PAIR-LIST READINGS IN KOREAN AND JAPANESE: PRELIMINARY EXPLORATION OF AN UNEXPECTED CONTRAST

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Abstract

Questions with a wh-object and a universally quantified subject, such as What did everyone buy?, are often reported to lack a pair-list reading in Japanese and Korean, while in English, the pair-list reading is allowed. However, the present paper reports on a challenge to this generalisation posed by robust data from a new experimental study, in which native Korean speakers accepted pair-list readings in Korean. By contrast, native Japanese speakers generally rejected pair-list readings in Japanese, in the same experiment. The paper thus attempts to discover the source of this unexpected interpretation difference between Japanese and Korean. Typological differences are examined between the Korean and Japanese quantifiers nwukwuna/daremo ‘everyone’; and a semantic account by Saito (1999) of the lack of pair-list readings in Japanese is outlined. However, the latter is shown to be unable to extend to cover the present Korean data. Finally, a preliminary proposal is sketched, whereby the presence or absence of post-nominal focus marking on the universally-quantified subject determines whether or not pair-list readings are available in Korean and Japanese.

1. Introduction

It is well-known from the observations of May (1985) that English readily allows both individual and pair-list interpretations of wh-object questions with a universally quantified subject (henceforth “Wh-QP questions”), leading to two different answer types, as illustrated in (1):

(1) a. What did everyone buy?
   b. Individual interpretation: ‘for what thing x did every person buy x?’
   c. Pair-list interpretation: ‘for every person y, what x did y buy?’
   Pair-list answer: ‘Jo bought a book, Sam bought a CD, Ella bought a pen …’

Hoji (1985) observes that this does not hold for Japanese (2a): in this language, only the individual interpretation is possible. Similarly, Korean Wh-QP questions (2b) are reported to lack a pair-list interpretation (Ahn 1990; Beck and Kim 1997; Kim 1989).

(2) a. Japanese: Nani-o daremo-ga katta no?
   b. Korean: Mwues-ul nwukwuna(-ka) sass ni?
      what-Acc everyone-Nom bought Q
      ‘What did everyone buy?’
      Interpretation: Individual/*Pair-list

The source of this cross-linguistic variation is a topic of ongoing research. Moreover, the quest for an account of cross-linguistic variation in the interaction of wh-words with quantifiers is beset by the problem that speakers’ judgements often differ about the availability of different interpretations. This seems to be particularly true for Wh-QP interpretation in Japanese and Korean: Ahn (1990), Hoji (1985), Kim (1989) and Tomioka...
(2007) all make comments that suggest fragility in their own or their informants’ judgements. In this context, the present paper has two goals. First, I will report on an experimental investigation of Wh-QP interpretation in Japanese, Korean, and English, with the aim of adding concrete quantitative data to the existing ad hoc database of intuitions (Sections 2–3). Second, I will evaluate the most relevant previous approaches to cross-linguistic variation in Wh-QP interpretation in the light of the experimental data (Section 4) and I will propose a new account (Section 5).

To anticipate the argument, the findings of the experimental study confirm that the pair-list reading of Japanese Wh-QP questions is indeed generally not readily available, as claimed by Hoji (1985). However, in the Korean version of the task, the native Korean respondents accepted pair-list readings, contra the claims of the theoretical literature. Moreover, in both the Japanese and Korean data, some clear individual-level variation was evident.

The evaluation of previous studies is thus conducted in the context of this unexpected finding. The main focus is on an account by Saito (1999), in which the absence of pair-list readings in Japanese Wh-QP questions is ascribed to the semantic properties of the Japanese particle –mo within the quantifier daremo ‘everyone’. Japanese daremo, and also Korean nwukwuna, belong to a morphologically distinct class of quantifiers in which quantificational force comes from the combination of a wh-word (dare/nwukwu ‘who’) with a quantificational particle (mo/na) (henceforth, “wh+particle quantifiers”). Saito (1999) claims that the semantic properties of the particle –mo suppress the pair-list reading in Japanese. However, some fundamental problems with Saito’s analysis are identified, and Section 5 seeks an alternative account. Despite their morphological similarity, there are a number of subtle semantic and syntactic differences between Japanese daremo and Korean nwukwuna. The proposed new account of Wh-QP interpretation draws on a syntactic difference between the Japanese and Korean quantifiers. This account captures the absence of pair-list readings in Japanese and the presence of pair-list readings in Korean, and also addresses the question of why there is individual variation in the interpretation of Wh-QP questions.

2. Experiment design

2.1. Procedure

Intuitions about Wh-QP questions were collected by means of an acceptability judgement task. The test battery made use of five Wh-QP questions of the forms given in (3) (Japanese), (4) (Korean), and (5) (English).

(3) Nani-o daremo-ga V.Past no? what-Acc everyone-Nom Q

(4) Mwues-ul nwukwuna V.Past ni? what-Acc everyone Q

(5) What did everyone V?

Before detailing the task design, two features of the question forms in (3–5) should be discussed. First, Japanese daremo and Korean nwukwuna are used as equivalents of English everyone, following the theoretical literature concerning comparisons of Japanese and Korean Wh-QP questions with English (e.g, Beck and Kim 1997; Hoji 1985; Kim 1989; Yoshida 1995). However, as noted in the previous section, daremo and nwukwuna are wh+particle
quantifiers whereas *everyone* is not. Alternative Japanese and Korean quantifiers that do not have the wh+particle morphology could have been used: *minna* ‘everyone’ in Japanese and *motwud* ‘everyone’ in Korean. Indeed, substitution of *minna* and *motwud* would have improved the naturalness of (3) and (4), which are reported to sound slightly odd to native Japanese and Korean speakers (while the English (5) sounds perfectly natural to native English speakers). However, *daremo* and *nwukwuna* were used nonetheless because they fall into the cross-linguistically occurring category of what Gil (1995) terms “distributive key” universal quantifiers, which, like English *every*, always induce distributive interpretations. *Minna* and *motwud*, on the other hand are “simple” universal quantifiers, which permit both distributive and collective interpretations (like English *all*). Since the potential for a pair-list reading of Wh-QP questions depends on the distributive sense of a universal quantifier, the unambiguously distributive *daremo* and *nwukwuna* are the better choice.

The second feature to note is that *daremo* ‘everyone’ in the Japanese test question (3) is marked by the nominative particle –*ga*. However, in the Korean question (4), *nwukwuna* ‘everyone’ is not marked by the Korean nominative particle –*ka*. In Korean, inclusion of the particle is optional, and it was omitted on the advice of native Korean informants who indicated that the question sounds more natural without it. In Japanese, however, –*ga* is obligatory, and the question is ungrammatical without it. This difference between the Korean and Japanese questions will play a role in the proposal about why pair-list readings were accepted in native Korean (Section 5).

Moving on to the task design, pictures were drawn to accompany each of the five Wh-QP questions. The pictures provided plausible contexts for both individual and pair-list answers to each question. Each question and picture occurred twice in the test set: once with an individual answer and once with a pair-list answer. Examples of an individual answer test item and a pair-list answer test item are provided in Figures 1 and 2, respectively. Note that the examples in Figures 1 and 2 are taken from the English version of the test. In the Japanese and Korean versions, the questions and answers appeared in Japanese and Korean script, respectively, and Japanese and Korean names were used for the individuals in the pictures.

![Figure 1: Individual answer test item](image-url)
Q: What did everyone draw?
A: Sam drew a cat and a bird, Kate drew a cat and a mouse, David drew a cat and a dog, and Jane drew a cat and a goldfish.

Figure 2: Pair-list answer test item

The ten test tokens were mixed randomly with ten distractor items. The distractors comprised wh-questions (not of the forms in (3–5)) and answers that were designed to blend in structurally and lexically with the test items. Like the test items, they were based around five pictures, each occurring twice. Two presentation orders of the 20 test items were prepared, Order 2 being the reverse of Order 1. Approximately half the participants viewed Order 1 and half viewed Order 2.

The procedure for judging the test items was as follows. Each picture was projected onto a screen at the front of the test room for 10 seconds. The question and answer were then revealed on the screen, below the picture. At the same time, the question and answer were presented aurally, using a tape recording by a native speaker of the language of the test. The picture and the question and answer were viewed together for 15 seconds before proceeding to the next test item. Participants were asked to indicate how possible they found each answer in the context of the question and the picture, using a scale of $-2$ (="definitely not possible"), $-1$, $+1$, $+2$ (="perfectly possible"). A further option of “can’t decide” was also available. The pictures and sentences did not appear on the answer sheet. This precaution was intended to minimise the possibility of participants attempting to judge test items relative to the other items, or going back and changing answers.

Pre-test training was provided, using four examples (not Wh-QP questions), in order to familiarise the participants with the format of the test and with the judgement scale.

2.2. Participants

Eighteen native Japanese speakers, 26 native Korean speakers, and 21 native English speakers judged Japanese, Korean, and English versions of the test, respectively. All participants were university students. The Japanese speakers (mean age = 23) were resident in Japan at the time of testing, the Korean speakers (mean age = 22) in Korea, and the English speakers (mean age = 19) in England.
3. Results

For the analysis, responses of +1 or +2 on the rating scale are considered to indicate acceptance of the question-answer pairing, and responses of −2 or −1, rejection. The responses to the 10 distractor items were examined first, to discover whether any individual had a high proportion of inappropriate acceptances or rejections, potentially indicating a lack of understanding of the task, or inability to complete the task. The data from one Korean participant were removed from the analysis due to more than one wrong rating on the distractor items.

The results for the actual test items are discussed in terms of rates of acceptance. (The rates of rejection were a virtual mirror image of the acceptance ratings, since there were very few “can’t decide” responses: 1% of the total remaining in the analysis.) Table 1 shows the rates of acceptance of each answer type by the three groups.

<table>
<thead>
<tr>
<th>group (n)</th>
<th>individual answers</th>
<th>pair-list answers</th>
</tr>
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<tbody>
<tr>
<td>Japanese (18)</td>
<td>94.44</td>
<td>36.66</td>
</tr>
<tr>
<td>English (21)</td>
<td>89.52</td>
<td>99.05</td>
</tr>
<tr>
<td>Korean (25)</td>
<td>74.40</td>
<td>71.20</td>
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</tbody>
</table>

The data in Table 1 clearly show a rather different response pattern for the Japanese group compared with the English and Korean groups. The Japanese group differentiates sharply between individual answers and pair-list answers, with an acceptance rate of 94.44% for the former and only 36.66% for the latter. By contrast, the English and Korean groups have relatively high rates of acceptance for both answer types. In the English group acceptance rates are very high: 89.52% for individual answers and 99.05% for pair-list answers. In the Korean group the acceptance rates for the two answer types are 74.4% (individual) and 71.2% (pair-list). A repeated measures ANOVA shows that the main effects of answer type and group are significant (answer type: $F(1, 61) = 13.17, p < .01$; group: $F(2, 61) = 12.27, p < .001$). The interaction of answer type with group is also significant ($F(2, 61) = 15.7, p < .001$). Paired samples t-tests confirm that in the Japanese group the low acceptance of pair-list answers differs significantly from the acceptance rate for individual answers ($t(17) = 5.1, p = .001$). However, in the English group and the Korean group, there is no statistically significant difference between the two answer types (English: $t(20) = -1.89, p = .072$; Korean: $t(24) = .38, p = .72$).

In short, the data broadly support the claim that English readily allows pair-list answers to Wh-QP questions while Japanese does not. By contrast, the claim that Korean also lacks pair-list readings is not supported: pair-list answers were much more highly acceptable in Korean than in Japanese.

However, this is a broad description, which does not take into account a degree of variation between languages and individuals evident in the results. Specifically, although the Japanese group’s 36.66% rate of acceptance of pair-list answers is low, it nonetheless still represents one third of responses. Similarly, the Korean group’s 71.2% acceptance of pair-list answers means that over 28% of the Korean responses did not indicate acceptance of pair-list answers. In other words, the Japanese and Korean groups were not unanimous in their rejection or acceptance of pair-list answers. By contrast, the English group demonstrated near universal (99.05%) acceptance of pair-list answers. Examination of individual consistency with regard to the two answer types provides a more detailed picture of the nature of the lack
of unanimity in the Japanese and Korean groups. Table 2 shows the consistency of the participants’ responses to the pair-list test types. A participant is considered to ‘consistently accept’ a particular answer type if she or he selected +1 or +2 on the rating scale for at least four of the five exemplars of that type. ‘Consistent rejection’ is defined as selection of −2 or −1 on at least four of the five exemplars of that type, and ‘inconsistency’ indicates response patterns that correspond neither to consistent acceptance nor to consistent rejection.

<table>
<thead>
<tr>
<th>Group</th>
<th>No. (%) of participants who demonstrate:</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>consistent acceptance</td>
<td>consistent rejection</td>
<td>inconsistency</td>
</tr>
<tr>
<td>Japanese (18)</td>
<td>6 (33.3)</td>
<td>10 (55.6)</td>
<td>2 (11.1)</td>
</tr>
<tr>
<td>Korean (25)</td>
<td>17 (68.0)</td>
<td>2 (8.0)</td>
<td>6 (24.0)</td>
</tr>
<tr>
<td>English (21)</td>
<td>21 (100)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2: Consistency of participants on pair-list answers

Two points are of particular interest with regard to the data in Table 2. First, it is clear that the majority of participants responded consistently. Only two of the 18 Japanese participants (11.1%) were inconsistent in their responses. In the Korean group, the proportion is higher, at 24% (6 out of 25), but it nonetheless represents a minority. Second, the data further emphasise the difference between the Japanese responses and the Korean responses. There were six participants (33.3%) in the Japanese group who consistently accepted pair-list readings, compared with seventeen (68%) in the Korean group. Ten Japanese participants (55.6%) consistently rejected pair-list readings, compared with only two (8%) Koreans.

With regard to the within-group lack of unanimity, in the Japanese group this clearly comes from the six participants who consistently accepted pair-list answers. Thus, despite the overall pattern of pair-list readings being unacceptable in Japanese, there are nonetheless a minority of speakers for whom the pair-list reading is acceptable. In the Korean group, the main source of the lack of unanimity is the inconsistent answering by six participants. This suggests that there was some uncertainty about how to judge the pair-list answers, perhaps due to the question and answer being difficult to interpret in Korean. An account of these characteristics of the Japanese and Korean data, along with an account of why pair-list answers were accepted in Korean, contra expectations, is offered in Section 5.

4. Discussion

The previous section presented quantitative evidence of an unexpected contrast between native Japanese and native Korean with respect to Wh-QP interpretation: native Japanese speakers tended to reject pair-list interpretations of Wh-QP questions in Japanese, whereas native Korean speakers tended to accept pair-list interpretations in Korean. The present section begins by showing how experimental factors can be ruled out as an explanation for the native Korean acceptance of pair-list readings. This is followed by an evaluation of previous accounts of Wh-QP interpretation with respect to the present data.
4.1. Experimental factors

An unexpected result in an experimental study could be due to extraneous variables. However, efforts were made in the present study to rule out extraneous variables. The general test procedure was carefully piloted and revised in order to increase accuracy. In addition, all test sessions were administered by the author, consistently using the same (pilot-tested) protocol for explanation of how to do the test. The author also monitored conditions in the test rooms, ensuring that the audio tape was played at an appropriate volume, that the screen was visible from all parts of the room, and so on. With regard to the Korean test specifically, the test was conducted at a university in Korea, no English was used in the test room, and none of the participants were English majors. Thus, it is highly unlikely that the participants were influenced by knowledge of English in their responses.

The unexpected result was that Korean participants accepted pair-list answers to Wh-QP questions. This could indicate that there was a ‘yes-bias’ among the participant group, so that, perhaps due to a desire to be cooperative, participants were reluctant to select ratings indicating rejection. However, evidence from the distractor items shows that this was not the case. The native Korean participants correctly rejected those distractor items that presented unacceptable question-answer-picture combinations, such as that in Figure 3. The answer in Figure 3 is not possible in the context of the question and the picture because Swuhuy is depicted holding shoes but the answer says she bought socks.5

Q: Nwu-ka mwues-ul sass ni?
   who-Nom what-Acc bought Q
   ‘Who bought what?’

A: Swun-i-nun moca-lul sassko, Yang-i-nun kapang-ul
   Swun-Top hat-Acc bought, Yang-Top bag-Acc
   saskko, Swuhuy-nun yangmal myech kkyelley-lul sassta
   bought, Swuhuy-Top sock some pair-Acc bought
   ‘Swun bought a hat, Yang bought a bag, and Swuhuy bought
   some socks.’

Figure 3: Korean distractor item

In fact, the mismatch between the answer and the picture in the distractor item in Figure 3 is simpler than the discrepancy that was expected to arise in the Korean pair-list test items, between pair-list answers and the questions and pictures. In the test items, there was no mismatch between the pair-list answer and what each picture showed. (Recall Figure 2: the picture depicts exactly what the pair-list answer details.) Participants were expected to reject
the pair-list answer on the grounds that the Wh-QP question does not allow such an answer. Therefore, it could be objected that the Korean group’s acceptance of the pair-list answers was due to some kind of non-linguistic answering strategy whereby they ignored the questions, and responded on the basis of whether everything described in the answer appeared in the corresponding picture. An improvement to the test instrument would therefore have been the inclusion of non-Wh-QP distractor items that required a ‘reject’ response even though there was no mismatch between the content of the answer and the picture. If participants had still rejected these distractor items but accepted the pair-list test items, this would have provided stronger evidence of the absence of any extra-linguistic test-answering strategy behind the Korean acceptance of pair-list readings.

Although such control data are not available in the present study, there is nonetheless evidence that the acceptance of pair-list readings in Korean was not due to a test-answering strategy. This comes from the contrast between the Korean responses (acceptance of pair-list readings) and the Japanese responses (rejection of pair-list readings). If the design of the test had caused the Korean group to use a test-answering strategy, there is no reason why it should not have provoked the same test-answering strategy in the Japanese group, resulting in pair-list readings appearing acceptable in Japanese, too. However, as was clearly shown by the group results and individual consistency data detailed in Section 3, the Japanese and Korean groups displayed distinct response patterns. These distinct response patterns, despite the potential for both groups to have been affected by the same test-answering strategy, suggest that no strategy was involved, and the source of the distinction should be sought among linguistic factors.

4.2. Linguistic factors

There are few accounts of the cross-linguistic differences in Wh-QP question interpretation. In a syntactic account of a broad range of quantifier-related phenomena, Aoun and Li (1993) propose that the presence or absence of a pair-list reading is a corollary of different wh-question structures. In English, wh-words undergo wh-movement to Spec,CP, yielding a structure that allows the wh-object to take scope over the QP subject in a question like *What did everyone buy?*. By contrast, in Japanese, under this account, there is no wh-movement, but instead wh-words are licensed by a sentence-final question-marking particle such as *no* in (2a), repeated in (6a). Aoun and Li argue that the resulting structure does not allow a wh-object to take scope over a QP subject in a question like (6a).

(6) a. Japanese: Nani-o daremo-ga katta no?
   b. Korean: Mwues-ul nwukwuna(-ka) sass ni?

‘What did everyone buy?’

Interpretation: Individual/*Pair-list

Since Korean also uses question particles in question formation, such as *ni* in (2b) repeated in (6b), this account presumably rules out pair-list readings in Korean Wh-QP questions in the same way. Consequently, this model seems unlikely to be able to account for the acceptance of pair-list readings in Korean in the present study.

The syntactic framework of Aoun and Li (1993) is updated in Aoun and Li (2003). In their new framework, Aoun and Li (2003) ascribe cross-linguistic variation in Wh-QP interpretation to morpho-syntactic differences in quantifiers, although they do not address Japanese or Korean specifically in this context. It is unclear how the absence of pair-list
readings in Japanese can be ruled out in this account, and for reasons of space I will not explore this account further here. However, it should be noted that, like Aoun and Li (2003), both the semantic account by Saito (1999) outlined below, and the new account of Wh-QP interpretation presented in Section 5 also ascribe cross-linguistic variation to the morphosyntactic properties of quantifiers.

The semantic account by Saito (1999) has, at first glance, the potential to allow differences between Japanese and Korean with respect to Wh-QP interpretation. This account exploits the fact that daremo ‘everyone’ is a wh+particle quantifier, and proposes that semantic properties of the quantificational particle –mo, within daremo ‘everyone’, lead to the absence of the pair-list interpretation. This seems promising in the context of accounting for the presence of the pair-list reading in the present data, because the quantificational particle –na within the Korean nwukwuna ‘everyone’ does not have the same meaning as Japanese –mo. Mo in Japanese is a conjunction ‘and’ whereas –na in Korean is a disjunction ‘or’ (Gill 2004). Moreover, as detailed further below, there are subtle differences in the distribution and interpretation of daremo in Japanese compared with nwukwuna in Korean. Thus it is not implausible to suppose that the difference in acceptance of pair-list readings might arise due to these subtle differences between daremo and nwukwuna. In order to be able to consider this proposal, Saito’s account of Japanese is outlined first.

Saito’s proposal is based on Chierchia’s (1992) analysis of pair-list readings in English. In addition, he incorporates what Kawashima (1994) identifies as a “domain-widening” property of daremo, purportedly along the lines of Kadmon and Landman (1993).

Chierchia (1992) notes that English questions such as (1) can additionally have a functional answer, as shown in (7):

(7) Q: What did everyone buy?
A: His or her own picture.

The functional answer is argued to denote a function from the members of the set of people (everyone) into the set of their respective pictures, as shown in (8). Thus, the reading of the question in (7) can be represented as in (9) (Saito 1999: 595):

(8) \{<x,y> : y is x’s picture\} = \{<a, a’s picture>, <b, b’s picture>, …\}

(9) [for which f] everyone, bought f(x)

The representation in (9) also applies to the pair-list answer, since a function is a set of ordered pairs.


(10) A1: I don’t have potatoes.
    B: You have decorative ones, right?
    A2: I don’t have any potatoes.

In (10), any in A2 widens the domain of potatoes in A1 so that it includes decorative potatoes (as well as cooking potatoes). Kawashima (1994: 129–130) argues that properties of the –mo
particle in Japanese wh+mo quantifiers leads to domain-widening in the same way as any, using examples such as (11).

student-Top invite-Neg-Past
‘(I) didn’t invite students.’

B: John (who is a student)-wa yonda desyo
John-Top invited right
‘You invited John, right?’

A2: Iya, daremo yob-ana-katta.
no anyone invite-Neg-Past
‘No, (as for students) (I) didn’t invite anyone.’

As (11) shows, daremo translates as ‘anyone’ in a negative environment. Kawashima argues that in (11) daremo in A2 widens the domain of gakusei ‘student’ in A1 so that it includes John as well as any other students in the context. A further example is given in (12) (adapted from Kawashima 1994: 131), which, Kawashima claims, illustrates the domain-widening property of Japanese wh+mo quantifiers in an affirmative, non-generic context:

(12) A: Kinoo gakusei-wa sono hoteru ni tomatta.
yesterday student-Top that hotel at stayed
‘Yesterday the students stayed at that hotel.’

B: Demo John (= a member of the students under discussion)-wa tomodati-no
but John-Top friend-Gen
ie ni tomaru to itta.
house at stay Comp said
‘But John (who is member of the students under discussion) said that he would stay at his friend’s house.’

A: Iya, daremo-ga sono hoteru ni tomatta.
no everyone-Nom that hotel at stayed
‘No, everyone stayed at that hotel.’

Kawashima identifies a problem in (12), in that gakusei-wa ‘the students’ receives a definite reading by virtue of the topic marker –wa. She proposes that widening appears to take place with respect to the closed domain of this definite NP. By definition, a closed domain cannot be widened; therefore, Kawashima proposes that it is actually a contextually-given previously narrowed domain that undergoes widening, namely Speaker B’s construal of gakusei-wa ‘the students’ as a set of students that excludes John. Thus, she argues, daremo ‘everyone’ in Speaker A’s second utterance, widens this contextually restricted domain to include John.

Saito (1999) proposes that this domain-widening property of –mo affects the interpretation of Japanese Wh-QP questions. To provide a concrete example, Saito considers the Wh-QP question in (18). A pair-list reading of (13) should have the representation in (14), following Chierchia’s analysis (Saito 1999: 612–613).

everyone-Nom who-Acc respect Q tell please
‘Please tell me [who everyone respects].’

(14) [for which f] daremo, respects f(x)
Drawing on Kawashima’s (1994) proposal that *daremo* widens a contextually-given narrow domain, Saito proposes a very specific meaning for (14), as follows. Suppose that the narrow domain given by the context is \{Tom, Mary\}, and that Tom respects Descartes and Beethoven, and Mary respects Descartes. First, the question in (14) has a presupposition that there is more than one function that satisfies ‘x respects f(x)’ for this domain. This presupposition is met by the following two functions:

\[
\begin{align*}
(15) \text{a.} & \quad \{<\text{Tom, Descartes}>, <\text{Mary, Descartes}>\} \\
\text{b.} & \quad \{<\text{Tom, Beethoven}>, <\text{Mary, Descartes}>\}
\end{align*}
\]

The question then asks which of these functions continues to hold when the domain is widened. Suppose that the domain is widened to include John who respects Babe Ruth. If \(<\text{John, Babe Ruth}>\) can be added to the functions in (15a–b), then the answer to the question is “both functions”. If, on the other hand, John did not respect anyone, then the answer to the question would be “neither function”. These are the only possible answers to the very specific question evoked due to the domain-widening property of *daremo*. Thus, Saito claims, this property precludes a pair-list answer in Japanese Wh-QP questions.

To assess whether this proposal could also account for the acceptability of a pair-list reading in Korean Wh-QP questions, as found in the present experimental data, it is necessary to find out whether the Korean particle –*na* ‘or’ in *nwukwuna* also produces a domain-widening effect. It is not appropriate to consider *nwukwuna* in a negative environment such as that in (11), because a different wh+particle quantifier, *nwukwuto*, which is negative sensitive (Gill 2004; Lee 1996), would be more appropriate here. In fact, Korean *nwukwuto* is morphologically closer than *nwukwuna* to Japanese *daremo*, because it is made up of *nwukwu* ‘who’ and *to* ‘and’. In terms of distribution, however, *nwukwuto* differs from *daremo* because it is restricted to negative environments, and therefore would be ungrammatical in the Wh-QP questions used in the present study. Therefore, we need to find out whether *nwukwuna* can act as a domain widener in an affirmative environment such as (12). If Kawashima’s argument that *daremo* acts as a domain-widener in (12) is correct, and if Korean *nwukwuna* cannot similarly widen the domain of ‘students’ in a Korean version of (12), then we may have a solution to the acceptability of pair-list readings in Korean Wh-QP questions compared to their rejection in Japanese. However, Gill, Harlow and Tsoulas (2007) argue that *nwukwuna*, despite incorporating the disjunction *na* ‘or’, has the semantics of an infinite conjunction (in other words, a universal), by virtue of the interaction of the disjunction –*na* with a definiteness operator. Thus, semantically, *nwukwuna* has conjunctive force just like *daremo* (and, indeed, any universal quantifier). The example in (16), which is a Korean version of (12), shows that Korean *nwukwuna* does indeed behave in the same way as Japanese *daremo* in this context.

\[
\begin{align*}
(16) \text{A:} & \quad \text{Ecey, haksayng-tul-un ku hotheyl ey mwukessta.} \\
& \quad \text{‘Yesterday the students stayed at that hotel.’} \\
\text{B:} & \quad \text{Haciman, John-un caki chinkwu cip eyse mwukulcelako malhayssta.} \\
& \quad \text{but John-Top self friend house at would-stay said} \\
& \quad \text{‘But John said that he would stay at his friend’s house.’} \\
\text{A:} & \quad \text{Anya, nwukwuna ku hotheyl ey mwukessta.} \\
& \quad \text{no everyone that hotel at stayed} \\
& \quad \text{‘No, everyone stayed at that hotel.’}
\end{align*}
\]
In (16), the narrowed domain of *haksayng-tul-un* ‘the students’ given by Speaker B (i.e., the students minus John) is widened by *nwukwuna* ‘everyone’ so that it includes John, just as in the equivalent Japanese dialogue in (16). Thus, it is not clear why this domain-widening function of *daremo* should prevent a pair-list reading of Wh-QP questions, but the same function of *nwukwuna* should not. Indeed, the same problem applies in English. The English translation in (16) shows that English *everyone* also appears to widen the domain of *students*, yet English clearly allows pair-list readings in Wh-QP questions. Under Saito’s account it is not clear why this should be the case.

Moreover, Kawashima’s proposal that domain-widening occurs at all in (12) is questionable. She is clearly aware of the problem, as she acknowledges that the definite NP *gakusei-wa* ‘the students’ should not be able to be widened. In Kadmon and Landman’s original proposal, it is indefinite NPs that undergo widening, such as *potatoes* in (10: A1), or *an owl* in Kadmon and Landman’s (1993: 364):

(17) A1: An owl hunts mice.
   B: A healthy one, that is?
   A2: No, ANY owl.

Kawashima suggests that in (12), it is not ‘the students’ that is widened, but a contextually-given previously narrowed domain (i.e., the students minus John). She states explicitly that Speaker B understands the students to exclude John: ‘[t]his will give a narrow domain of the student which Speaker B suggested, namely the domain which does not contain John’ (Kawashima 1993: 134). Yet this is incompatible with Speaker B’s actual question: if he understands ‘the students’ to exclude John, then he would not ask a question that presupposes that John *is* one of the students. In short, Kawashima’s use of (12) as an example of widening appears to be flawed, and it does not accord with Kadmon and Landman’s (1993) concept of widening.

The idea of a contextually given previously narrowed domain is further problematic within Saito’s framework. Saito’s analysis relies on an assumption that Japanese wh+*mo* quantifiers always widen a contextually-given narrow domain. However, it seems unlikely that there will always be a narrowed domain in the context. In fact, there was no contextually-given narrow domain in the Wh-QP questions used in the present study. As Figures 1 and 2 showed, the context for each Wh-QP question was a single picture that depicted all the members of the set that could be understood to comprise *daremo* ‘everyone’. There is no obvious way in which a narrow domain could be identified in this context.

To summarise, Saito’s (1999) analysis of the lack of a pair-list reading in Japanese Wh-QP questions does not appear able to account for the presence of pair-list readings in Korean. Moreover, the analysis is compromised by its foundation on Kawashima’s (1994) flawed application of Kadmon and Landman’s (1993) concept of widening to Japanese *daremo* in an affirmative, universal context. Other accounts (Aoun and Li 1993, 2003) also cannot account for the findings of the present study. The following section proposes a different solution to the lack of pair-list readings in Japanese and their presence in the present Korean data. In addition, an explanation is offered for variation among individuals with regard to the availability of pair-list readings.
5. A focus-based approach

5.1. Daremo and nwukwuna: similarities and differences

Some similarities and differences between Japanese daremo and Korean nwukwuna have already been noted. First, both are wh+particle quantifiers, but the quantificational particle –mo in daremo is a conjunction, whereas –na in nwukwuna is a disjunction. Second, daremo can behave as a negative polarity item (as seen in (11), above). By contrast, nwukwuna is not polarity sensitive (Gill 2004). With regard to the negative sensitivity of daremo, note that this arises only when daremo is used without a case marker (see e.g., Nishigauchi 1990, 1999):

(18) Daremo ko-na-katta/*kita.
   daremo come-Neg-Past /came
   ‘Nobody came/*/Anybody came.’

When used with a case marker, it is not polarity sensitive, and it functions as a universal (as seen throughout this paper):

(19) Daremo-ga ko-na-katta/kita.
   everyone come-Neg-Past /came
   ‘Everyone didn’t come/Everyone came.’

Since daremo shows negative sensitivity when used without a case particle, it follows that, as noted in Section 2, the affirmative Japanese Wh-QP questions in the present study are ungrammatical when the case particle is omitted (20). Recall that this contrasts with Korean: Korean nwukwuna can be used in a Wh-QP question with or without the nominative case particle –ka (21).

(20) Nani-o daremo-ga/*(-ga) katta no?
    what-Acc everyone-Nom bought Q
    ‘What did everyone buy?’

(21) Mwues-ul nwukwuna(-ka) sass ni?
    what-Acc everyone(-Nom) bought Q
    ‘What did everyone buy?’

It is this difference between daremo and nwukwuna that is exploited in the following proposal about the differences in pair-list interpretation between Japanese and Korean.

5.2. Focus as a suppressor of the pair-list interpretation

In English, the interpretation of a Wh-QP question can be affected by stress. If everyone is stressed, as in (22), then an individual interpretation (i.e., ‘What did everyone read in common?’) is favoured, while a pair-list interpretation obtains less easily:

(22) What did EVERYONE read?

A dialogue could be imagined where the stress on everyone disambiguates an English Wh-QP question. In (23), Speaker A could be asking Speaker B about a class trip to the cinema.
Stress on EVERYONE appears to affect the information structure of the question. The non-wh-element of an unstressed wh-question is usually contextually old information, or the topic, in terms of a topic-focus articulation. Thus, in the neutrally-stressed question What did everyone buy?, the set of people that comprises ‘everyone’ should be already known in the discourse context. However, stressing the non-wh-element turns it into a focus, or information that is interpreted as new in the discourse. In (23), above, stressed EVERYONE represents ‘new’ information in the sense that the previous understanding of everyone (indicated by Speaker B’s pair-list answer) was not the interpretation intended by Speaker A.

I would like to propose that focus similarly plays a role in the acceptance of pair-list readings in Korean and the rejection in Japanese. In these two languages, the nominative particles –ga in Japanese and –ka (or –i, post-consonantally) in Korean often mark new information (Kuno 1973; Yeon 2003). As such, they are often associated with focus. Whether or not –ga and –ka can actually be classified as focus particles is a debated topic. Schütze (2001) for example proposes that there are two separate particles in Korean: nominative –ka and focus –ka. Vermeulen (2005: Chapter 3) makes similar claims for Japanese –ga. Kuroda (2005) compares Japanese –wa and –ga, and argues that the designation of the former as a topic marker and the latter as a focus marker is misguided; he proposes instead that the two particles are differentiated by the types of judgement they indicate. It is beyond the scope of the present article to delve into the arguments about the precise analysis of –ga and –ka. I will adopt the commonly-used simplification that nouns marked with –ga/–ka are in focus as a useful place to start for the analysis of the present data.

In this context, the difference in nominative marking between the Japanese and Korean Wh-QP questions in the experimental study becomes relevant. In the Japanese question form (repeated in (24)), daremo ‘everyone’ was marked with the nominative particle –ga; omission of –ga would have resulted in ungrammaticality. However, in Korean (25), nominative marking of the subject nwukwuna ‘everyone’ is not obligatory, and the nominative particle –ka was omitted on the grounds that this made the question sound more natural.

Thus, daremo in (24) is focused—in the sense that it is marked as new information—by –ga. However, nwukwuna in (25) is not focused. Indeed, a reason for the awkwardness of marking nwukwuna with –ka in (25) may be that the resulting focus on nwukwuna would conflict with the focus on mwaes ‘what’, which derives from (i) its being a wh-element and (ii) the fact that mwaes is scrambled to the left edge of the sentence. A similar conflict would be expected to arise in Japanese, due to the focus on the scrambled wh-word, nani ‘what’. However, since there is no option of omitting –ga on daremo, the apparent double focus in the Japanese question may not stand out as problematic, unlike in Korean.

I suggest that it is this difference in focus between the Japanese and Korean Wh-QP questions that accounts for the rejection of pair-list readings in Japanese and their acceptance.
in Korean. In effect, the focused daremo ‘everyone’ in Japanese is like stressed EVERYONE in English: the focusing somehow suppresses the pair-list interpretation. In the Korean test items, nwukwuna ‘everyone’ was not focused, and therefore, as with unstressed everyone in English, the pair-list reading was available.

5.3. Advantages

If correct, the focus-based approach outlined above provides a neat account for the acceptance of pair-list readings in Korean and their rejection in Japanese. It also makes a clear prediction: there will be a clear contrast between Korean Wh-QP questions in which –ka is omitted (as in the present study) and Korean Wh-QP questions in which the subject is marked with –ka. The former will allow pair-list readings and the latter will not. Experimental investigation of this prediction is planned.

A further advantage of this focus-based approach is that it may shed light on why a third of the native Japanese speakers allowed pair-list readings for Japanese Wh-QP questions, while a quarter of the native Korean speakers gave inconsistent responses with regard to pair-list readings, as discussed in Section 3. Recall that both the Japanese and Korean Wh-QP questions used in the study were acknowledged to be somewhat less natural than their English counterpart. Since the questions are syntactically sound, this unnaturalness appears to be due to imperfect information structure. Specifically, the focus on the wh+particle quantifier may play a role. In the case of Japanese, I have proposed that daremo ‘everyone’ is focused by the obligatory subject marker –ga, and this focus ruled out the pair-list interpretation. However, the wh-element nani ‘what’ is also focused in the question. For some native Japanese speakers, the strong focus on nani ‘what’, due to its being scrambled to the left periphery, may render the focus on daremo less salient. Consequently, these speakers allow pair-list readings. In the case of Korean, a further characteristic of wh+particle quantifiers may add to the difficulty of judging Wh-QP questions. Tomioka (2007) argues that wh+particle quantifiers are ‘anti-topic items:’ they cannot readily be the topic of a sentence. Since nwukwuna ‘everyone’ occupies the position in the Wh-QP question that would usually be occupied by a topic, speakers may be pragmatically-motivated to try to interpret it as a topic. Marking with –ka would help to emphasise that nwukwuna is not a topic, but since such marking is absent here, it is not improbable that some speakers may simply find the questions difficult to interpret. This could be the source of the inconsistency in the native Korean judgements. In short, there are clear reasons why the information structure of the Japanese and Korean Wh-QP questions is not perfect. As Tomioka (2007) points out, speakers’ judgements about sentences with a degraded information structure depend on each individual’s capacity to resolve pragmatic infelicities. Therefore, a degree of inter-speaker variation in the interpretation of the Japanese and Korean Wh-QP questions used in this study is not unexpected.

Consideration of the role of focus in Wh-QP questions thus provides a solution to the problem of why pair-list readings were accepted in native Korean and not in native Japanese. In addition, it leads to a plausible account of the variation between speakers in the native Japanese and native Korean responses to pair-list questions.

5.4. A potential problem

If this proposal is along the right lines, then it must be extended in order to address a problem with a related Japanese and Korean quantifier form. Japanese and Korean QPs with the meaning ‘every N’ can be formed as shown in (26):
These quantifiers are also reported to not allow pair-list readings in Wh-QP questions, but, in addition, they can never be marked with a nominative particle (Yoshida 1995; Kook-Hee Gill, personal communication, October 2005):

Thus, with wh-N-mo/(i-)na quantifiers, we cannot appeal to the presence of an overt nominative/focus marker in suppressing the pair-list reading. Yoshida (1995: 151, footnote 9) speculates that Japanese dono N-mo ‘every N’ may be a floating quantifier coindexed with an empty pronominal in subject position. If such an analysis is correct, this could play a role in the absence of pair-list readings in (27) despite the lack of nominative/focus-marking. Further exploration of this question—including collection of experimental data in order to verify the judgements—is left for future research.

6. Conclusion

This paper has reported on new quantitative data on the interpretation of Wh-QP questions in Korean, Japanese and English. The study yielded an unexpected contrast between Japanese and Korean. Although, according to theoretical sources, pair-list interpretations of Wh-QP questions are not permitted in either Japanese or Korean, the Korean group in the experimental study in fact accepted pair-list readings. It was argued that this result was unlikely to be an experimental artefact. Thus, a linguistic account of the contrast was sought, via examination of the subtle differences between the Japanese and Korean quantifiers daremo/nwukwuna ‘everyone’. The proposed solution suggests that pair-list readings are permitted in Korean when the universal quantifier is unfocused due to omission of the nominative particle –ka.

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Notes

1. The individual answer (1b) is, in fact, ambiguous. It could mean that everyone clubbed together and collectively bought one book, or it could mean that each person individually bought a book. Throughout this paper, the latter meaning is intended.
2. The canonical word order in Japanese and Korean is SOV, and both are wh-in-situ languages. Thus, in the questions in (2), the object is scrambled over the subject. This scrambled form is used throughout the present study, in preference to the non-scrambled forms (i-ii), because the non-scrambled forms are frequently reported to be only marginally acceptable (Beck and Kim 1997; Hoji 1985; Tomioka 2007).

   (i) Daremo-ga nani-o katta no?
   (ii) Nwukwuna(-ka) mwues-ul sass ni?

In studies that treat the non-scrambled forms (i-ii) as acceptable (e.g., Ahn 1990; Saito 1999), the same interpretation restriction is reported: pair-list readings are excluded. See Hoji (1985) and Tomioka (2007) for proposals about what may account for the increased acceptability of the scrambled forms.

3. See Ahn (1990, 145) for brief discussion of the difference between nwukwuna and motwu ‘everyone’. Regarding Japanese, Miyamoto and Yamane (1996) comment briefly on the collective property of minna, in contrast to daremo, and further enquiry by the author among native speakers of Japanese confirms the difference between the two words.
4. Yamakoshi (2006), using a different judgement task, also found that pair-list answers were not unanimously rejected in native Japanese: 11 adult native-speakers of Japanese judged two scrambled Japanese Wh-object QP-subject questions, and accepted pair-list answers 18.2% of the time. To the present author’s knowledge, there are no previous studies of Wh-QP interpretation in Korean for comparison.
5. Note that in the actual test, the question and answer appeared only in Korean script, with no romanisation, gloss or translation. The Korean script on the picture in Figure 3 indicates the names of the people depicted. Decomposition of the Korean verbal morphology is omitted in the glosses, since it is largely irrelevant to the issues in this paper. Some Korean names are followed by the phonological filler, -i-, which is also not glossed.
6. Much of Kawashima’s (1994) argumentation refers to wh+mo QPs of the form dono N-mo ‘every N’ (lit. which N-also), rather than daremo ‘everyone’. The quantified NP in the final utterance of the relevant example in Kawashima (1994) is dono gakusei-mo ‘every student’. I thank Hidekazu Tanaka for helpful discussion of examples such as (12) using daremo (personal communication, July 2005).
7. Saito (1999: 613, footnote 15) acknowledges that (15) might also be represented as a single function (i).

   (i) {<Tom, {Descartes, Beethoven}>, <Mary, Descartes>}

If (i) is correct, then the presupposition that that is more than one function satisfying ‘x respects f(x)’ fails.
8. Note that nwukwuna is not ungrammatical in a negative environment. However, if nwukwuna were used in place of daremo in a Korean version of (11), the last line of the dialogue would have a different nuance, along the lines of ‘No, I didn’t invite just anyone. (I had a select list of invitees.)’ (Kook-Hee Gill, personal communication, July 2008).
9. I thank Jin Hee Park and Kook-Hee Gill for discussion of this Korean example (personal communications, September 2005). Kook-Hee Gill notes that the alternatives motwu ‘everyone’ and motun saram ‘all the people’ sound more natural here than nwukwuna.

References


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