Japanese Interrogative Sentences Revisited*

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0. Introduction

There has been a long-standing problem with the behavior of the question marker ("QM") *ka* in interrogative sentences in Japanese. The following trio of independent questions with a *wh*-phrase ("*wh*-questions") illustrates the crux of the problem.

(1) a. Nani-o   tabe-ru ? (non-polite)

      what-Acc eat-Pres

      'What will you eat?'

   b. *Nani-o tabe-<u>ru</u> ka ?   (non-polite)

   c. Nani-o tabe-<u>masu</u> ka ? (polite)

(1a-c) are information questions, in which the speaker seeks information about what the hearer will eat. The contrast in (1a) and (1b) shows that a *wh*-phrase and *ka* cannot co-occur in an independent question. The grammaticality judgment on sentence (1b) diverges: It is considered acceptable in Ueyama (1990), Yoshida and Yoshida (1996), and Nishigauchi and Ishii (2003). As illustrated in (1c), the corresponding polite form is grammatical.

In order to account for the contrast, Morikawa (2004) introduced an economy-based syntactic principle called Avoid Redundancy ("AR"), which blocks a redundancy of overtly indicated question morphemes/words. This

principle, however, does not clearly differentiate between (1b) and (2a).

(2) a. Nani-o tabe-yoo ka ?

             -will

    'What shall we eat?'

b. *Taroo-wa nani-o   tabe-ru-rashii ka ?

    Taro-Top what-Acc eat-Pres-seem Q

    'What does Taro seem to eat?'

If a modal verb *yoo,* which expresses the speaker's concern about the hearer, appears in (1b), the sentence becomes well-formed, as shown in (2a) (cf. Morikawa 2004: footnote 5). It is not the case that any modal verb plays the same role, as demonstrated by (2b).[1] Thus, it is not clear why those predicative elements in question allow the redundancy of overt question morphemes/words.

If the AR is on the right track, questions still remain: (a) Is the QM *ka* necessary to make a sentence interrogative?; and (b) Can the *ka*-less *wh*-question (1a) be interpreted as interrogative due only to the presence of the *wh*-phrase? The answer to these questions is straightforward, since the following *yes/no*-question, which lacks a *wh*-phrase, is well-formed without *ka*:

(3) Ringo-o   tabe-ru/-masu ?

    apple-Acc eat-Pres/-polite

    'Are you going to eat apples?'

Yes/no-questions are in principle uttered with rising intonation irrespective of *ka*.[2]

The purpose of this paper is to reexamine the QM *ka*, and claim that *ka* in independent questions is irrelevant to licensing of a *wh*-phrase and subject to the AR, whereas *ka* in dependent questions of indirect speech (i.e., indirect questions) must be licensed or license a *wh*-phrase.

This paper is organized as follows: In Section 1, I will reexamine the property of the QM *ka* in independent questions, thereby providing a descriptive generalization. It will be shown that *ka* does not function as a licenser of a *wh*-phrase. Then, I provide a theoretical analysis in the Minimalist Program (Chomsky 1995) of the information *ka*-marked *wh*-questions by examining rhetorical *ka*-marked *wh*-questions. I will also discuss how predicates like *masu/yoo/daroo* and the QM *ka* function in discourse, and suggest revising the AR so as to account for *wh*-questions like (1b). In Section 2, I will consider how independent questions without *ka* ("bare questions") should be treated, and suggest that the interrogative nature of *yes/no*-questions can be shown without *ka*. Section 3 unveils the property of *ka* in dependent questions, showing that *ka* is either morphologically licensed or it licenses a *wh*-phrase in indirect speech. In Section 4 , I will examine the environment where the AR applies. Section 5 summarizes the overall discussions.

1. Independent *Ka*-marked Questions
1.1. Descriptive Generalization

To begin with, let us observe how the QM *ka* in independent *wh*-questions behaves differently in *yes/no*-questions. It can appear in non-copular *wh*-questions if the predicate is in a polite form or contains a certain class of modal verbs like *yoo* and *daroo* as shown in (4a-d). The judgment on (4a) is due to Nitta (1991: 141), Morikawa (2004: 47), and Miyake (2006) (The difference in the judgment on (1b)/(4a) will be taken up in Section 1.2). On the other hand, *ka* can appear in *yes/no*-questions regardless of the modal verb at issue, as shown in (5a-d).

(4)　a.　*Nani-o tabe-ru ka ?　 (non-polite)　=(1b)

　　　b.　Nani-o tabe-masu ka ?　(polite)　=(1c)

  c. Nani-o tabe-yoo ka ? (speculation) =(2a)

  d. Taroo-wa nani-o tabe-ru-daroo ka ? (speculation)

    Taro-Top what-Acc eat-Pres-will Q

    'What would Taro eat?'

(5) a. Moo tabe-ru ka ? (non-polite)

    then eat-Pres Q

    'Are you eating now?

  b. Moo tabe-masu ka ? (polite)

         -polite

    'Are you eating now?'

  c. Moo tabe-yoo ka ? (invitation)

        -let's

    'Shall we eat now?'

  d. Taroo-wa moo tabe-ru daroo ka ? (speculation)

    Taro-Top then eat-Pres will Q

    'I wonder if Taro will eat now?'

  Next, let us compare the above information questions with the following rhetorical questions.

 (6) a. Dare-ga sonna mono-o tabe-ru ka ?

    who-Nom that thing-Acc eat-Pres Q

    'Who will eat such a thing?'

  b. Dare-ga sonna mono-o tabe-masu/-yoo/-ru-daroo ka ?

               -polite/-will/-Pres-will Q

As shown in (6), the predicate can be in any form, and the sentence can be interpreted with the rhetorical reading. We can see the difference in acceptability between information question (4a) and rhetorical question (6a). Following Rizzi (1997), the head Force of a sentence ForceP carries a [Q] feature which means interrogative. Then, information question (4a)

carries [+Q], while rhetorical question (6a), [-Q]. The reason is self-evident: (4a) has an interrogative reading and (6a) a declarative reading. Now the contrast above can be stated as follows: *Ka* cannot in principle occur in a [+Q] *wh*-question, while it can always occur in a [-Q] *wh*-question. This statement leads us to conclude that *ka* can appear independently of a *wh*-phrase, opening up the possibility that *ka* appears outside the ForceP in a structure. (Put theoretically, *wh*-phrases must be licensed within a clause which excludes *ka*. This point will be discussed in Section 1.2.)

Thus, we get a descriptive generalization about *ka*:

(7) a. *Ka* can appear independently of a *wh*-phrase.

  b. Independent *ka*-marked *wh*-questions require the predicate to be in a polite form or to be followed by a certain class of modal verbs, while *ka*–marked *yes/no*-questions may not.

I leave the class of modal verbs unspecified at this point.

Having looked at *ka*-marked questions with a normal verb, let us now examine those with the so-called copula *da* in light of generalization (7a).[3]

(8) a. *Dare-ga   hannin   da ka ?   (non-polite)
       who-Nom criminal is Q
       'Who is a criminal?'

  b. Dare-ga hannin desu ka ?   (polite)
                 polite

  c. *Taroo-ga   hannin da ka ?   (non-polite)
       Taro-Nom criminal is Q
       'Is Taro a criminal?'

  d. Taroo-ga hannin desu ka ?   (polite)
                 polite

Wh-question (8a), but not (8b), deviates from the generalization for lack of a politeness in the predicate. However, *yes/no*-question (8c) appears

to be an exception, since *yes/no*-questions do not necessarily require the predicate to be in a polite form as seen in (5a).

To solve this problem, we need to reexamine the function of *da*. In Morikawa (2006), I argued that *da* and its polite form *desu* have two functions, a copula and a speaker-oriented expression ("SOE"). The SOE expresses the speaker's/writer's assertion about the proposition or the phrase to which it is attached. One of the properties of the SOE is that it cannot be tensed, as illustrated in (9). With the SOE the sentence in (9a) is somewhat emphasized.[4]

(9) a. Hanako-ga   <u>da/desu</u>, sono himitsu-o   sitteiru.

       Hanako-Nom SOE   that   secret-Acc knowing

       '(I'd like to point out that) It is Hanako who knows that secret.'

                                     (Morikawa 2006: 21)

     b. *Hanako-ga <u>datta/deshita</u>, sono himitsu-o sitteita.

However, *desu* seems to exhibit its copular use. Consider the following examples.

(10) a. John-wa   gakusei da.   (non-polite)

       John-Top student is

       'John is a student'

     b. John-wa gakusei desu. (polite)

Da and *desu* have an emphatic effect, by which the phrase or the clause followed by it is emphasized (SOE *da* and *desu*), though *desu* has a low degree of emphasis due to its polite form. A sentence involving an SOE *da/desu*, thus, implies that the speaker confirms whether the listener has understood the proposition. In this usage, the examples in (10a-b), for example, may be followed by a sentence like *iidesuka?* 'Are you aware of it?' or *wakatteimasuka?* 'Do you know that?'. But *desu* in (10b) does not necessarily have an assertive reading. That is, it can function as a copula

as well, and has no emphatic meaning. Therefore, it can have a past-tense form, *deshita* (e.g., *John-wa gakusei deshita.* 'John was a student.'). Unlike the SOE use, the copula *desu* does not imply anything, and it merely presents a proposition to which it is attached.

Making use of the feature convention, the SOE *da/desu* has [+assert(ion), +/-polite] features, and the copula *desu*, [-assert, +polite] features:

(11)

Categories	Lexical Items	Basic Features:	
		assert	polite
SOE	da	+	−
	desu	+	+
Copula	Ø/da	−	−
	desu	−	+

Note that the non-polite counterpart of the copula *desu* is either the null copula Ø or *da*. We must assume a null copula in sentences like *Kimi-wa gakusei Ø ?* 'Are you a student?', since the sentence is interpreted as having present tense (cf. Nishigauchi and Ishii 2003 and Morikawa 2004). Note also that due to the SOE function of *da* in an independent clause, the copula can appear in a dependent clause only in its present-tense form *da*, unlike the past-tense form *datta*, which carries no assertive reading. For this reason, the non-polite counterpart of the copula *desu* is only a null copula in independent clauses.

In light of the above revised SOE analysis, let us reexamine (8a-d). It is clear that the unacceptable status of *yes/no*-question (8c) is due to the sequence of *da-ka*, in which *da* is an SOE and has an assertive interpretation, as discussed above. The SOE *da* with a [+assert] feature semantically contradicts the QM *ka*: An assertive sentence ending with *da* cannot be

questioned by attaching the QM *ka* to it,[5] though it can be changed to a confirmation question by attaching a non-question particle *ne* (e.g., *Taroo-ga hannin da-ne*. 'Taro is a criminal, isn't he?'). This holds in case of a *wh*-question (8a), too. In contrast, the copula *desu* with a [-assert] feature is allowed with *ka*, as shown in (8b) and (8d). Thus, the *yes/no*-question in (8c) does not constitute an exception to the generalization (7a).

In this connection, the past-tense counterparts of (8a-d) do not cause a problem.

(12) a. *Dare-ga hannin datta ka ?   (non-polite)
           'Who was a criminal?'

      b. Dare-ga hannin deshita ka ?   (polite)

      c. Taroo-ga hannin datta ka ?   (non-polite)
          'Was Taro a criminal?'

      d. Taroo-ga hannin deshita ka ?   (polite)

None of the above sentences expresses the speaker's assertion (cf. Morikawa (2006)), so *datta/deshita* cannot be an SOE, but is considered the past-tense counterpart of the copula Ø/*desu*. Since the predicate in a *ka*–marked *wh*-question as in (12a) is neither in a polite form nor is followed by a relevant modal, it is ill-formed in violation of (7b). In (12c), on the other hand, the non-polite copula *datta* is allowed just as (5a) is, as opposed to the SOE *da* in (8c). The examples in (12b) and (12d) follow the generalization (7b): The copula *deshita* in (12b) is a polite form and the sentence is well-formed; and the example in (12d) is a *yes/no*-question, in which the predicate can be in any form.

In short, the generalization about interrogatives containing a non-copular verb holds of those containing a copula. The sequence of *da* and *ka* needs to be treated semantically.

1.2. Theoretical Account

From the generalization (7a) in the previous subsection that *ka* must be treated independently of a *wh*-phrase, I assume that an independent sentence has the following structure:

(13) $[_{ForcP} [_{TP} \cdots][_{Force} \pm Q]] [_{SP}$ ka/yo/ne]

The above structure consists of a ForceP and an SP, the latter of which stands for a sentence-final particle. The ForceP carries information (i.e., a [Q] feature) about whether the sentence is interrogative or declarative. (cf. Rizzi 1997)[6] The SP may contain the QM *ka* as well as the other particles *yo*, *ne*, and so on.

With this much in mind, let us first consider a *ka*-marked *wh*-question. The *wh*-phrase is raised to [Spec, ForceP]. At LF the *wh*-operator endows the clausal head Force of the [+wh] feature under Dynamic Agreement proposed in Rizzi (1996): *Wh-op* X^0 => *wh-op* [+wh] X^0 (See Morikawa (2004) for details.) By this operation, the [+wh] feature of the head Force can license that of the *wh*-phrase. This ForceP, which contains a [+Q] feature, can be followed by a morphologically overt QM *ka*. The novel view here is an assumption that the QM *ka* is not a licenser: It has much to do with such speech-related elements as a certain class of modal verbs or a predicate with a [+polite] feature. Thus, *ka* is an independent lexical item expressing a question, and it is not subject to licensing of anything in syntax. On the other hand, a *yes/no*-question is self-explanatory. It has a [+Q] feature in the head Force, which can be followed by *ka*.

Some notes must be made on the phonological aspect of the [Q] feature. *Yes/no-* and *wh*-questions have a [+Q] feature, while rhetorical questions, a [-Q] feature. Since *yes/no*-questions in principle end with rising intonation, it is natural to assume that the [+Q] entails rising intonation, which is designated by the symbol [↗]. *Wh*-questions may or may not end with

rising intonation. The variation in the intonation may be due to the [+wh] feature, which optionally makes the rising intonation inert.[7] On the other hand, rhetorical questions must be uttered with falling intonation. From this fact, we can assume that there are two *ka*'s: one with [+Q] and the other with [-Q]. The [+Q] *ka* follows [+Q] questions, whereas the [-Q] *ka* follows [-Q] rhetorical questions. The validity of this assumption is shown by an irony question, which contains neither [+Q] nor [+wh]:

(14) Sonnna koto shiru mono　　*(ka) ? [↘]

　　　That　　thing know Nominalizer Q

　　　'I don't know such a thing.'

The above sentence, which requires *ka*, is interpreted as a declarative state-ment (i.e., [-Q]). Thus, the [-Q] *ka* must follow a [-Q] questions.

For expository purposes, I will illustrate below the feature combinations and the intonation of interrogatives.

(15)

Sentence Types	Features in the Force:		Intonation
	Q	wh	
Wh-question	+	+	↗ (↘)
Yes/no-question	+	−	↗
Rhetorical question	−	+	↘
Irony question	−	−	↘

The QM *ka* with a [+/−] feature can follow [Q] with the same feature value.

At this point, we must ask why a [+Q] *wh*-question cannot be followed by *ka*. This question relates to the generalization (7b). In Morikawa (2004) I provided an answer to this question by setting up the morphological constraint based on the Economy Principle (Chomsky 1995):

(16) Avoid Redundancy ("AR")

　　　Avoid morphological redundancy.　　(Morikawa 2004: 52)

The ill-formedness of (8a) and (17a), for example, can be accounted for by the AR, since the *wh*-phrase and the QM *ka* both morphologically express that the sentence is interrogative (Examples (8a-b) are repeated below and examples (4a-c) are reproduced as (17a-d)). That is, *ka* is considered a redundant element, a Japanese-particular phenomenon (cf. Cheng 1991). Therefore, (8a) and (17a) are ruled out.

(8) a. *Dare-ga hannin da ka ?　(non-polite)

　　　'Who is a criminal?'

　　b. Dare-ga hannin desu ka ? (polite)

(17) a. *Nani-o tabe-ru ka ?　　(non-polite)　　=(4a)

　　　'What will you eat?'

　　b. Nani-o tabe-masu ka ?　(polite)　　　=(4b)

　　c. Nani-o tabe-yoo ka ?　=(4c)

　　　'What shall we eat?'

　　d. Taroo-wa nani-o tabe-ru daroo ka ?　　=(4d)

　　　'What would Taro eat?'

Before going on to discuss (8b) and (17b-d), the property of the QM *ka* must be further examined. Since it is normally used when there is a hearer,[8] and since the speaker is conscious about the hearer, the presence of *ka* has some effect on discourse. Suppose, then, that the AR applies in discourse. That is, nothing rules out *wh*-question (8a) or (17a) in syntax, so it is no wonder why (17a) may be considered acceptable to some linguists referred to at the outset of this paper. Note, however, that unlike (17a), *wh*-question (8a) is consistently judged as ill-formed by a majority of people. This is due to the semantic contradiction of the *da-ka* sequence, as discussed in Section 1.1.

Note also that even if the SOE *da* in (8a) is missing, the sentence remains unacceptable, as shown in (18).

(18) *Dare-ga hannin Ø ka ?

This is because the predicate, which contains a null copula Ø, a non-polite counterpart of the copula *desu*, is not in a polite form (cf. (11)). That is, (18) is as low as (17a) in acceptability, and both of them are equally excluded by the AR.

If the above analysis is correct, then the sole exception is those *wh*-questions with a modal *masu/yoo/daroo* or a copula *desu* in the predicate, as seen in (17b-d) and (8b), respectively.[9] *Yoo* and *daroo* are classified as genuine modals in Nitta (1991: 53) for three reasons: (a) there is no corresponding past-tense form (e.g., **yoo-ta* 'yoo-Past'), (b) they cannot be negated (e.g., **yoo-nai* 'yoo-Neg'), and (c) they cannot refer to mental behavior by other than the speaker. A genuine modal verb expresses the speaker's mental behavior at the time of an utterance. The genuine modals and the polite form of the copula *desu* both have quite an effect on discourse, in which the speaker is conscious or subconscious of the hearer. The same holds of the QM *ka*, as stated above. From this I assume that *wh*-questions with a discourse-related feature can override the AR. In addition, sentence-final particles like *no* and *ne* have discourse-oriented functions. Therefore, they can also override the AR:

(19) Hanako-wa <u>itsu</u> dekaketa ka-<u>no/ne</u> ?

        'When did Hanako leave?'

The assumption that *wh*-questions with a discourse-related feature can override the AR is not unreasonable if we follow the conversational maxim of Quantity proposed in Grice (1975):

(20) Quantity:

        a. Make your contribution as informative as is required (for the

current purposes of the exchange).

  b. Do not make your contribution more informative than is re-
    quired.   (Grice 1975: 45)

The maxim of Quality is based on his Cooperative Principle: "Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged." (*ibid*.)

 The adoption of (20a-b) will differentiate (17a) from (17b-d), for example. The example in (17a) is in violation of the discourse principle AR, as discussed above. I assume the AR as a sub-principle of clause b of the maxim (20). On the other hand, the application of the AR is blocked in (17b-d), since the discourse-related item *masu/yoo/daroo* is required information under clause a of the maxim (20).

 Thus, with the maxim of Quantity, a *wh*-question with a discourse-oriented expression can co-occur with *ka*.[10]

1.3. Non-information Question

 Before leaving the topic of the *ka*-marked *wh*-questions, I would like to discuss an interesting case, in which the judgment on an interrogative sentence which contains a *wh*-phrase and ends with *no-ka* can vary. In Morikawa (2004), I argued that the following *wh*-question is ruled out by the AR.

 (21) *Taroo-kun, kooen-ni itsu dekake-ru no ka ?
     Taro-Mr. park-to when leave-Pres C Q
   'Taro, when are you going to the park?'

The *no* was shown to be a C (a Force in the present framework), which is not a QM. Since it starts with a vocative NP *Taroo-kun*, the sentence is clearly an information question, in response to which the speaker is

expecting an answer from a specific hearer. If *Taroo-kun*, is missing in (21), we understand that the subject of the sentence is the hearer, as shown below.

(22) *(Kimi-wa) kooen-ni itsu dekake-ru no ka ?

      you-Top

Even if the subject is a third person, say *John*, the judgment is still the same, as long as it is an information question.:

(23) *John-wa kooen-ni itsu dekake-ru no ka ?

There are at least three suppositions with respect to an information question: (a) that it may end either with rising or falling intonation (cf. Section 1.2), (b) that there is a specific hearer, and (c) that the hearer may or may not know the answer.

There is another type of question, which I call a 'non-information question,' and in this type, the example in (23) is judged as well-formed. The non-information question exhibits three points: (a) it must end with falling intonation, (b) the speaker is not asking any specific person, and (c) the speaker does not expect an answer at the time of an utterance. The information and non-information questions are contrastive in their presuppositions. In order to further clarify the non-information quality of (23), we may add an intensifier like *ittai/hatashite* 'on earth':

(24) John-wa <u>ittai</u> kooen-ni itsu dekake-ru no ka ?

      'When on earth is John going to the park?'

The non-information question may be classified as a type of a rhetorical question in (15) due to the *wh*-phrase and the falling intonation (The speaker is not sure whether John is going to the park.). Due to the [-Q] feature in the head Force of rhetorical questions, the AR does not apply here. So, an interrogative sentence with a *wh*-phrase is ambiguous — it could be an information question or a rhetorical question. The former is

recognized as a *wh*-question, being judged as ill-formed, and the latter is well-formed.

Thus far, we have looked at independent *ka*-marked questions. I argued that the *wh*-phrase is licensed within the ForceP, which does not dominate the QM *ka*, and that the discourse principle AR with the maxim of Quantity excludes a non-polite *wh*-question with *ka*. It is also suggested that *ka*-marked questions are semantically incompatible with an overt expression which carries a [+assert] feature. In the next section, I will turn to independent bare questions, interrogatives without *ka*, which should be discussed in the syntactic domain.

2. Independent Bare Questions

Let us observe bare questions (25), (26), and (27), which correspond to (4), (5), and (8), respectively.

(25) a. Nani-o tabe-ru ?   (non-polite)   cf. (4a)
          'What will you eat?'

      b. Nani-o tabe-masu ?   (polite)   cf. (4b)

      c. Nani-o tabe-yoo?   cf. (4c)
          'What shall we eat?'

      d. Taroo-wa nani-o tabe-ru-daroo?   cf. (4d)
          'What would Taro eat?'

(26) a. Moo tabe-ru/-masu ? [↗]   (non-polite/polite)   cf. (5a-b)
          'Are you eating now?'

      b. Moo tabe-yoo? [↗]   cf. (5c)
          'I urge you to eat now.'

      c. Taroo-wa moo tabe-ru-daroo? [↗]   cf. (5d)
          'Taro will eat now, won't he?'

(27) a. Dare-ga hannin da ?   (non-polite) cf. (8a-b)

'Who is a criminal?'

b. *Taroo-ga hannin da ? [↗]¹¹   (non-polite) cf. (8c)

'Is Taro a criminal?'

c. Taroo-ga hannin desu ? [↗]   (polite) cf. (8d)

Wh-questions in (25a-d) and (27a) are well-formed, since the *wh*-phrase is licensed within the ForceP. The head of the ForceP, which is phonetically null, has a [+Q] feature. The SOE *da* (and *desu*), which indicates the speaker's assertion, can be attached to the ForceP as seen in (27a): The interpretation of the sentence is 'Tell me who is a criminal,' and the speaker insists on clarifying the content of the interrogative sentence. The AR is, of course, irrelevant to all of these *wh*-questions.

On the other hand, the *yes/no*-questions in (26a-c) are also well-formed regardless of the presence or absence of a genuine modal. *Yes/no*-questions must end with rising intonation, as indicated by [↗]. Note that the addition of a modal *yoo/daroo* makes the sentence an invitation/confirmation question. While the presence or absence of *ka* does not affect the meaning in information question (See (26a) and (5a-b)), it affects the meaning of invitation/confirmation questions (Contrast (26b-c) and (5c-d)). Consequently, there is no possibility of deriving (26) from (5) by deleting *ka*. Furthermore, it supports the view that the interrogative nature of a sentence is determined within a ForceP, which excludes *ka*.

Having clarified the difference between *wh*-questions and *yes/no*-questions, let us examine bare *yes/no*-questions (27b-c), which involve *da/desu*. The head Force carries a [+Q] feature, and they are uttered with rising intonation. The structure of (27b-c) would be (28), if *da/desu* were taken as an SOE.

(28) $[_{\text{ForcP}} [_{\text{TP}} \ldots \text{T}][_{\text{Force}} +\text{Q}]]$ $[_{\text{SOE}}$ da/desu]

However, the question expressed in (27b-c), 'Is Taro a criminal?,' cannot be semantically considered an assertive sentence because it is asking for an answer, yes or no, to begin with. So, we would expect both (27b) and (27c) to be ill-formed. However, (27c) is acceptable (cf. Inoue 1998), which indicates that *desu* must not be an SOE. Therefore, it must be a copula, which appears under the head T in structure (28). *Desu* in (27c) is interpreted as presentational (cf. Section 1.1). Thus, the SOE *da* is disallowed in bare *yes/no*-questions, while the copula *desu* is allowed.

In sum, unlike bare *wh*-questions, bare *yes/no*-questions must always be uttered with rising intonation. Bare *yes/no*-questions cannot semantically coincide with the SOE *da/desu*, but they can with the copula *desu*.

3. Dependent Questions

In the previous sections, we have examined independent questions, concluding that *ka* is independent of syntactic licensing. This conclusion is not unreasonable, because *ka* was uncoupled from the licensing of a *wh*-phrase in Japanese, and because it was found to play an important role in discourse. In this section, I will examine another function of *ka* in dependent questions.

To begin with, let us observe that the presence of *ka* is restricted in syntax in two ways. First, it is usually the case in Japanese as well as in English that whether the dependent clause is interrogative or not is determined by the property of the main verb:

(29) English:

    a. John asked/*thought what Mary read.

    b. John thought/*asked that Mary read the book.

(30) Japanese:

a. Taroo-wa [Hanako-ga   nani-o   yonda <u>ka</u>] tazuneta/*omotta.

   Taro-Top   Hanako-Nom what-Acc read   Q   asked/thought

   'Taro asked/*thought what Hanako read.'

b. Taroo-wa [Hanako-ga   sono hon-o   yonda <u>to</u>] omotta/*tazuneta.

   Taro-Top   Hanako-Nom the   book-Acc read C thought/asked

   'Taro thought/*asked that Hanako read the book.'

The verb *ask*, but not *think*, can select an interrogative sentence in English. Likewise in Japanese, the verb *tazuneru*, but not *omow*, can select an interrogative sentence. The QM *ka* must appear in dependent questions, as shown in (31).

(31) *Taroo-wa [Hanako-ga nani-o yonda Ø] tazuneta.   Cf. (30a)

Just as the main verb *omow* takes as a complement a declarative clause which is headed by *to*, the main verb *tazuneru* takes an interrogative clause which is headed by *ka*. That is, the obligatory presence of *ka* in dependent clauses is reduced to the morphological head selection of the main verb (cf. Rizzi 1996). This poses a question as to why the AR is not observed in dependent *wh*-questions like (30a). Let us await the answer to this question until the next section.

Needless to say, the verb *tazuneru* does not always have to take a *wh*-question:

(32) Taroo-wa [Hanako-ga   sono hon-o   yonda ka] tazuneta.

                  Hanako-Nom the   book-Acc read   Q

      'Taro asked if Hanako read that book.'

Therefore, it is the case that *ka* is morphologically licensed by the main verb.

There is another case in which the QM *ka* appears in dependent questions: It is not morphologically licensed, and it functions as a licenser of a *wh*-phrase. Consider the following sentences.

(33) a. Taroo-wa Mary-ni [Hanako-ga   doko-e   dekake-ru ka] tazuneta/itta.
         Taro-Top Mary-Dat Hanako-Nom where-to leave-Pres Q   asked/said
         'Taro asked Mary where Hanako was going to?'

     b. Taroo-wa Mary-ni [Hanako-ga   moo dekake-ru ka] tazuneta/*itta.
                                         already
         'Taro asked Mary if Hanako was already leaving.'

Example (33b) shows that *iw* 'say' does not take an interrogative clause, unlike *tazuneru*. However, it can appear to take a *wh*-question, as shown in (33a). Why is this the case?

   The answer will be provided if we assume that the dependent question in (33a) is dominated by a noun phrase ("DP"), while in (33b), it is dominated by a ForceP. There are two pieces of evidence to support this assumption. First, the *wh*-question in (33a) can be marked by the object case-marker *o,* as shown in (34a). That is, (33a) is a case-less counterpart of (34a).

(34) a. Taroo-wa Mary-ni [$_{DP}$ [$_{ForceP}$ Hanako-ga doko-e dekakeru ka]]-o tazuneta/itta.
                                                                   -Acc

     b. Taroo-wa Mary-ni [$_{ForceP}$ Hanako-ga moo dekakeru ka]-o *?tazuneta/*itta.

Note that there is no problem with the assumption that both *tazuneru* and *iw* are capable of taking a DP as their complement:

(35) Taroo-wa Mary-ni [$_{DP}$ sono koto]-o tazuneta/itta.

Notice that the *yes/no*-question in (33b) cannot be marked by *o*, as illustrated in (34b).[12] This is because there is no category of DP which dominates the dependent question in (33b). Put differently, the verb *iw* can take a declarative clause (e.g., *Taroo-wa Mary-ni [Hanako-ga kuru to] itta.* 'Taro told Mary that Hanako was coming.') but not an interrogative one as discussed above.

   Another piece of evidence comes from the fact that the same contrast in *wh*-question and *yes/no*-question can be observed in DP positions other

than the complement of a main verb.

(36) In subject position:

    a. [$_{DP}$[$_{ForceP}$ Taroo-ga <u>itsu</u> kuru ka]]-ga mitei   da.

             Taro-Nom when come Q-Nom uncertain SOE

         'It is uncertain when Taro will come.'

    b. *[$_{ForceP}$ Taroo-ga asu kuru ka]-ga mitei da.

                tomorrow

(37) Within PP:

    a. [$_{PP}$ [$_{DP}$ [$_{ForceP}$ <u>Nani</u>-o kaikakusuru ka]]-nitsuite] iken-o   kookanshi-yoo.

              what-Acc reform   Q -about   opinion-Acc exchange-let's

         'Let's exchange opinions about what to reform.'

    b. *[$_{PP}$ [$_{ForceP}$ Soshiki-o kaikakusuru ka]-nitsuite] iken-o kookanshi-yoo.

              institution-Acc

Wh-questions can appear within the subject DP and a PP, while *yes/no*-questions cannot.[13] Thus, the dependent question in (33a) is dominated by a DP, and it must be a *wh*-question. This result leads us to conclude that the morphologically unlicensed QM *ka* requires a *wh*-phrase to license within a DP-dominated ForceP which contains both of them.

   In this section, we have seen that there is a QM *ka* which is either morphologically licensed or functions as a *wh*-phrase licenser in dependent questions. We left an important question unanswered here as to why the AR is not observed in *wh*-questions like (30a). In the next section, I will provide an answer to this question.

4. Dependent Questions and AR

   It seems that there is a flaw in the AR due to the well-formed *wh*-questions seen in the previous section. However, I will show that there is a constraint on its application, which makes the AR inapplicable in some

cases. In order to clarify what the constraint is, let us focus on a speech style. It appears that unlike in English, the difference in style between direct speech and indirect speech is sometimes unclear in Japanese if the dependent question lacks a quotation particle *to*:

(38) English:

    a. Taro said to Mary, "Would you like to eat apples?" (direct speech)

    b. Taro asked Mary if she would like to eat apples. (indirect speech)

(39) Japanese:

    Taroo-wa Mary-ni [ringo-o tabe-ru ka] (to) tazune-ta.

    Taro-Top Mary-to apple-Acc eat-Pres Q   ask-Past

    'Taro said to Mary, "Would you like to eat apples?"/ Taro asked Mary if she would like to eat apples.'

When *to* appears in (39), we understand the dependent question to be direct speech, which corresponds to the English example in (38a). When *to* is eliminated, the dependent question is interpreted as either direct speech or indirect speech. Following Nishigauchi and Ishii (2003), we assume that the quotation particle *to* can optionally be deleted.

    Discourse-related predicates like *masu/yoo/daroo*, which are used to express the speaker's attitude (cf. Morikawa 2004), must appear with *to*:

(40) a. Taroo-wa Mary-ni [ringo-o tabe-<u>masu/yoo</u> ka] *(to) tazune-ta.

                                     will/let's

        'Taro said to Mary, "Would you like to eat apples/Shall we eat apples?"'

    b. Taroo-wa Mary-ni [Hanako-ga ringo-o tabe-ru-<u>daroo</u> ka] *(to) tazune-ta.

                                            will

        'Taro said to Mary, "Will Hanako eat apples?"'

As shown above, the sentences are ill-formed without the quotation particle. This shows that the discourse-related predicates are strictly used in direct

speech. Even if a *wh*-phrase is involved in the dependent questions of (40a-b), the grammatical status will not change:

(41) a. Taroo-wa Mary-ni [nani-o tabe-masu/yoo ka] *(to) tazune-ta.

                     what

     b. Taroo-wa Mary-ni [dare-ga ringo-o tabe-ru-daroo ka] *(to) tazune-ta.

                     who

The grammatical status of (41a-b) with *to* is exactly what we expect from the AR, which is applicable to independent questions: Though the *wh*-phrase and the QM *ka* are morphologically redundant, the redundancy was over-ridden due to the required information expressed by the discourse-related modal verbs under the maxim of Quantity. Since independent questions are in direct speech, we can safely conclude that the AR can generally apply in direct speech.

With the above discussion on direct speech in mind, let us examine dependent *wh*-questions in (33a), (36a) and (37a), which are reproduced as (42a), (42b) and (43c), respectively.

(42) a. Taroo-wa Mary-ni [Hanako-ga doko-e dekake-ru ka] tazuneta/itta.

      'Taro asked Mary where Hanako was going to?"

     b. [$_{DP}$[$_{ForceP}$ Taroo-ga itsu kuru ka]]-ga mitei da.

      'It is uncertain when Taro will come.'

     c. [$_{PP}$ [$_{DP}$ [$_{ForceP}$ Nani-o kaikakusuru ka]]-nitsuite] iken-o kookanshi-yoo.

      'Let's exchange opinions about what to reform.'

The *wh*-question in (42a) can be either in direct speech or in indirect speech. When it is read in the direct speech just as an independent question is, the AR is applicable and the sentence is judged as unacceptable due to the *wh*-phrase *doko* and the QM *ka*. Now, from the fact that the sentence is acceptable, let us assume that this principle does not apply to a question

in indirect speech, allowing (42a).

Recall that the sentence in (42a) is derived from (34a), in which the dependent question was marked by *o*. Therefore, the AR does not apply to (34a). Since a case-marked DP can dominate a *wh*-question in indirect speech, the AR will not apply to (42b-c), either.

The assumption that examples like (42a-c) are in indirect speech can be justified by inserting a discourse-related predicate in them:

(43) a. *Taroo-wa Mary-ni [Hanako-ga doko-e dekake-<u>masu</u> ka] tazuneta/itta.

     b. *[Taroo-ga itsu ki-<u>masu</u> ka]-ga mitei da.

     c. *[Nani-o kaikakushi-<u>yoo</u> ka]]nitsuite iken-o kookanshi-yoo.

Before concluding this section, let us see how the *wh*-question with *da/desu* can be accounted for in the proposed analysis. Consider the following examples.

(44) a. Taroo-wa Mary-ni [dare-ga   hannin (da) ka] tazune-ta.

        Taro-Top Mary-to who-Nom criminal   Q ask-Past

        'Taro said to Mary, "Who is a criminal?"/Taro asked Mary who was a criminal.'

     b. *Taroo-wa Mary-ni [dare-ga hannin desu ka] tazune-ta.

        'Taro said to Mary, "Who is a criminal?" (polite)'

The ungrammatical status of (44b) is straightforward. The *wh*-question in (44b) contains a polite predicate, and thus it is in the direct speech, which the AR judges as acceptable. But it lacks a quotation particle *to,* and hence is unacceptable. The example in (44a) is somewhat complicated due to the function of *da*. If the *wh*-question is interpreted as indirect speech, *da* or Ø functions as a copula. The AR does not apply to it, and the sentence is judged as grammatical. On the other hand, if the *wh*-question is interpreted as direct speech, *da* functions as an SOE. As a result, the sequence of the

SOE *da* and the QM *ka* is semantically excluded, as discussed in Section 1.1. Further, when the SOE *da* is missing, the direct speech *wh*-question with *ka* is ruled out by the AR. Hence, (44a) is well-formed as an indirect speech usage.

Thus, I have shown the validity of the AR in both dependent and independent sentences. The key constraint on it was shown to be direct speech style. In this sense, the AR is quite a general principle in discourse.

5. Conclusion

I have proposed that the QM *ka* should be categorized as a sentence-final particle in direct speech in Japanese, while retaining the conventional view that it is the head of a clause in indirect speech. I showed that *yes/no*-questions are recognized even without *ka*, and that there is difficulty in deleting *ka*, to yield a *ka*-less question. Independent questions require the phonological feature of rising intonation. Consequently, *ka* is placed outside a ForceP and it is on a par with a sentence-final particle. As for the ill-formed *ka*-marked *wh*-questions, I revised the economy-based AR ('Avoid Redundancy') principle in Morikawa (2004) as a discourse level principle, and furthermore, showed that the revised AR only applies to direct speech questions in general. I also showed that *ka* in indirect speech questions requires a notion of licensing in syntax, either as morphological licensing or as licensing of a *wh*-phrase.

Endnotes

* I am grateful to Matazo Izutani and Sosei Aniya for useful comments, judgments and suggestions.

[1] If the predicate in (2b) is in a polite form, the sentence becomes acceptable:

(i) Taroo-wa nani-o tabe-ru-rashii <u>desu</u> ka ?

² See footnote 7.

³ It is pointed out by Sosei Aniya (p.c.) that examples (8a) and (8c) are allowed in some dialects. A possible explanation for that is that *da* may be used as a copula, not an SOE (For the category SOE, see the discussion below).

⁴ The acceptability judgment on (9a) seems to vary from person to person. Some speakers say that it is preferable to attach a particle like *-ne/-na* to *da/desu* in a speech style. (*Hanakoga{-da/-desu}-ne/-na, sono himitsu-o sitteiru.*) Others say that the sentence is not quite acceptable.

⁵ A problem arises when the SOE *desu* followed by *ka* is attached to the adjectival predicate:

　　(i) [Eiga-wa　omoshirok-atta]-desu ka?

　　　　Movie-Top interesting-Past　　　Q

　　　　'Was the movie interesting?'

The *desu* in (i) is tenseless due to the past-tense morpheme attached to *omoshiroi* 'interesting,' but it cannot be an SOE since the sequence of SOE and *ka* is disallowed as discussed in (8c). Neither is it a copula because it is tenseless. This leads us to assume that *desu* has another function of a mere polite-marker.

　　A sentence-final particle *yaro* is another example, which expresses a speculative question:

　　(i) Sono hito-wa　　gakusei-san (*da)　yaro ? [↗]

　　　　that person-Top student-Mr.　SOE

　　　　'I assume that the man is a student. Am I right?'

It is awkward to express an assertive statement in a form of a speculative question. If the SOE *da* is eliminated, the sentence becomes grammatical.

⁶ In the structure of Watanabe (2005: 78), there is a FocP set up between the ForceP layer and the TP layer for a *wh*-question. If a sentence is a *yes/no*-question, there is no FocP appearing in the structure. Since this category does not affect the present study, I leave it out here.

⁷ There may be some other factors involved, since the intonation pattern varies among speakers. Some say that all information questions are uttered with rising intonation. Others say that information questions with *ka* end with falling intonation and those without *ka*, rising intonation. I will not pursue this issue here.

⁸ The speaker can be a hearer, too. That is, the speaker is speaking to himself/herself.

⁹ Auxiliaries like *kamoshirenai* 'may' and *hazu* 'must' do not fall within the class of genuine modals:

    (i) a. *John-wa asu   ko-nai-kamoshirenai ka? (non-polite)

         John-Top tomorrow come-not-may   Q

       'May John not come tomorrow?'

       b. *John-wa itsu   ku-ru-hazu   ka ? (non-polite)

         John-Top when come-Pres-must Q

       'When is John supposed to come?'

When the predicate is in a polite form, the sentences are well-formed:

    (ii) a. John-wa asu ko-nai-kamoshirenai <u>desu</u> ka? (polite)

       b. John-wa itsu ku-ru-hazu <u>desu</u> ka ? (polite)

So, *kamoshirenai* and *hazu* are not classified as genuine modals.

¹⁰ The occurrence of *ka* and a *wh*-phrase in rhetorical questions is not considered redundant due to their features, [-Q] and [+wh], respectively. Therefore, rhetorical questions are immune to the AR (See (6a-b)).

¹¹ I exclude from the discussion an echo-question, which can tolerate *da*: e.g., *Nandatte, Taroo-ga hannin da ?* [↗])

¹² There are cases in which the dependent *yes/no*-questions can be marked by *o*:

    (i) Watashi-wa [kaigi-ga   yotei-doori   hirak-are-ru   ka]-o tazuneta.

       I-Top   meeting-Nom schedule-according hold-Pass-Pres Q-Acc asked

       'I asked if the meeting would be held as scheduled.'

    (ii) Mary-wa [ame-ga   mada futteiru ka]-o tazuneta.

       Mary-Top rain-Nom still   falling Q-Acc asked

       'Mary asked if it was still raining.'

Presumably, the QM *ka* above is used to mean *kadooka* 'whether or not' which contains a [+wh] feature (cf. Izutani 1997). In this sense, this *ka* could be considered a reduction of *kadooka*. At present, I have no explanation for why such a reduction has occurred here.

¹³ Examples (36b) and (37b) will improve if *kadooka* 'whether or not' takes the place of *ka* (cf. footnote 12):

    (i) a. [_{DP} [_{CP} Taroo-ga kuru <u>kadooka</u>]]-(ga) mitei da.

         'It is uncertain whether Taro is coming or not.'

b. [PP [DP [ForceP Soshiki-o kaikakusuru <u>kadooka</u>]]-nitsuite] iken-o kookanshi-yoo.

'Let's exchange opinions about whether or not to reform the institution.'

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