday?

(28) Dono gakusei-ga   dono   paatii-ni kimasita ka
      which student -Nom which party-to came   Q
      'Which student came to which party?'

It is possible to answer these questions by saying 'Student A came to John's party, student B came to Mary's party, …' Moreover, according to Dayal (2002), both *wh*-expressions need to be in C at LF to generate multiple-pair readings.

3.2.1 Single-pair interpretations as a result of the intervention effect

With this proposal in mind, let us consider the following examples:

(29) Dono gakusei-ga Ken-ni   dono hon-o   ageta no?
      which student-Nom -Dat which book-Acc gave   Q
      'Which student gave Ken which book?' (ok multiple-pair)

(30) a. (??) Dono gakusei-ga <u>Ken-ka Mary-ni</u>   dono   hon-o
    which student-Nom   -or   -Dat which book-Acc
    yondeageta   no?
    read   Q
    'Which student read Ken or Mary which book?' (*multiple-pair)

  b. Dono gakusei-ga Ken-matawa Mary-ni   dono   hon-o
   which student-Nom   -or   -Dat which book-Acc
   yondeageta   no?
   read   Q
   'Which student read Ken or Mary which book?' (ᵒᵏ multiple-pair)

  c. Dono gakusei-ga   dono koohai-ni <u>si-ka shoosetu-o</u> yondeageta no?
   which student-Nom which junior-Dat poem-or novel-Acc read   Q
   'Which student read which junior a poem or a novel?' (ᵒᵏ multiple-pair)

(31) a. (??) Dono gakusei-ga   <u>dono.koohai.ni.mo</u> dono   hon-o
    which student-Nom every.junior.Dat   which book-Acc
    yondeageta   no?
    read   Q
    'Which student read every junior which book?' (*multiple-pair)

  b. Dono gakusei-ga   subete-no koohai-ni dono   hon-o
   which student-Nom all-Gen   junior-Dat which book-Acc
   yondeageta   no?
   read   Q
   'Which student read every junior which book?' (ᵒᵏ multiple-pair)

  c. Dono gakusei-ga   dono   koohai-ni <u>dono hon.mo</u> yondeageta
   which student-Nom which junior-Dat every.book   read
   no?
   Q
   'Which student read which junior every book?' (ᵒᵏ multiple-pair)

The examples above show that no multiple-pair interpretation is generated
in a situation where intervention effects are normally expected to arise as in
(30)*a* and (31)*a*. Specifically, *Ken-ka Mary* 'Ken or Mary' in (30)*a* and *dono.
koohai.ni.mo* 'every junior' in (31)*a* are interveners, and these interveners
c-command a *wh*-expression, so they cause intervention effects (as

represented as in *(??)*). However, the effect is very weak. Ignoring the slight awkwardness of (30)*a* and (31)*a* for the time being, one may find that there is a semantic difference between *wh*-questions without c-commanding interveners such as (29), (30)*b*, (30)*c*, (31)*b* and (31)*c*, and ones with c-commanding interveners such as (30)*a* and (31)*a*. That is, the former allows multiple-pair readings whereas the latter ones do not. In other words, in a situation where Agree between a *wh*-expression and C (and hence subsequent movement) is guaranteed, multiple-pair readings are possible as in (29), (30)*b*, (30)*c*, (31)*b* and (31)*c*.

Dayal (2002) claims that both *wh*-expressions (if there are two) must be in C at LF to generate multiple-pair readings. Thus, the fact that no multiple-pair reading is available in (30)*a* and (31)*a* indicates that at least one of the *wh*-expressions in each case is not moved to C. If the *wh*-expressions c-commanded by the interveners do not go through *wh*-movement, it is not surprising that the examples cause little deviance. Therefore, what the examples above suggest is that there are two ways of deriving *wh*-questions in Japanese and one type which is not subject to intervention effects does not allow multiple-pair readings. This in turn argues that if *wh*-expressions are not subject to intervention effects, they are not operators.

3.2.2 An effect of question particles on multiple-pair readings

Interestingly, Miyagawa (1997) presents another circumstance where multiple-pair readings are prevented. Contrast the following pair:

(32) a. Dono sensei-ga   dono seito-o   sikatta   no?
          which teacher-Nom which student-Acc scolded   Q
          'Which teacher scolded which student?'   (ok multiple-pair)
       b. Dono sensei-ga dono seito-o sikatta?   (* multiple-pair)

As Yoshida and Yoshida (1997) note, dropping a question marker as in (32)*b* is possible and commonly observed in informal speech. Moreover, Miyagawa (1997) argues that there is a difference in terms of interpretation between *wh*-questions with a question particle and ones without. In other words, multiple-pair readings are not permitted when a question marker is dropped as in (32)*b*. This fact also follows if a question particle in C can carry features

(e.g. [Q] and [WH] in Chomsky (2000)) necessary for Agree with the features of operator *wh*-expressions while lack of a question particle implies no such features, and hence, the use of non-operator *wh*-expressions has to be resorted to. In other words, operator *wh*-expressions need a question particle because the former needs to enter Agree with the latter, whereas non-operator *wh*-questions do not necessarily need a question particle because of unnecessity of Agree.

If this account is on the right track, it is possible to predict that intervention effects are unobserved without a question particle. This seems to be the case. Examine the following sentences:

(33)　a. <u>Daremo-ga</u>　　doko-ni　itta (?? no) ?

　　　　everyone-Nom where-to went (Q)

　　　　'Where did everyone go?'

　　　b. <u>Ken-sika</u> doko-ni　ikanakatta　(*? no) ?

　　　　-only　　where-to go.not.past (Q)

　　　　'Where did only Ken go?'

In addition to *daremo-ga* 'everyone', *NP-sika* 'only NP' is an intervener. The examples above show that an intervention effect is lifted if there is no question particle. This fact is naturally explained because the *wh*-expressions there are non-operators due to lack of a question particle. Since they do not go through Agree or move, no intervention effect is detected there. Thus, these data also support that *wh*-expressions c-commanded by interveners are not operators.

3.3 *Wh*-expressions with intervener particles

The claim that *wh*-expressions under potential intervention effects are not operators makes another prediction: if an element which makes an expression an intervener (such as *sika* and *mo*), which I call an intervener particle, is directly attached to a *wh*-expression, this *wh*-expression cannot function as an operator, so that it should no longer exhibit intervention effects. This prediction is borne out.

If an intervener particle is directly attached to a *wh*-expression, no intervention effect is observed as in (34)*b*:

(34) a. ???Ken-<u>ka</u> Mary-ga   nani-o   yonda no?   (=(2))
          -or   -Nom what-Acc read   Q
     'What did Ken or Mary read?'

    b. Ken-<u>ka</u> Mary-ga   nani-<u>sika</u>   yomanakatta no?
        -or   -Nom what-only read.not.past   Q
     'Only what did Ken or Mary read?'

Ken ka Mary 'Ken or Mary' is an intervener to c-commanding *wh*-expressions, so it normally causes an intervention effect as in (34)*a*. The same grammatical status is expected even in (34)*b*, but it sounds perfectly fine even without contextual aid, which suggests that *sika* makes *nani* a non-operator, and hence, *Ken ka Mary* cannot cause an intervention effect with *nani*.

3.4 Lack of pied-piping

If *wh*-expressions under potential intervention effects are not real operators, they are not expected to go through Agree or *wh*-movement. Hence, they should not cause pied-piping. I will present a piece of evidence for this claim.

According to syntactic accounts such as the one in section 2.1, the reason why no island effects (other than *wh*-island effects) are observed is due to the mechanism of pied-piping. As one piece of evidence for this claim, Pesetsky (1987: 112, 126) presents the following contrast:

(35) a. Mary-wa *ittai* [John-ni   nani-o   ageta hito-ni]   atta no?
            -Top the.hell   -Dat what-Acc gave   person-Dat met   Q
     'What in the world did Mary meet [the person that gave ___ to John]?'

    b. *Mary-wa [John-ni *ittai* nani-o   ageta hito-ni] atta no?

Ittai is known to make a *wh*-expression non-D-linked as discussed before.[6] Furthermore, it must be outside an island as in (35)*a*.

Examine the following example next:

(36) <u>Daremo</u>-ga [John-ni *ittai*   nani-o   ageta hito-ni]   atta no?
     everyone-Nom -Dat the.hell   what-Acc gave person-Dat saw Q
     '(Lit.) Everyone saw a person who gave John what the hell?'

In the example above, the subject in (35)*b* is replaced with an intervener *daremo*. Interestingly, the example is grammatical, which indicates that no

pied-piping is initiated to avoid an intervention effect.

On the basis of the four types of evidence, I conclude that *wh*-expressions which escape intervention effects are not real operators. In other words, I claim that there are two types of *wh*-questions. One is derived through Agree between *wh*-expressions and (a question particle in) C, and subsequent *wh*-movement, and this type is subject to all syntactic constraints including the intervention (and the *wh*-island) effects, which I call an Agreed *wh*-question from now on. Suppose that C has [+sc(ope), uf(ocus)] while *wh*-expressions have [+f, $u$sc]. Then the intervention effect surfaces in the following schematic structure:

(37) The intervention effect (type 1):

    * C   …   intervener   …   *wh*[7]

  [+sc, uf]   [+f]   [+f, $u$sc]

In (37), Agree between C and a *wh*-expression is blocked due to an intervener which has the same kind of feature as the *wh*-expression. In other words, when C, a probe, tries to value its uninterpretable feature, uf, it goes through Agree with the intervener, not the *wh*-expression, because both the intervener and the *wh*-expression have [+f] and the closer goal is wrongly selected due to the MLC. This is how the intervention effect arises in Agreed *wh*-questions.

The other type of *wh*-questions does not involve Agree (or movement to C). Following Baker (1970), Hankamer (1974), Stroik (1992), Tsai (1994), Ouhalla (1996), Yanagida (1996) and Reinhart (1998), I assume that *wh*-expressions in this type of *wh*-questions are simply variables with restrictions (possessing neither [+f] nor [$u$sc]), and their variables are bound by an interrogative C (not carrying either [+sc] or [$u$sc]). I call this type a binding *wh*-question from now on. Since *wh*-expressions in binding *wh*-questions are not real operators, they do not go through Agree or *wh*-movement and are not subject to syntactic constraints such as the intervention effect.

4 Accounts of the remaining problems

In this section I will discuss unresolved problems for the syntactic approach to the intervention effect. In the first half, I will examine why judgment

variability arises depending on different speakers, syntactic contexts (i.e. embedded or not), and interveners (i.e. NPIs vs. others). In the second half, I will define interveners and show that there are two types of interveners, and hence, two types of intervention effects in Japanese.

4.1 Resolving judgment variability

One of the reasons why Tomioka (2007) considers the intervention effect as a non-syntactic phenomenon is that their grammatical judgment is variable. However, the fact that there are two types of *wh*-questions presents a different picture. In other words, another possibility arises that the intervention effect is syntactic, but the choice of the two types of *wh*-questions is affected by extralinguistic factors. In this section I will argue for the suggested possibility and will illustrate how syntactic as well as non-syntactic factors affect the choice of *wh*-questions.

   First, I will discuss non-syntactic factors. According to Karttunen and Peters (1980), *wh*-questions are presupposed to have answers. Since there are two types of *wh*-questions in Japanese, two different presuppositions may be available. Accordingly, by creating a context which is compatible with only one of the two different presuppositions, it is possible to derive only one of the two types of *wh*-questions.

4.1.1 Variability among speakers

In this subsection I will present a few instances of context which support only the derivations of binding *wh*-questions, and hence, the intervention effect is unobserved.[8] I will start with the universal quantifier *daremo-ga*. Consider (19) again, which is repeated below:

(38) **context**: when the principal passes along a classroom on Monday morning, she finds that every student wears the same new T-shirt, so she guesses that <u>all of them went to the same place</u> during the weekend. But she does not know which (or what) place it is. Later she asks one of the students the following question.

    Q: <u>Daremo-ga</u>   (ittai)   doko-ni itta   no?

       everyone-Nom the.hell where-to went Q

     'Where (the hell) did everyone go?'

In the example above, since no intervention effect is detected despite *daremo-ga* 'everyone-Nom', the question is a binding *wh*-question. Since a *wh*-expression there is not an operator, it does not exhibit scope rigidity with *daremo-ga*. As a result, the question above is interpreted as in (39):

(39) What is an x such that everyone went to place(x)?

In (39), the *wh*-expression, being a non-operator, is simply 'place(x)', whose variable is bound by C.[9] According to Karttunen and Peters (1980), (39) presupposes that there is a place where everyone went, which is compatible with the context 'everyone went to the same place(s).' Hence, only a binding *wh*-question is possible in the context above.[10]

    It is also possible to make a context in which the existential quantifier *dareka 'someone'* does not cause intervention effects. Examine the following context and question:

(40) **context**: Pete is generous and lent his laptop computer to several friends of his last week. But when he tried to use it this week, it didn't work. Therefore, he thought that one of his friends did something to his computers. Then he sent his laptop computer to a repair shop and explained the situation. After a while, the shop called him to say that his computer was repaired and asked to him to collect it. When Pete went to the shop, he asked the following question.

    Q: <u>Dareka-ga</u> (boku-no konpyutaa-ni) nani-o   sita no?

       someone-Nom I-Gen computer-to what-Acc did Q

     'What did someone do (to my computer)?'

In (40) the *wh*-expression is a non-operator. As a result, the binding *wh*-question in the context above is interpreted roughly as follows:

(41)   What is an *x* such that someone gave action(x) (to my computer)?

The presupposition of (41) is that someone did some action to my computer; thus, as long as this presupposition is explicit in the context, the existential quantifier does not cause an intervention effect. Since the *wh*-expression does not go through Agree with C, no intervention effect is observed.

Nonetheless, it is more difficult to make a natural context which is compatible with the presupposition and the question in comparison to *daremo* 'everyone'. For example, if somebody had broken my computer, I would ask who broke my computer first, and then what s/he did to it. To avoid this, we need to set up a very specific context as above.

To sum up, if context compatible with only binding *wh*-questions is provided, interveners (except NPIs, which will be discussed below) do not cause the intervention effect. Nevertheless, the ease of creating appropriate context varies according to interveners. Generally, the natural context for a universal quantifier is easy to imagine whereas the context for disjunction and existential quantifiers is more difficult. Thus, part of the reason why people judge differently depending on interveners in null context is attributable to the ease of creating appropriate natural context.

Above I have shown that if context compatible only with the presupposition of binding *wh*-questions is provided, no intervention effect is observed. Furthermore, the discussion above offers a plausible reason to judgment variability among Japanese speakers. Suppose that choice of operator *wh*-expressions is a default option in null context; in other words, interpreting *wh*-questions as Agreed *wh*-questions is generally preferred to analyzing them as binding *wh*-questions.[11] Then the speakers will have an intervention effect in examples such as (1), (2), and (3). At this point some speakers regard the examples as ungrammatical and end considering. However, others may go on to create necessary context for binding *wh*-questions by themselves. It is known that some people are better at imagining necessary context than others. If they succeed in making specific context necessary for binding *wh*-questions, they regard the examples as grammatical. Thus, without contextual aid, judgment variability among speakers arises because the preferred derivations (i.e. Agreed *wh*-questions) result in ungrammaticality and the

dispreferred interpretations (i.e. binding *wh*-questions) may require specific context, the availability of which very much depends on speakers' ability (at performance level).

However, as discussed in the previous section, context is not the only clue to determine the type of *wh*-question. Attaching intervener particles directly to *wh*-expressions[12] and omitting question particles are other clues to interpret examples as binding *wh*-questions.

4.1.2 Lifting of the intervention effect in embedded context

In this subsection I will show that it is possible to syntactically explain why the intervention effect is unobserved in embedded context. Examine the following examples, which are from Tomioka (2007: 1573) and repeated from section 2.2:

(42) ?(?) Kimi-wa [$_{CP}$ daremo nani-o   yomanakatta to] omotteiru no?
            you-Top   anyone what-Acc read.not Comp   think   Q
        'What do you think that no one read?'

(43) Kimi-wa [$_{CP}$ daremo-ga   nani-o   yonda to]   omotteiru no?
        you-Top   everyone-Nom what-Acc read Comp   think   Q
        'What do you think that everyone read?'

(44) Kimi-wa [$_{CP}$ John-ka Bill-ga nani-o   yonda to]   omotteiru no?
        you-Top   -or   -Nom what-Acc read Comp   think   Q
        'What do you think that John or Bill read?'

I will discuss NPIs in the next subsection, so I will not deal with (42) here. As (43) and (44) demonstrate, the intervention effect is unobserved in non-island embedded context. Due to this nature, Tomioka (2007) concludes that the intervention effect is not syntactic.

Interestingly, they are not binding *wh*-questions. Examine the following examples:

(45) Kimi-wa [$_{CP}$ daremo-ga (ittai)   dono ko-ni   dono hon-o
      you-Top   everyone-Nom the.hell which child-to which book-Acc
      yondeageta to]   omotteiru no?
      read   Comp think   Q
      'Which book do you think that everyone read to which child?'

                                                              (^{ok} multiple-pair)

(46) Kimi-wa [$_{CP}$ John-ka Bill-ga   (ittai) dono ko-ni   dono
      you-Top   -ok   -Nom   the.hell which child-to which
      hon-o   yondeageta to]   omotteiru no? (^{ok} multiple-pair)
      book-Acc read   Comp think   Q
      'Which book do you think that everyone read to which child?'

Since multiple-pair readings are available, the *wh*-expressions are presumed
to be raised to the matrix C in (45) and (46). Moreover, *ittai* 'the hell',
which can be used with '*which NP*' in Japanese (cf. fn. 6), does not cause
ungrammaticality or block multiple-pair readings, which suggests no pied-
piping of the entire embedded clauses. These facts indicate that even the *wh*-
expressions in (43) and (44) manage to go through *wh*-movement despite the
presence of interveners on the way.

   To resolve this unexpected behavior, I will resort to Chomsky (2007,
2008), who claims that A'-movement is not Agree-based but triggered by an
optional *edge* feature. Since the *edge* feature of the intermediate C attracts the
wh-expressions, no intervention effect is observed (because the latter arises
only when Agree is initiated). However, I assume that this non-Agree based
A'-movement only applies to intermediate movements, not movement to the
targeted C (which is assumed to have syntactic feature necessary for Agree
with *wh*-expressions) in the derivation of *wh*-questions in Japanese. This is
because we have seen a great deal of evidence that supports the existence of
Agree between *wh*-expressions and C above. Moreover, when interveners are
in the matrix subject, the intervention effect comes back as follows:

(47) ??Daremo-ga [$_{CP}$ Ken-ga   nani-o   yonda to]   omotteiru no?
       everyone-Nom   -Nom   what-Acc read Comp think   Q
       'What does everyone think that Ken read?'

(48) ???<u>John-ka Bill-ga</u> [_{CP} Ken-ga　nani-o　yonda to]　omotteiru no?
　　　　　-or　-Nom　-Nom　what-Acc read　Comp　think　Q
　　‘What does John or Bill think that Ken read?’

　To sum up, the reason why the intervention effect is undetected in embedded context is because cyclic-movement to intermediate C is caused by an optional *edge* feature in the derivation of *wh*-questions. Accordingly, the intervention effect as a syntactic constraint still holds.

4.1.3 Differences among interveners: NPIs vs. others

As also noted by Tomioka (2007), NPIs cause the severest deviation among interveners as in (4) and the grammaticality does not improve much even in embedded context as in (42). Thus, NPIs are different from other interveners. In this section I will present a semantic account to the difference. Specifically, I will argue that another factor is involved in the derivations of sentences with NPIs.

　According to Beck (1996), negation cannot bind the trace of a covertly moved *wh*-expression, which he calls the Minimal Negative Structure Constraint (MNSC, henceforth). Moreover, according to Yoshimoto (1998), NPIs are overtly raised to the spec of NegP in Japanese. If these claims are true, a *wh*-expression after an NPI is in the scope of negation, and hence, the MNSC applies and the sentence become ungrammatical. There is a piece of evidence that lexical items after an NPI is within the scope of negation. Examine the following example, which is from Kataoka (2006: 169):

(49)　Hanako-sika sanju.satu ijoo-no　　hon-o　　toshokan-kara
　　　　　-only thirty.CL　more.than-Gen book-Acc library-from
　　karidasanakatta.
　　not.borrowed
　　‘Everyone except Hanako did not borrow more than 30 books from the library.’
　　Neg >> more than 30; *more than 30 >> neg

(49) means that the group of people except Hanako borrowed less than 30 books, which shows that the phrase after the NPI, *sanju.satu ijoo-no hon* ‘more than 30 books’, is under the scope of negation.

The account above explains two things naturally. First, *wh*-questions with NPIs in matrix context such as (4) and in embedded context such as (42) do not become fully grammatical because the MNSC holds everywhere. Secondly, the fact that the sentence becomes grammatical if the *wh*-expression is scrambled and placed before the NPI as in (8) is naturally accounted for. Due to scrambling, both the intervention effect and the MNSC are avoided. In this way it is possible to explain why NPIs are different from other interveners.

In this subsection I have shown how extralinguistic (i.e. context) as well as linguistic factors affect the choice of two types of *wh*-questions. Although the present account partly accepts Tomioka's (2007) extralinguistic accounts in that the choice of binding *wh*-questions is greatly influenced by context, it is very different from his because it claims that the intervention effect is a syntactic constraint and may block the derivations of Agreed *wh*-questions, which is a default option, in Japanese.

4.2 The nature of interveners

In this subsection I will argue that it is possible to find a common feature between interveners and *wh*-expressions, first. Then I will show that interveners, nonetheless, are divided into two groups, so that there are two types of intervention effects.

4.2.1   Intervener particles are focus particles

As Tomioka (2007) points out, it is necessary for syntactic proposals such as the current one to characterize interveners syntactically. I think that Kim (2002) and Beck (2006) are correct to regard interveners as (contrastive) focus-sensitive expressions. Tomioka (2007) questions the claim by saying that it is difficult to include disjunctive NPs and existential quantifiers in that category. However, in Morita (2005), I have argued that since contrastive-focused phrases generate a set of entities, and existential quantifiers and disjunctive NPs are represented by combining the set of entities with disjunction *ka* 'or', they can be regarded as contrastive focus-sensitive items. For example, the meaning of *dareka* 'somebody' is derived from repeated application of disjunction onto the members of the set of relevant entities,

such as 'Ken or Mary or John or …' Furthermore, I have claimed that the question marker *ka* is also a disjunction; therefore, it is possible to argue that *wh*-islands are one type of intervention effects as Hagstrom (1998) claims. Thus, it is not impossible to posit a common characteristic of interveners.

Nevertheless, as shown in section 2.2, not all contrastive-focused phrases seem to trigger intervention effects in the usual context, where an intervener is in a subject position. Examine the following sentences:

(50) Kinoo-wa   Ken-<u>wa</u>   doko-ni itta   no?
     yesterday-Top   -at.least where-to went   Q
     'As for yesterday, where did at least Ken go?'

(51) Mary-<u>sae</u>(-ga)   doko-ni   itta   no?
         -even(-Nom) where-to went   Q
     'Where did even Mary go?'

(52) John-<u>dake</u>(-?ga)   doko-ni   itta   no?
         -only(-Nom) where-to went   Q
     'Where did only John go?'

The second *wa* 'at least' in (50), *sae* 'even' in (51) and *dake* 'only' in (52) are contrastive-focus particles, but the examples seem to be fine. Thus, this fact may support Tomioka (2007), who claims that no common feature of interveners is available.

However, there are a few reasons to consider that the focus particles in (50), (51), and (52) are all intervener particles. The first reason is lack of multiple-pair interpretations. Interestingly, NPs with the particles above block multiple-pair interpretations as follows:[13]

(53) Dono gakusei-ga Ken -ni-<u>wa</u>   dono hon-o   ageta no?
     which student-Nom   -Dat-WA which book-Acc gave   Q
     'Which student gave at least Ken which book?' (*multiple-pair)

(54) Dono gakusei-ga Mary-ni-<u>sae</u>   dono hon-o   ageta no?
     which student-Nom   -Dat-even which book-Acc gave   Q
     'Which student gave even Mary which book?' (*multiple-pair)

(55) Dono gakusei-ga John-ni-<u>dake</u> dono hon-o   ageta no?
        which student-Nom   -Dat-only which book-Acc gave   Q
        'Which student gave only John which book?' (*multiple-pair)

The fact that multiple-pair readings are disallowed in (53), (54), and (55) indicates that not every *wh*-expression (in fact, no *wh*-expression in the present account) is raised to spec-C according to Dayal (2002). Hence, (53), (54) and (55) are binding *wh*-questions because *wa*, *sae* and *dake* could interfere with Agree between C and *wh*-expressions.

Similarly, intervention effects are unobserved if *wa*, *sae* and *dake* are directly attached to *wh*-expressions as follows:

(56) Mary-<u>sika</u> nani-<u>wa</u>   tabenakatta   no?
            -only what-at.least eat.not.past Q
        'At least what did only Mary eat?'

(57) <u>Daremo</u>-ga   nani-<u>sae</u>   tabeta no?
        everyone-Nom what-even ate   Q
        'Even what did everyone eat?'

(58) <u>Dareka</u>-ga   nani-<u>dake</u> tabeta no?
        someone-Nom what-only ate   Q
        'Only what did someone eat?'

Despite the presence of interveners such as *sika* in (56), *daremo* in (57), and *dareka* in (58), no intervention effect is observed in the examples above. These findings further support that focus particles such as *wa*, *sae* and *dake* as well as *ka*, *mo* and *sika* are intervener particles.

Moreover, no multiple-pair readings are available if the particles are directly merged with *wh*-expressions as follows:

(59) Dono ko-ga   dono shoonen-<u>wa</u> sukina no?
        which child-Nom which boy-WA   like   Q
        'Which child likes at least which boy?' (* multiple-pair)

(60) Dono ko-ga   dono shoonen-<u>sae</u> sukina no?
        which child-Nom which boy-even   like   Q
        'Which child likes even which boy?' (* multiple-pair)

(61) Dono ko-ga   dono shoonen-<u>dake</u> sukina no?
      which child-Nom which boy-WA   like   Q
      'Which child likes only which boy?' (* multiple-pair)

The data above show that the questions above are all binding *wh*-questions and *wa*, *sae*, and *dake* are all intervener particles.

4.2.2 Two types of intervention effects

The question of why intervention effects are unobserved in (50), (51) and (52) still remains. Before answering this question, it is necessary to determine whether they are binding or Agreed *wh*-questions, which can be checked by examining the availability of multiple-pair readings. Examine the following examples:

(62) Kinoo-wa   <u>Ken-wa</u>   dono gakusei-ni dono hon-o   ageta
      yesterday-Top   -at.least which student-Dat which book-Acc gave
      no?
      Q
      'As for yesterday, to which student did at least Ken give which book?'
                                            (ok multiple-pair)

(63) <u>Mary-sae(-ga)</u>   dono gakusei-ni dono hon-o   ageta no?
        -even(-Nom) which student-Dat which book-Acc gave   Q
      'Which student did even Mary give which book?'   (ok multiple-pair)

(64) <u>John-dake(-ga)</u>   dono gakusei-ni dono hon-o   ageta no?
        -only(-Nom) which student-Dat which book-Acc gave   Q
      'Which student did only John give which book?'   (* multiple-pair)

As the examples above show, only (64) does not allow multiple-pair readings. Hence, it is a binding *wh*-question, which strongly suggests that (52) is also a binding *wh*-question. This is why no intervention effect is observed in (52). However, (62) and (63) permit multiple-pair interpretations; therefore, they are Agreed *wh*-questions. This fact in turn indicates that (50) and (51) are Agreed *wh*-questions, and that there are two types of interveners.

    One way to answer why *wa* and *sae* do not cause an intervention effect in Agreed *wh*-questions such as (50), (51), (62), and (63) is to assume that NPs with the two particles are (covertly) raised to spec-C as *daremo-ga sorezore*

'everyone-Nom each' in (18), which is repeated below:

(18) <u>Daremo-ga</u>   sorezore nani-o   katta   no?
     everyone-Nom each   what-Acc bought Q
     'What did everyone each buy?'   (Miyagawa (2002: 10))

It has been argued above that no intervention effect is detected in (18) because *daremo-ga sorezore* 'everyone-Nom each' is raised to spec-C, and then Agree between C and the *wh*-expression follows through. Furthermore, as (65) shows, multiple-pair readings are possible as in (62) and (63), which further indicates that it is not a binding but an Agreed *wh*-question.

(65) <u>Daremo-ga</u>   <u>sorezore</u> dono   gakusei-ni   dono   sensei-o
     everyone-Nom each   which student-Dat which teacher-Acc
     syookaisita   no?
     introduced   Q
     'Which teacher did everyone introduce to which student?'

                                             (ok multiple-pair)

Therefore, interveners such as *WH-mo sorezore*, *NP-sae*, and *NP-wa* (in the subject position) do no cause intervention effects even if they c-command *wh*-expressions unlike other interveners because they are raised to C before *wh*-movement.

5 Conclusion

In this paper I have provided several pieces of evidence to show that there are two types of *wh*-questions in Japanese: Agreed and binding *wh*-questions. To show that binding *wh*-questions employ non-operator *wh*-expressions (and hence, no Agree or movement), I have shown that they do not exhibit scope rigidity or multiple-pair readings in multiple '*which NP*' questions as well as various kinds of insensitivities to island conditions. Then I have attributed judgment variability observed in the intervention effect to difficulty arising from the choice of one of the two types of *wh*-questions. In other words, one generally prefers Agreed *wh*-questions if no contextual information is presented, but s/he will reject them when the syntactic constraints above are violated. Then s/he will consider the possibility of binding *wh*-questions,

which can escape the intervention effect, but require specific context. This is why extralinguistic factors such as appropriate context become important. Since the ability of imagining appropriate context lies not in competence but in performance, some people are better than others; hence, judgment variability between speakers arises if no contextual information is given. However, an important point is that such extralinguistic factors may affect the choice of a type of *wh*-questions (more specifically, *wh*-expressions and C), but they do not lift the intervention effect because these are not pragmatic but syntactic constraints. Furthermore, following Kim (2002) and Beck (2006), I have argued that interveners are contrastive-focused elements in Japanese.

Finally, I have attributed the lack of the intervention effect in embedded context to Chomsky's (2007, 2008) "edge" features. He argues that every A'-movement is trigged not through Agree but through "edge" features, which naturally explains the absence of the intervention effect in (non-island) embedded context. However, considering that the intervention effect is a real syntactic phenomenon, it is unlikely that every A'-movement is triggered through "edge" features. Therefore, this paper concludes that some A'-movement (movement to the destination C in this case) involves Agree; that is to say, two types of A'-movement are available in natural language contra Chomsky (2007, 2008).

Notes

1   Because of limited space, I will not discuss *naze* ('why') in this paper. As for the interaction of *naze* and intervention effects, see Ko (2005) for a syntactic account and Tomioka (2009) for a pragmatic one.

2   Endo (2007) claims that the presence of *ittai* 'the hell', which makes *wh*-expressions non-D-linked (cf. Pesetsky (1987)), enforces an intervention effect. However, as the example shows, D-linking is not a sufficient condition for lifting (or causing) intervention effects.

3   Section 4.1.1 discusses what kind of presupposition is necessary to avoid intervention effects.

4   As Miyagawa (2002) observes, with the addition of *sorezore* 'each' after *daremo-*

ga, distributive readings are generated and the scope rigidity is retained. This will be discussed further in section 4.2.

5   Because *jibun-no jitensha-de* 'in his/her bicycle' forces a distributive interpretation on the universal quantifier, one cannot attribute the unavailability of distributive interpretations to the collective reading of the quantifier with a "cooperative answer", either.

6   However, as will be discussed in section 4.1.2, *ittai* can co-occur with D-linked *wh*-expressions such as *which NP(s)*. In fact, Kitagawa and Tomioka (2004: 325) argue that "ittai is not necessarily an anti-D-linking indicator. Rather it emphasizes the total ignorance or the lack of clue on the speaker's part as to what would be a likely answer to the question." I agree with them.

7   The word order in the schematic representations in this paper is irrelevant.

8   I will not supply context for Agreed *wh*-questions because they will result in ungrammaticality due to the intervention effect.

9   Here I assume that C has existential force which binds non-operator *wh*-expressions.

10   Let me comment on the case where *daremo* is in indirect object and a *wh*-expression is in direct object as follows, which is from Tomioka (2007: 1583):

(i)   Ken-wa daremo-ni   nani-o   ageta no?
        -Top everyone-Dat what-Acc gave   Q
     'What did Ken give to everyone?'

According to Tomioka (2007), (i) is a lot better than the case where the intervener is in subject as in (38) because the intervener is not in an initial position, and hence, need not be Topic. However, the presupposition necessary for (i) to be a binding *wh*-question is that 'Ken gave everyone the same item.' The context compatible with this presupposition is very easy to make; for example, 'I heard that in a Christmas party last week, Ken gave everyone the same present. What did Ken give to everyone?' The present account predicts that due to the ease of creating context when interveners are non-subjects, the intervention effect is perceived weakly in such cases.

11   This is not an implausible assumption if we think that such features in *wh*-expressions as [+f, usc] are intrinsic.

12   More such particles are introduced in section 4.2.

13   As will be discussed later, if an NP with *wa* or *sae* is the subject and two *which NPs* follow, multiple-pair readings are possible.

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日本語のインターヴェンション効果が
統語的現象である理由

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　日本語において、ある種の句が疑問詞の前に置かれると非文を引き起こす現象のことをインターヴェンション効果と呼ぶが、その現象の本質については、語用論的現象なのか統語的現象なのか現在結論が出ていない。その主な理由のひとつに、出現パターンは統語的に定義できるものの、文法性判断が母語話者の間で一致しないことがよくあり、同母語話者自体が時間が経つと異なった判断をすることがあることが知られているおり、このことは、文法以外の要因が関わっていることを示唆するからである。本論文では、語用論的現象を主張するTomioka (2007)の論考を批評したのち、上の現象が統語的である主張する。また、日本語のWH疑問文には、実は、2種類あり、インターヴェンション効果の影響を受けるものとそうでないものに分かれる。そして、文法性判断のずれやぶれに関しては、インターヴェンション効果自体が語用論的現象のせいではなく、2種類あるWH疑問文のうち、どちらを選択するかにおいて、文法外の要因が関わってくるためであると述べる。