

In (1a, b), *ka* is in clause-final position, and constitutes legitimate yes-no questions.

Ka in yes-no questions in Old Japanese appears in clause-medial position as well.

- (2) a. Tawakwoto-**ka** pito-no ipi-turu . . .
 nonsense-Q people-NOM say-completive auxiliary
 ‘Did people say nonsense? . . .’ (Man’yo shu: 3333)
- b. . . miyako idu to-**ka** pito-no tuge-turu
 Kyoto leave that-Q people-NOM tell-completive auxiliary
 ‘. . . Did people say that (s/he) is leaving Kyoto?’
 (Go shui waka shu: 14)

In the yes-no questions in (2a, b), *ka* is in clause-medial position. In (2a), *ka* is attached to the object *tawakwoto* (nonsense), and in (2b) it is attached to the complement clause *miyako idu to* (that s/he is leaving Kyoto). Furthermore, those phrases with *ka* precede the subject, *pito-no* (people-NOM).¹⁾ We can take this to show that in yes-no questions, a phrase with *ka* in clause-medial position has been moved.²⁾

In Modern Japanese, yes-no questions are formed only by putting *ka* in clause-final position.

- (3) a. Hanako-wa kimasita ka
 Hanako-NOM came Q
 ‘Did Hanako come?’
- b. *Hanako-ka kimasita
 Hanako-Q came

1) See Nomura (1993) for the statistical data about Man’yo shu supporting this observation.

2) In questions with *ka* in clause-medial position, its predicate takes its adnominal/substantive form. This concord is called *Kakarimusubi* (particle-predicate concord). For possible answers for the question why a predicate is forced to take its adnominal/substantive form with *ka* in clause-medial position, see Ohno (1993), Ikawa (1998), and Watanabe (2002) among others.

In the legitimate yes-no question in Modern Japanese in (3a), *ka* is in clause-final position. (3b) with *ka* attached to the subject *Hanako* cannot be a legitimate yes-no question.³⁾

Now, a question arises how it is possible in Old Japanese to form yes-no questions in two different ways: (i) putting *ka* in clause-final position and (ii) putting *ka* in clause-medial position. In this paper, I will show that yes-no questions in Old Japanese are actually formed in a single unified way, attaching *ka* to any constituent.

2 Identifying the questions to be answered

2.1 On taking *ka* in clause-medial position as a focus particle: *ka* in clause-final position and clause-medial position as a single element

Watanabe (2002), focusing on the questions with *ka* in clause-medial position, takes *ka* as a focus particle, and assumes that a phrase with *ka* moves to the SPEC of the focus phrase (FocP).⁴⁾ Although it is not difficult to see that the phrases with *ka tawakwoto* (nonsense) in (2a) and *miyako idu to* (s/he is leaving Kyoto) in (2b), given below again, get a focus interpretation, simply taking *ka* in clause-medial position as a focus particle leaves two important questions unanswered.

- (2) a. Tawakwoto-**ka** pito-no ipi-turu . . .
nonsense-Q people-NOM say-completive auxiliary
‘Did people say nonsense? . . .’ (Man’yo shu: 3333)
- b. . . . miyako idu to-**ka** pito-no tuge-turu
Kyoto leave that-Q people-NOM tell-completive auxiliary
‘. . . Did people say that (s/he) is leaving Kyoto?’
(Go shui waka shu: 14)

3) What underlies this difference between yes-no questions in Old Japanese and yes-no questions in Modern Japanese will be briefly discussed in 4.

4) Kuroda (2007) and Aldridge (2015) also take *ka* as a focus particle. Kuroda (2007) assumes that *ka* is a focus particle in T, and Aldridge (2015), discussing only Wh-questions in Old Japanese, considers *ka* to head FocP inside TP. Their approaches, taking *ka* as a focus particle, are to be faced with the problems presented in 2.1.

First, the most important observation with the examples like (2a, b) is that they are questions. It seems clear that the presence of *ka* plays a crucial role in making the examples like (2a, b) questions. Simply taking *ka* as a focus particle, we could not offer any principled explanation to the fact that the examples in (2a, b) are questions.

Second, *ka* in yes-no questions can be in clause-final position as well.

- (1) a. ... pototogisu ima-mo naka-nu **ka**
 little cuckoo now-still sing-not Q
 ‘... little cuckoo, do you still not sing for me?’
 (Man’yo shu: 4067)
- b. ... wotomera-ga tamamo-no suso-ni sipo
 ladies-GEN beautiful hem-to sea
 mitu-ramu **ka**
 fill-auxiliary for speculation Q
 ‘... might the sea be reaching the hems of the beautiful kimono
 of the ladies?’
 (Man’yo shu: 40)

In (1a, b) repeated above, *ka*, which does seem to be the same element as *ka* in (2a, b), is in clause-final position. In (1a, b), there does not seem to be any focused element, and the examples are simple yes-no questions. Then, we have to say that *ka* in (1a, b) is not a focus particle, and that *ka* in (1a, b) and *ka* in (2a, b) are distinct elements despite the fact that those examples are the same yes-no questions with *ka*.

Furthermore, there are examples of yes-no questions with *ka* in clause-medial position which do not seem to contain any focused element. Actually, Konoshima (1966), citing the examples below, argues against assuming *ka* just to focalize the element it is attached to.

- (4) a. Kaze puka-ba nami-**ka** tatamu to samorapi-ni tuda-no
 wind blow-if wave-Q rise that watching Tsuda-GEN
 posope-ni uragakuri wori
 Hosoe-in taking shelter
 ‘Wondering if waves rise when wind blows, ships are taking

- shelter in the bay in Hosoe in Tsuda' (Man'yo shu: 765)
- b. Pitopeyama penareru mono-wo tukuyo yomi
 a mountain separate thing-ACC moonlit night appreciate
 kado-ni ide-tati imo-**ka** matu-ramu
 gate-at go out-stand lover-Q wait-auxiliary for speculation
 (Man'yo shu: 765)
- 'Though we are separated by a mountain, is my lover waiting
 for me appreciating the moonlit night at the gate of her
 house?
- c. . . . wago opokimi-no opomipune mati-**ka**
 my emperor-GEN large ship wait-Q
 kopur-amu . . .
 long for-auxiliary for speculation
 ' . . . are you waiting for the great ship of my emperor longing
 for him? . . . ' (Man'yo shu: 152)

In (4a), *ka* is attached to *nami* (wave), but here, it is difficult to take *nami* as a focus. When wind blows, it is easily expected that waves rise, and it is clear that ships are taking shelter in the bay to avoid rising waves. In this situation, it is unlikely that the ship owners are not quite sure what happens when wind blows and asking if it is rising waves that appear when wind blows. Here, the ship owners know that waves rise when wind blows, and are just asking if waves rise high when wind blows this time. Similarly, in (4b) *ka* is attached to *imo* (lover). *Imo* is a noun for female lover and this poem was made by a man. In this poem, the author is wondering if his lover is waiting for him at the gate of her house looking at the moon. In this situation, it is very difficult to imagine that his lover may be waiting for someone other than the author. Then, it is almost impossible to take *imo* as a focus because the author is sure that his lover may be waiting for him if she is waiting for someone. Here, the author is just asking if his lover is waiting for him now. Finally, in (4c), *ka* is attached to the first part of the complex predicate *mati-kopur* (long for (someone) waiting for (her/him)), *mati* (wait). Here again, it is difficult to say that just *mati* is focalized. Rather, we should

say that *ka* in (4c) should be equivalent to *ka* in clause-final position, following the entire predicate *mati-kopur-amu* and just making the entire sentence a question. Based on these examples, following Konoshima (1966), we should conclude that *ka* in clause-medial position just has the function of making the clause a question as *ka* in clause-final position.

Now, it has become clear that simply taking *ka* in clause-medial position as a focus particle, we should be forced to distinguish it from *ka* in clause-final position, which does not seem to induce the focus interpretation of any element in the sentence. Consequently, we would fail to give a principled and unified answer to the important question with yes-no questions in Old Japanese why yes-no questions in Old Japanese can be formed by putting *ka* in two different positions. Furthermore, *ka* in clause-medial position does not always induce the focus interpretation of a phrase it is attached to. What *ka* always does, whether it is in clause-medial position or in clause-final position, is to make the sentence a question. In what follows, I would like to explore a possibility of giving a principled answer for the question about the formation of yes-no questions in Old Japanese mentioned above.

2.2 Identifying the questions

Now, having seen that *ka* in clause-final position and *ka* in clause-medial position should be taken as a single element, we are ready to consider how yes-no questions in Old Japanese are formed. To do so, let us identify again the questions we need to answer for the formation of yes-no questions in Old Japanese. Let us see the relevant examples again.

- (1) a. ... pototogisu ima-mo naka-nu **ka**
 little cuckoo now-still sing-not Q
 ‘... little cuckoo, do you still not sing for me?’
 (Man’yo shu: 4067)
- (2) a. Tawakwoto-**ka** pito-no ipi-turu ...
 nonsense-Q people-NOM say-completive auxiliary
 ‘Did people say nonsense?’ (Man’yo shu: 3333)

In the yes-no question in (1a), *ka* is in clause-final position whereas in the yes-no question in (2a), *ka* is in clause-medial position. The most important question we have set about the formation of yes-no questions in Old Japanese is in (5).

- (5) Why can yes-no questions be formed in seemingly two different ways in Old Japanese: (i) putting *ka* in clause-final position and (ii) putting *ka* in clause-medial position?

In looking for an answer to (5), we also need to provide principled answers to the more specific questions below.

- (6) a. Why does *ka* in clause-medial position induce the movement of the phrase it is attached to?
 b. Why does *ka* in clause-final position not induce any movement?

In (2a), *tawakwoto-ka* (nonsense-Q) precedes the subject *pito-no* (people-NOM). We can take this to show that in yes-no questions with *ka* in clause-medial position, the phrase with *ka* is moved. (1a) with *ka* in clause-final position does not exhibit any word order change, and this shows that it does not force any movement to take place. In what follows, I will try to answer the questions in (5) and (6).

3 Finding possible answers

3.1 Constituents marked by *ka* in yes-no questions

In yes-no questions, basically any constituent can be marked by *ka*. (4a) and (2a) repeated below demonstrate that a subject and an object can be marked by *ka*.

- (4) a. Kaze puka-ba nami-**ka** tatamu to samorapi-ni
 wind blow-if wave-Q rise that watching
 tuda-no posope-ni uragakuri wori
 Tsuda-GEN Hosoe-in taking shelter

‘Wondering if waves rise when wind blows, ships are taking shelter in the bay in Hosoe in Tsuda’ (Man’yo shu: 765)

- (2) a. Tawakwoto-**ka** pito-no ipi-turu . . .
 nonsense-Q people-NOM say-completive auxiliary
 ‘Did people say nonsense?’ (Man’yo shu: 3333)

In (4a), the subject *nami* is marked by *ka*, and in (2b), the object *tawakwoto* is marked by *ka*. (7a, b) show that adjuncts can also be marked by *ka*.

- (7) a. . . . koyopi-**ka** kimi-ga wa-ga ri
 tonight-Q you-NOM I-GEN place
 ki-masa-mu
 come-honorific-auxiliary for speculation
 ‘. . . Will you come to my place tonight?’ (Man’yo shu: 1519)
- b. . . . pitori-**ka** kimi-ga yamamiti
 alone-Q you-NOM mountain pass
 koyur-amu
 walk-through-auxiliary for speculation
 ‘. . . Would you be walking through the mountain pass alone?’
 (Man’yo shu: 3193)

In (7a, b), *ka* is attached to the adjuncts *koyopi* (tonight) and *pitori* (alone). Furthermore, as we have seen, in yes-no questions, *ka* can be attached to a clause, making it a question.

- (1) a. . . . pototogitsu ima-mo naka-nu **ka**
 little cuckoo now-still sing-not Q
 ‘. . . little cuckoo, do you still not sing for me?’
 (Man’yo shu: 4067)
- b. . . . wotomera-ga tamamo-no suso-ni sipo
 ladies-GEN beautiful hem-to sea
 mitu-ramu **ka**
 fill-auxiliary for speculation Q

'... might the sea be reaching the hems of the beautiful kimonos of the ladies?' (Man'yo shu: 40)

In (1a, b), given above again, *ka* seems to be attached to the clauses *pototogitsu ima-mo naka-nu* (little cuckoo still does not sing) and *wotomera-ga tamamo-no suso-ni sipo mitu-ramu* (the sea might be reaching the hems of the beautiful kimonos of the ladies), making them questions. Now, we can unify yes-no questions with *ka* in clause-final position and yes-no questions with *ka* in clause-medial position, and say that *ka* can be attached to any constituent of a clause, including the clause itself.

3.2 What *ka* in clause-final position in yes-no questions suggests

It is clear that *ka* plays a crucial role in forming questions as a question marker, and the question is how *ka* forms a question. To find an answer for this question, *ka* in clause-final position in yes-no questions is of help.

- (1) a. ... pototogitsu ima-mo naka-nu **ka**
 little cuckoo now-still sing-not Q
 '... little cuckoo, do you still not sing for me?' (Man'yo shu: 4067)

In the yes-no question in (1a) repeated above, *ka* is in clause-final position, and it is a legitimate yes-no question without any visible word order change. The subject *pototogisu* comes first, the adjunct *ima-mo* (still) follows it, and the verbal element *naka-nu* (not sing) comes last. Thus, a legitimate question can be formed just with *ka* in clause-final position. Why does *ka* in clause-final position make a legitimate yes-no question in its base-position? I would like to say that it is because *ka* is attached to the clause itself. Being attached to the clause *pototogisu imamo naka-nu*, *ka* can be assumed to have the entire clause in its scope. In the traditional terms, we can say that *ka* c-commands the clause, and that it makes the clause a question. Based on this, we can present the generalization below about making questions in Old Japanese.

(8) To make a clause a question, *ka* must have the clause in its scope.

3.3 On the movement of a constituent with *ka*

3.3.1 Its driving force

Given (8) we have reached in 3.2, it naturally follows that a constituent with *ka* in clause-medial position moves. In the examples repeated below, the constituents with *ka* generally precede the subjects.

- (2) a. Tawakwoto-**ka** pito-no ipi-turu . . .
 nonsense-Q people-NOM say-completive auxiliary
 ‘Did people say nonsense?’ (Man’yo shu: 3333)
- b. . . miyako idu to-**ka** pito-no tuge-turu
 Kyoto leave that-Q people-NOM tell-completive auxiliary
 ‘. . . Did people say that (s/he) is leaving Kyoto?’
 (Go shui waka shu: 14)
- (7) a. . . koyopi-**ka** kimi-ga wagari
 tonight-Q you-NOM my place
 ki-masa-mu
 come-honorific-auxiliary for speculation
 ‘. . . Will you come to my place tonight?’ (Man’yo shu: 1519)
- b. . . pitori-**ka** kimi-ga yamamiti
 alone-Q you-NOM mountain pass
 koyur-amu
 walk-through-auxiliary for speculation
 ‘. . . Would you be walking through the mountain pass alone?’
 (Man’yo shu: 3193)

In (2a, b), the complements *tawakwoto* and *miyako idu-to* precede the subject *pito-no*. In (7a, b), the adjuncts *koyopi* and *pitori* precede the subject *kimi-ga* (you-NOM). If the generalization in (8) is correct, to make a clause a question, *ka* has to be in the position taking the clause in its scope. *Ka* attached to the complements in (2a, b), which are originally inside VP, cannot take the entire clause in its scope in their original positions, and for *ka* to take the entire clause in its scope, the comple-

ments move to pre-subject position. The same can be said to the adjuncts in (7a, b). *Ka* attached to the adjuncts preceding the subject *kimi-ga* can take the entire clause in its scope.⁵⁾ Thus, the movement of a constituent with *ka* in clause-medial position is consistent with the generalization in (8); it takes place for *ka* to take the clause in its scope.

3.3.2 Its clause-boundness

If the movement of a constituent with *ka* takes place so that *ka* takes the entire clause in its scope, it should target the domain of a functional head heading a clausal projection, and there are two possibilities, T and C. In considering this issue, how a constituent with *ka* moves seems to be the key.

The movement of a constituent with *ka* seems to be clause-bound. In yes-no questions, it is very difficult or almost impossible to find an example in which a constituent of a complement clause marked by *ka* moves out of the complement clause. Ikawa (1998) points out the fact that a complement clause headed by *to* (that) is marked by *ka*, and that the complement clause itself moves.

- (2) b. . . . miyako idu to-**ka** pito-no tuge-turu
 Kyoto leave that-Q people-NOM tell-completive auxiliary
 ‘. . . Did people say that (s/he) is leaving Kyoto?’
 (Go shui waka shu: 14)

In (2b), repeated above, the complement clause *miyako idu to* (that s/he is leaving Kyoto) is marked by *ka* and precedes the subject *pito-no*. We can consider that the complement clause with *ka* has moved so that *ka* takes the entire sentence in its scope. Given that there has not been found any evidence that shows that the movement of a constituent with *ka* can be long distance, and that the complement clause itself can be

5) As it is not clear that adjuncts have their base-position, it might be possible to consider that the adjuncts with *ka* in (7a, b) are directly merged into a position in which *ka* can take the entire clause in its scope.

marked by *ka* and moves, we should conclude that the movement of a constituent with *ka* is clause-bound.

Given the clause-boundness of the movement of a constituent with *ka* in yes-no questions in Old Japanese, we could consider that it cannot be a movement to the domain of C, and that the movement targets the domain of T. The movement targeting the domain of T in a finite clause is generally clause-bound.

- (9) a. [_T John [_T] [_v ~~John~~ v [_v loves Mary]]].
 b. *_T [John [_T] seems that [_T it [_T is] likely to [_v ~~John~~ v [_v hit Bill]]]].

In (9a), the subject *John* moves from the SPEC of *vP* to the SPEC of TP in the same finite clause. In (9b), *John* the subject of *hit* moves to the SPEC of the matrix TP skipping the SPEC of the complement TP, and this is not allowed. Movement into the domain of C, in contrast, can be long distance. Topicalization, which can be assumed to target the domain of C, can move skipping CPs.

- (10) [_c John, [_c] I think [_c [_c that] Mary likes ~~John~~]].

In (10), *John* moves to the domain of the matrix C skipping the complement CP, and this is grammatical. Given the above difference between movement to the domain of T and movement to the domain of C above, the movement of the constituent with *ka* in yes-no questions in Old Japanese, which is clause-bound, is likely to target the domain of T.

3.4 *Ka* in clause-final position attached to the projection of T

If the movement of a constituent with *ka* targets the domain of T to make the entire clause a question as we have seen in 3.3.2, it is natural to consider that a yes-no question in Old Japanese should be the projection of T. Then, *ka* in clause-final position exemplified in the examples given below again should be assumed to be attached to the projection of T.

- (1) a. . . . pototogisu ima-mo naka-nu **ka**
 little cuckoo now-still sing-not Q
 ‘ . . . little cuckoo, do you still not sing for me?’
 (Man’yo shu: 4067)
- b. . . . wotomera-ga tamamo-no suso-ni sipo
 ladies-GEN beautiful hem-to sea
 mitu-ramu **ka**
 fill-auxiliary for speculation Q
 ‘ . . . might the sea be reaching the hems of the beautiful kimonos of the ladies?’
 (Man’yo shu: 40)

We can give the structures below to (1a, b).

- (1) a'. [T <Q> [T pototogisu ima-mo naka-nu]-**ka**<Q>]
 b'. [T <Q> [T wotomera-ga tamamo-no suso-ni sipo mitu-ramu]-**ka**<Q>]

As *ka*, which I assume to be the realization of <Q>-feature, takes the entire clause in its scope, c-commanding it, as in (1a', b'), they are successfully interpreted as questions.

We have seen in 2.1 that there are examples in which *ka* is attached to the first member of a complex predicate.

- (4) c. . . . wago opokimi-no opomipune mati-**ka**
 my emperor-GEN large ship wait-Q
 kopur-amu . . .
 long for-auxiliary for speculation
 ‘ . . . are you waiting for the great ship of my emperor longing for him? . . .’
 (Man’yo shu: 152)

In (4c) repeated above, *ka* is attached to the first member of the complex predicate *mati-kopur* (wait-long for), *mati*. Despite its position, as Konoshima (1966) says, *ka* in (4c) does not seem to focus *mati*, but just makes the entire clause a question like *ka* in clause-final position in (1a,

b). It is generally assumed that in Old Japanese complex predicates lack the morphological integrity of their members, and that the complex predicates in Old Japanese can be regarded as just the coordinated two independent predicates (Kindaichi 1953). Then, we can see *mati-kopur(-amu)* in (4c) as the coordinated two predicates, and it would be possible to separate those two predicates *mati* and *kopur(-amu)* and place *ka* attached to the clause *wago opokimi-no opomipune mati-kopur-amu* (you might be waiting for the great ship of my emperor longing for him) after *mati*.⁶⁾

In this way, *ka* in clause-final position, attached to the projection of T, takes the entire clause in its scope in the position in which it is generated, and for this reason, it can make the clause a question without involving any movement.

3.5 *Ka* in clause-medial position

We know that *ka* can be generated as a part of a constituent of a clause, and that in this case, the constituent with *ka* has to move.

- (2) a. Tawakwoto-**ka** pito-no ipi-turu . . .
nonsense-Q people-NOM say-completive auxiliary
‘Did people say nonsense?’ (Man’yo shu: 3333)
- b. . . . miyako idu to-**ka** pito-no tuge-turu
Kyoto leave that-Q people-NOM tell-completive auxiliary
‘. . . Did people say that (s/he) is leaving Kyoto?’
(Go shui waka shu: 14)

In (2a, b), the constituents with *ka* are the complements of the verbs, and they are in VP, as in the structures given below.

- (2) a'. [_T pito-no [_V tawakwoto-**ka** ipi-turu]]
b'. [_T pito-no [_V miyako idu to-**ka** tuge-turu]]

6) This process might take place in PF.

In (2a', b'), *ka*, inside VP, cannot take the entire clause in its scope. Then, *tawakwoto-ka* in (2a') and *miyako idu to-ka* in (2b') move to the domain of T leaving their copies, as in (2a'', b'').

- (2) a''. [_T tawakwoto-**ka** [_T pito-no [_{VP} tawakwoto-**ka** ipi-turu]]]
 b''. [_T miyako idu to-**ka** [_T pito-no [_{VP} miyako idu to-**ka** tuge-turu]]]

In (2a'', b''), the moved constituents with *ka* are in the domain of T. *Ka* takes the entire clause in its scope with the moved constituents with *ka* c-commanding the projections of T, and makes them a question. Thus, in yes-no questions in Old Japanese, *ka* makes a clause a question by taking the entire clause in its scope, (i) being externally merged with the projection T, and (ii) being internally merged with the projection of T via the movement of a constituent with it.⁷⁾

If the discussion above is correct, *ka* should be regarded just as the realization of <Q>-feature, and it can be added to any constituent. Movement takes place if *ka* cannot take the entire clause in its scope in its base-position, being attached to a constituent of a clause, and if it can, being attached to the clause itself, no movement takes place. This strongly suggests that the formation of a single class of constructions such as questions involve the movement and the base-generation of elements freely, and that a derivation converges if a syntactic object properly interpreted at the interfaces results. This is in line with the Labeling theory under the free applications of Merge proposed in Chomsky (2013, 2014). There is also no need to assume a specific position in the structure as a landing site for a moved element. A moved constituent with *ka* is likely to be interpreted as a focus since it is raised to the left periphery of the sentence, but it has nothing to do with how the computational system of Old Japanese works to form questions.⁸⁾

7) I assume a subject with *ka* to be in the domain of T, so *ka* attached to the subject such as *nami-ka* (wave-Q) in (4a) takes the clause in its scope in its base-position.

8) See Chomsky, Gallego, and Ott (2017) for their warning against inflating the peripheral functional structure to accommodate the discourse-related properties of elements such as focus.

4 *Ka* and the formation of yes-no questions in Old Japanese and Modern Japanese

We have seen that in Old Japanese, yes-no questions are legitimate if the relevant clause is in the scope of *ka* and that *ka* can be attached to any constituent of the clause including the clause itself. When *ka* takes the clause in its scope in its base-position, attached to the clause, nothing happens, but when *ka*, attached to a constituent of the clause, cannot take the clause in its scope in its base-position, the constituent with *ka* moves for *ka* to take the clause, which is the projection of T, in its scope.

Thus, based on the discussion above, we should say that yes-no questions are formed in just a single unified way. In all legitimate yes-no questions, *ka* is attached to a constituent of a clause, and the computational system of Old Japanese works so that *ka* takes the clause in its scope.

Given that *ka* makes a clause a question in Old Japanese, it is natural to consider that *ka* is the realization of <Q>-feature. As the realization of <Q>-feature, *ka* in Old Japanese seems to be different from the <Q>-feature we see in English. Yes-no questions in English are formed via the movement of an auxiliary.

(11) [C [C will <Q>] [T John ~~will~~ come]]?

For the yes-no question in (11), it is assumed that <Q>-feature is in C, and that the auxiliary *will* in T moves to C. In (11), <Q> in C is merged with the projection of T, but without the movement of *will*, a legitimate question cannot be formed. One obvious difference between *ka* and <Q> in (11) is in their phonetic status. *Ka* has phonetic content, but <Q> in (11) does not. Under the assumption that to form a legitimate question, <Q>-feature needs to have phonetic content, the difference between yes-no questions in Old Japanese and yes-no questions in English in their formation seems to naturally follow. *Ka* has phonetic content, so a legitimate question is formed by merging *ka* with the relevant clause so that the clause is in the scope of *ka*. <Q> in English, in contrast, does

not have phonetic content, so it needs an auxiliary like *will* in (11) to move to it so that it gets phonetically realized.^{9,10)}

Indirect yes-no questions in English introduced by *if* are legitimate as they are.

(12) I wonder [_C [_C <Q> if] [_T John will come]].

Assuming *if* to be the realization of <Q>-feature, we can consider that in (12), <Q> is phonetically realized as *if*, and that the yes-no question in (12) is legitimate simply because the projection of T is in the scope of *if*. In that it makes the clause a question by just being merged with the clause, *if* seems to be like *ka* in Old Japanese. As we know, however, there is a clear difference between *ka* in Old Japanese and *if* in English. *Ka* can be attached to any constituent of a clause, but *if* can only be merged with the clause. A question arises what underlies this difference between *ka* in Old Japanese and *if* in English. One possibility is to consider that <Q>-feature itself is realized as *ka* in Old Japanese but not as a specific category and that <Q>-feature in English is realized as the category C. If *ka* is just a feature not a specific category, its position in the structure should not be fixed, and it can be attached to any constituent. <Q>-feature in English, on the other hand, realized as the category C, has to be just in a fixed position in the structure. In this context, notice that in yes-no questions in Modern Japanese, *ka* has to be in

9) Fukui and Sakai (2003) make an interesting claim that functional categories have to be phonetically visible. Given the analysis developed in this paper, Fukui and Sakai's claim should be taken to require features essential for the construction of a clause to be phonetically visible.

10) Looking at the formation of yes-no questions in Old Japanese under the Labeling theory developed by Chomsky (2013, 2014), we can say that a question is successfully labeled by the phonetically realized <Q>-feature regardless of the structures of the syntactic object to be labeled. The formation of yes-no questions in Old Japanese discussed in this paper casts doubt on the Labeling Algorithm that requires the presence of matching features in the moved phrase and the phrase hosting the moved phrase for the syntactic object formed by movement to be successfully labeled as questions since questions are successfully formed in Old Japanese if *ka* attached to the moved constituent takes the entire clause in its scope.

clause-final position, and that *ka* cannot be attached to any constituent other than the clause.

- (13) a. Taroo-wa kimassita ka
 Taro-TOP came Q
 ‘Did Taro come?’
 b. *Taroo-ka kimasita
 Taro-Q came

In (13a), *ka* is attached to the clause *Taroo-wa kimasita* (Taro came), and a legitimate yes-no question is formed. In (13b), *ka* is attached to the subject *Taroo* (Taro) like *ka* in Old Japanese, but it is not allowed. One possibility to derive the difference between Old Japanese and Modern Japanese in the formation of questions might be to consider that in Old Japanese, *ka* is just the phonetic realization of <Q>-feature itself whereas in Modern Japanese, *ka* is the realization of <Q>-feature as the category C. In this respect, Modern Japanese is like English, but since *ka* has phonetic content both in direct yes-no questions and indirect yes-no questions, no movement is necessary.

5 A brief discussion of Wh-questions in Old Japanese

In this section, I will briefly discuss Wh-questions in Old Japanese to see what kind of implications the analysis of yes-no questions developed in this paper can have for Wh-questions.

5.1 *Ka* in Wh-questions

In Wh-questions in Old Japanese, *ka* appears in clause-medial position.

- (14) a. . . ta-ga tamoto-wo-**ka** wa-ga makurakamu
 who-GEN arm-ACC-Q I-NOM make-pillow
 ‘. . . Whose arm can I make my pillow?’ (Man’yo shu: 439)
 b. . . iduku-ni-**ka** kokoro-no ara-mu
 where-at-Q soul-NOM be-auxiliary for speculation
 ‘. . . Where might the soul be?’

(Utsuho monogatari: Toshikage)

In the Wh-question in (14a), *ka* is attached to the object *ta-ga tamoto-wo* (whose arm-ACC), and in the Wh-question in (14b), *ka* is attached to the adjunct *iduku-ni* (at where). The *ka*-marked phrases in (14a, b), *ta-ga tamoto-wo-ka* and *iduku-ni-ka* precede the subject phrases *wa-ga* (I-NOM) and *kokoro-no* (soul-NOM), respectively. Based on the general precedence of a phrase with *ka* over a subject in Wh-questions in Old Japanese, we can consider that in Wh-questions, a phrase with *ka* is moved, as in yes-no question.^{11,12} Wh-questions in Old Japanese, however, are not the same as yes-no questions in every respect. In what follows, we will see that *ka* cannot appear in clause-final position in Wh-questions.

5.2 Constituents attached by *ka*

In Wh-questions, *ka* can be attached to any constituent, except clauses. (15a, b) below show that *ka* can be attached to a subject and an object.

- (15) a. ... nani-**ka** sayare-ru
 what-Q do harm-completive auxiliary
 ‘... What did harm?’ (Man’yo shu: 870)
- b. ... ta-ga tamoto-wo-**ka** wa-ga makurakamu
 who-GEN arm-ACC-Q I-NOM make-pillow
 ‘... Whose arm can I make my pillow?’ (Man’yo shu: 439)

11) See Nomura (1993) for the statistical data about Man’yo shu supporting this observation.

12) Ikawa (1998), Watanabe (2002), and Aldridge (2015, 2018), based on the fact that the constituent with *ka* generally precedes the subject, assume that the movement of the constituent with *ka* is involved in the formation of Wh-questions with *ka* in sentence-medial position though they do not agree on where the moved phrase lands. Ikawa (1998) argues that a constituent with *ka* moves to the SPEC of AGRP to stand in an agreement relation with a predicate taking its adnominal/substantive form. Watanabe (2002) claims that the moved constituent with *ka* lands in the SPEC of CP as a focused element. Aldridge (2015, 2018), assuming FocP inside TP, assumes constituents with *ka* to move to its SPEC. Again, taking *ka* as a focus particle is to be faced with the problems presented in 2.1.

Konoshima (1966) and others say, in Wh-questions, *ka* cannot be in clause-final position, being attached to the clause. Thus, no examples of Wh-questions like (17) have been attested.

- (17) *... nani sayare-ru **ka**
 what do harm-completive auxiliary Q
 ‘... What did harm?’

A question naturally arises what underlies this characteristic of Wh-questions in Old Japanese.

5.3 The movement of a constituent with *ka*

In Wh-questions, a constituent with *ka* seems to move to pre-subject position like a constituent with *ka* in yes-no questions. This can be taken to show that a constituent with *ka* in Wh-questions move for the same reason as a constituent with *ka* moves in yes-no questions. It is for *ka* to take the entire clause in its scope.

Furthermore, the movement of a constituent with *ka* in Wh-questions seems to be clause-bound like the movement of a constituent with *ka* in yes-no questions. No examples of Wh-questions have been attested in which a constituent with *ka* moves across a clause-boundary. Ikawa (1998) points out the fact that when a Wh-phrase is in a complement clause, *ka* is attached to the complement clause, and that the complement clause itself moves.

- (18) ... [idure-wo sakini kopi-mu to]-ka
 which-ACC first love-auxiliary for speculation that Q
 mi-si
 think-past auxiliary
 ‘... Which did I think that I should love first?’
 (Kokin waka shu: 850)

In (18), the Wh-phrase *idure* (which) is inside the complement clause *idure-wo sakini kopi-mu* (which I should love first). Here, *ka* is attached

not to *idure* but to the complement clause, and the complement clause can be assumed to have moved to the position in which *ka* can take the entire sentence in its scope. We can take this clause-boundness of the movement of a constituent with *ka* in Wh-questions to show that it targets the domain of T as the movement of a constituent with *ka* in yes-no questions.¹⁴⁾

Thus, we can say that Wh-questions are formed in the same way as yes-no questions are formed in Old Japanese, but we know that they exhibit one clear difference. It is that *ka* cannot appear in clause-final position in Wh-questions. In the next subsection, I would like to argue that it follows from the status of *ka* for Wh-phrases and the clause-boundness of the movement of a constituent with *ka*.

5.4 A restriction on the placement of *ka* in Wh-questions: *ka* as an essential part of a Wh-phrase

We have seen in 5.3 that the movement of a constituent with *ka* in Wh-questions is clause-bound, and that *ka* cannot be attached to a clause. Nevertheless, it is not the case that *ka* cannot be attached to a clause in any case. For instance, as Ikawa (1993, 1998) points out, when a Wh-phrase is inside an adjunct clause, *ka* is attached to the adjunct clause containing the Wh-phrase.

- (19) [watatumi-no idure-no kami-wo inora-ba]-**ka**
 God of the sea-GEN which-GEN God-ACC pray conditional-Q
 ikusa-mo kusa-mo pune-no
 going-also coming-also boat-NOM
 payake-mu
 be fast-auxiliary for speculation
 Lit. ‘Which God of the sea will you voyage be over early if I
 should pray to?’ (Man’yo shu: 1784)

14) The subject marked by *ka*, *nani-ka* (what-Q) in (15a) is assumed to be in the domain of T like the subject *nami-ka* in (4a), so *ka* in *nani-ka* can take the clause in its scope in its base-position

stituent with *ka* can take place. This is confirmed by (14a) repeated below.

- (14) a. ... *ta-ga tamoto-wo-ka wa-ga makurakamu*
 who-GEN arm-ACC-Q I-NOM make-pillow
 ‘... Whose arm can I make my pillow?’ (Man’yo shu: 439)

In (14a), the movement of *ta-ga tamoto-wo-ka* is possible, and in this case, *ka* cannot be attached to the clause, as in (20).

- (20) *... [*ta-ga tamoto-wo wa-ga makurakamu*]-***ka***

The restriction on the placement of *ka* in Wh-questions seems to be something like (21).

- (21) Get *ka* as close to a Wh-phrase as possible as long as the movement of the constituent with *ka* should be possible.

What is behind the restriction in (21)? What I can say at this time is highly speculative, but if we can consider that <Q>-feature is an essential part of a Wh-phrase, it may not be surprising that *ka*, which can be regarded as the realization of <Q>-feature, has to be as close to the Wh-phrase as possible. Unlike Wh-questions, yes-no questions do not contain any Wh-phrase, so the formation of yes-no questions is not under the restriction in (21). Thus, *ka* can be attached to a clause in yes-no questions.

6 Summary and Conclusion

I have shown that yes-no questions in Old Japanese are formed in just a single unified way: getting the clause in the scope of *ka*. The typical characteristic of *ka* is that it can be attached to any constituent of a clause including the clause itself, and that movement takes place when *ka* cannot take the clause in its scope in its base-position. We have also seen that Wh-questions in Old Japanese are formed in the same way but

under one restriction that *ka* needs to be as close as possible to a Wh-phrase as long as the movement of the Wh-phrase, which is clause-bound, takes place. Thus, we can consider that yes-no questions and Wh-questions are formed in a single unified way in Old Japanese.

To see if the analysis developed in this paper is on the right track, more research is needed on questions in Old Japanese and in other human languages, but it seems to be worth pursuing in that it could lead us to the optimal assumption advocated in Chomsky (2013, 2014) and elaborated by Epstein, Kitahara and Seeley (2017) that the computational system of human language does not distinguish yes-no questions and Wh-questions; they are just questions.

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