On mass denotations of bare nouns in Japanese and Korean*

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Abstract

The present work explores the nature of bare nominal arguments in Japanese and Korean in conjunction with Chierchia's (1998a) nominal mapping parameter. The nominal mapping parameter categorizes Japanese and Korean as NP [+argument, −predicate] languages. His theory predicts that Japanese and Korean bare nouns denote kinds and come out of the lexicon with mass denotations. In the present work, I will discuss the following two crucial differences between conventional mass nouns like the English furniture and Japanese/Korean bare nominal arguments. First, although conventional mass nouns do not get pluralized, Japanese and Korean bare nouns do. Second, bare mass nouns cannot refer to specific individuals, but Japanese and Korean bare nominal arguments can. I will investigate what modification is necessary in order to accommodate these non-mass-like characteristics of Japanese and Korean bare nominal arguments to Chierchia's (1998a, 1998b) theory. I will demonstrate that Japanese and Korean plural nouns do not appear in generic/kind-predication sentences and that Japanese and Korean anaphoric bare nominal arguments are not necessarily number neutral. Given these observations, I will argue that only kind-referring expressions are true bare NPs and denote mass. Non-kind-referring arguments will project the higher projections like DP (determiner phrase) or Cl(assifier)P, and DP and ClP will trigger the mass to count denotation shift.

1. Introduction

The present work concerns the nature of bare nominal arguments in Japanese and Korean. Japanese and Korean allow bare NP arguments. A "bare NP" means a demonstrativeless phrase whose only member is a bare noun; for example, *haksayng* 'student' and *chayk* 'book' in (1a), and *gakusei* 'student' and *hon* 'book' in (1b) are bare NPs. Throughout this

article, I use 'K' to denote Korean examples and 'J' to denote Japanese examples.[1]

(1)   [K] a.   haksayng-un chayk-ul   ilk-ess-ta
              student-TOP book-ACC   read
              '(A) student(s) read (a) book(s).'
      [J] b.   gakusei-wa   hon-o   yomimasita
              student-TOP   book-ACC   read
              '(A) student(s) read (a) book(s).'

One of the characteristics of Japanese/Korean (henceforth, J/K) bare nouns is that they are neutral with regard to number.[2] That is to say, as illustrated in the English translations given in (1a) and (1b), for example, *haksayng/gakusei* can refer to either one student or more than one student. It has been said that a bare noun in Japanese and Korean can be construed either as singular or plural, depending on the context in which it appears.[3] More recently, however, Chierchia (1998a, 1998b) raises a possibility for a J/K bare noun to have a mass denotation.[4]

Chierchia (1998a, 1998b) attempts to account for what type of language allows bare nominal arguments in terms of his nominal mapping parameter. He argues that "[i]n some languages (like Chinese), NPs are argumental (names of kinds) and can thus occur freely without determiner in argument position" (Chierchia 1998a: 339). Chierchia further argues that "the property corresponding to a kind comes out as being mass" (Chierchia 1998a: 351). Hence, in his theory, bare nouns in Chinese, for example, denote kinds and have mass denotations.

The nominal mapping parameter categorizes Chinese as a NP [+argument, −predicate] language.[5] The criteria for NP [+arg, −pred] languages are cited in (2).

(2)   NP [+arg, −pred] languages (Chierchia 1998a: 354)
      a.   Generalized bare arguments
      b.   The extension of all nouns is mass
      c.   No PL
      d.   Generalized classifier system

It is generally assumed that NPs denote predicates of type $\langle e,t \rangle$, whereas DPs denote arguments of type e or generalized quantifiers. For example, it is considered that this is the reason that a bare NP cannot appear in an argument position in many European languages. Given this assumption, the existence of bare NP arguments needs to be explained. Chierchia (1998a, 1998b) hypothesizes that in an NP [+arg, −pred] language, bare nouns and bare NPs denote kinds and, therefore, they are of type e.[6] It follows that bare NPs can freely appear in argument positions in an NP [+arg, −pred] language. Chierchia (1998a, 1998b) also argues that bare

nouns in an NP [+arg, −pred] language come out of the lexicon with mass denotations. This is because "the property of being an instance of a kind does not differentiate between singular and plural instances" (Chierchia 1998a: 351). Consequently, bare nouns in an NP [+arg, −pred] language should be neutral with regard to number and require a numeral classifier to be counted.

The nominal mapping parameter categorizes Japanese and Korean as NP [+arg, −pred] languages, given the following characteristics. First, as shown in (1), J/K bare nouns are neutral with regard to number. Moreover, bare NPs can appear in argument positions freely, as also shown in (1). Furthermore, there is no mass/count distinction: all nouns require numeral classifiers (or measures) to be counted. This is illustrated in (3)–(4).

(3) [K]   'three students'
- a.   *sey-ui   haksayng
  3-GEN   student
- b.   sey-myeng-ui haksayng
  3-CL-GEN   student
'three bowls of rice'
- c.   *sey-ui   pap
  three-GEN rice
- d.   sey-kulus-ui   pap
  3-CL-GEN   rice

(4) [J]   'three students'
- a.   *san-no   gakusei
  3-GEN   student
- b.   san-nin-no   gakusei
  3-CL-GEN   student
'three bowls of rice'
- c.   *san-no   gohan
  three-GEN rice
- d.   san-bai-no   gohan
  3-CL-GEN   rice

Chierchia's theory, hence, predicts that a J/K bare noun denotes a kind and comes out of the lexicon with a mass denotation.

It is very easy to argue against the hypothesis that J/K bare nouns are mass. For example, there are plural nominal suffixes in Japanese and Korean, namely *tati* and *tul*, respectively.[7] We can, therefore, pluralize *gakusei/haksayng* 'student' as *gakusei-tati/haksayng-tul*. It is known that when a mass noun denotes more than one kind, it gets pluralized. Note, however, that *gakusei-tati/haksayng-tul* do not denote more than one

kind of student. Does this means that Chierchia's hypothesis that J/K bare nouns are mass is incorrect?

In the present article, I will explore what Japanese/Korean can say about Chierchia's nominal mapping parameter. Examining the differences between J/K bare nouns and conventional mass nouns, such as the English noun *furniture*, I will investigate whether Chierchia's (1998a, 1998b) theory accounts for the behavior of bare nominal arguments in Japanese and Korean. Specifically, I will discuss the differences between bare nouns and plurals nouns, such as *gakusei-tati/haksayng-tul*, investigating whether both of them can appear in generic/kind-predication sentences. I will also examine the cases in which a bare nominal argument is anaphoric and refers to a specific individual. Chierchia's proposal implies that the kind denotation of bare nominal arguments is directly responsible for the distribution of bare NPs and the mass denotation of bare NPs. This means that when a nominal expression does not denote a kind, it does not have to be mass. Indeed Chierchia (1998b: 92) remarks that "[t]he idea that the extension of all common nouns is mass applies to them as they come out of the lexicon. This is perfectly consistent with the possibility that the mass/count distinction reemerges at some phrasal level." In this light, I will propose to account for the difference between J/K bare nouns and conventional mass nouns in terms of the mass to count denotation shift hypothesis.

The present article is organized as follows. Section 2 will show more mass-like characteristics of J/K bare NPs. In Section 3, I will investigate the nature of plural nouns in Japanese and Korean. Section 4 will examine anaphoric bare NPs. In Section 5, I will attempt to account for the observation made in Section 4 in terms of the mass to count denotation shift hypothesis. Section 6 will discuss the cases with contrastively focused sentences in Japanese. Finally, in Section 7, I will conclude the discussion.

2.   More mass-like characteristics of J/K bare nouns

As discussed above, bare nouns in Japanese and Korean require a numeral classifier phrase to be counted and are neutral as to number. These are typical characteristics of mass nouns. In this section, I will show some other mass-like characteristics of J/K nouns to support the hypothesis that J/K bare nouns are mass.

2.1.   *On more-than-one-kind readings*

A mass noun does not get pluralized when it refers to more than one unit, as shown in (5).[8] The intended reading is that *this wine* in (5b) refers to

the three bottles of wine introduced to the domain of discourse by (5a). The syntactically/morphologically singular form *this wine* can refer to more than one unit.

(5)   a.   There are three bottles of wine on the table.
      b.   This wine is hard to get.

However, when a nominal expression refers to more than one kind, it appears with a plurality indicator. The singular form *this wine* in (6c) cannot be anaphoric to the three different kinds of wine introduced to the domain of discourse by (6a), while the plural form *these wines* can.

(6)   a.   There are three different kinds of wine on the table.
      b.   These wines are hard to get.
      c.   *This wine is hard to get.

Having these facts in mind, let us now consider Japanese and Korean examples. The intended reading of (7) and (8) is that *ku beynch* in (7b) and *sono benti* in (8b) refer to the three benches that are introduced in (7a) and (8a), respectively. The well-formedness of (7b)/(8b) indicates that J/K bare nouns can refer to more than one unit.[9]

(7)   [K] a.   bakkath-e   beynch-ka   ses   issta
              outside-at   bench-NOM   3-CL   exist
              'There are three benches outside.'
          b.   ku   beynch-nun mae halmeoni-ui   seomnulita
              that bench-TOP my   grandmother's gift-COP
              'The benches are gifts from my grandmother.'
(8)   [J] a.   soto-ni   benti-ga   mittu arimasu
              outside-at   bench-NOM   3-CL exist
              'There are three benches outside.'
          b.   sono   benti-wa   sobo-kara-no   okurimono
              that   bench-TOP   grandmother-from-GEN   gift
              desu
              COP
              'The benches are gifts from my grandmother.'

Next consider (9) and (10). The intended reading is that the (a) examples in (9) and (10) are immediately followed by either the (b) examples or (c) examples in (9) and (10), respectively. That is to say, we want to know whether *ku beynch/ku beynch-tul* and *sono benti/sorera-no benti* 'that bench/those benches' can refer to the three benches introduced in (9a) and (10a).

(9) [K] a.   bakkath-e moyang-i   dayanghan beynch-ka   ses
              outside-at shape-NOM   variety   bench-NOM   3-CL
              issta
              exist
              'There are three benches of different shapes outside.'

       b.   *ku beynch-nun mae halmeoni-ui   seomnulita
              that bench-TOP my grandmother's gift-COP
              'The benches are gifts from my grandmother.'

       c.   ku beynch-tul-nun mae halmeoni-ui   seomnulita
              that bench-PL-TOP my grandmother's gift-COP
              'The benches are gifts from my grandmother.'

(10) [J] a.   soto-ni   katati-ga   tigau   benti-ga   mittu
              outside-at shape-NOM different bench-NOM three
              arimasu
              exist
              'There exist three benches with different shapes.'

       b.   *sono benti-wa   sobo-kara-no   okurimono
              that bench-TOP grandmother-from-GEN gift
              desu
              COP
              'The benches are gifts from my grandmother.'

       c.   sore-ra-no   benti-wa   sobo-kara-no
              that-PL-GEN bench-TOP grandmother-from-GEN
              okurimono desu
              gift   COP
              'The benches are gifts from my grandmother.'

The ill-formedness of (9b) and (10b) and the well-formedness of (9c) and (10c) show that the indication of plurality is necessary when a nominal expression refers to more than one kind, just like conventional mass nouns. Note that the ways Japanese and Korean mark the plurality differ. The Korean example (9c) has the suffix *tul* appended to a noun to mark the plurality, whereas the Japanese example (10c), has the suffix *ra* appended to a demonstrative to mark the plurality.[10]

2.2. *On the scope interaction*

An additional mass-like characteristic is found in the way J/K bare NPs interact with the universal quantifier and negation. Carlson (1977) claims that bare plurals/mass nouns in English do not create scope ambiguity, while indefinite singulars and *some*+plural phrases do. Consider the English example in (11).

(11) a. Everyone read a book.
    b. Everyone read some books.
    c. Everyone read books.
    d. Everyone bought furniture.
    e. Everyone had wine.

Carlson observes that (11a), an example with *a book*, and (11b), an example with *some books*, are ambiguous in at least two ways; *a book/some books* can take either a wide scope or a narrow scope over the universal quantifier. On the other hand, (11c), the one with a bare plural, is unambiguous: the bare plural *books* does not take a wide scope over the universal quantifier. Mass nouns also behave the same way as bare plurals do: (11d) and (11e) are unambiguous.

Let us now consider Japanese and Korean examples with bare NPs in (12a) and (12b).[11] Both of them are unambiguous: bare NPs cannot take a wide scope.[12]

(12) [K] a. modu-ka   chayk-ul   ilkessta
            everyone-NOM   book-ACC   read
            'Everyone read books.'
      b. modu-ka   oykwukin-ul   po-ass-ta
            everyone-NOM   foreigner-ACC   saw
            'Everyone saw foreginers.'

(13) [J] a. daremo-ga   hon-o   yonda
            everyone-NOM book-ACC   read
            'Everyone read books.'
      b. daremo-ga   gaikokuzin-o   mikaketa
            everyone-NOM   foreigner-ACC   saw
            'Everyone saw foreigners.'

The unambiguity of (12) and (13) indicates that J/K bare nouns behave like bare plurals/mass nouns with respect to the scope interaction with the universal quantifier.

Let us next examine how bare NPs interact with negation. Carlson (1977) observes that bare plurals/bare mass nouns always take a narrow scope over negation. For example, although (14), an example with the indefinite singular *a car*, is ambiguous, (15), an example with the mass noun *furniture*, is not.

(14) John did not buy a car.
    a. John bought no car.
    b. There was a car that John did not buy.

(15) Mary did not buy furniture.
    a. Mary bought no furniture.
    b. *There was some furniture that Mary did not buy.

J/K bare NPs behave like bare plurals/mass nouns with respect to the interaction with negation too: none of the examples in (16) and (17) are ambiguous.

(16) [K] a.   Eunji-nun   chayk-ul   sa-ci anha-ss-ta
              Eunji-TOP book-ACC buy NEG-PAST
              'Eunji bought no book.'
      b.   Hosuk-un   oykwukin-ul   po-ci-an-ha-ss-ta
              Hosuk-TOP   foreigner-ACC   see-NEG-PAST
              'Hosuk saw no foreigner.'
(17) [J] a.   Hanako-wa   hon-o   kaw-anaka-tta
              Hanako-TOP book-ACC   buy-NEG-PAST
              'Hanako bought no book.'
      b.   Taroo-wa gaikokuzin-o   mikake-na-katta
              Taro-TOP foreigner-ACC   see-NEG-PAST
              'Taro saw no foreigner.'

We observed that J/K bare NPs behave like bare plurals/mass nouns with respect to the scope interaction with the universal quantifier and negation. Although it appears that J/K bare NPs can be construed either as singular or plural, they are equivalents of neither indefinite singulars nor *some*+plural.

3.   Plural nouns in Japanese and Korean

In Section 2, we observed that J/K bare nouns share some characteristics with mass nouns. In this section, on the other hand, we will observe one of the crucial differences between them, namely the existence of plural nouns. Since mass nouns should not be pluralized unless they denote more than one kind, their existence is a potential problem for Chierchia's (1998a, 1998b) hypothesis that J/K nouns come out of the lexicon with mass denotations.

3.1.   *The plural suffixes in Japanese and Korean*

The nominal suffix *tati* (Japanese) and *tul* (Korean) can be attached to common nouns to create their "plural" forms.[13] They are used only when their associated NPs refer to plural individuals. This is illustrated in (18) and (19).[14]

(18) [K] a. *han-myeng-ui haksanyng-tul
            one-CL-GEN student-PL
            'one student'
     b.   sey-myeng-ui   haksayng-tul
          three-CL-GEN student-PL
          'three students'
(19) [J] a. *hitori-no   gakusei-tati
            one-CL-GEN student-PL
            'one student'
     b.   san-nin-no   gakusei-tati
          three-CL-GEN   student-PL
          'three students'

Note that the Japanese *tati* normally does not appear with inanimate nouns, as the ill-formedness of (20d) shows, whereas the Korean *tul* can.[15] Moreover, *tati* is rarely used with nonhuman animate nouns, as shown in (20c).

(20)   Korean   Japanese
     a. haksayng-tul   gakusei-tati   student-PL
     b. erini-tul   kodomo-tati   child-PL
     c. koyangi-tul   ??neko-tati   cat-PL
     d. chayk-tul   *hon-tati   book-PL

Note also that *tati*/*tul* can be also appended to proper names, as shown in (21).[16]

(21) [K] a. Mary-tul
     [J] b. Mary-tati

Given this characteristic, Martin (1988: 145, 1992: 130) characterizes *tul* and *tati* as associative plural suffixes rather than pure pluralizers.[17] Martin notes that the meaning of *tati* is "not plurality of the noun itself; but rather the reference is to be a COLLECTIVE that includes or centers on the noun" (Martin 1988: 145). For example, *Mary-tul* or *Mary-tati* does not necessarily mean that two or more people bear the name Mary, but simply means Mary and her associate(s). It follows that (20a) *haksayun-tul*/*gakusei-tati* should refer to 'a group with at least one student.' If this is the case, we do not consider *tati*/*tul* as pluralizers and their existence is not an issue for the hypothesis that J/K bare nouns are mass.

3.2. *Bare plurals in generic/kind predication sentences*

More recently, however, Downing (1996: 203–204) argues that the associative-plural-like nature of *tati* is limited to when it is appended to

pronouns, proper names, kin terms, and titles.[18] If so, the (20a) *gakusei-tati* should refer to a set that consists exclusively of students. Similarly, Kang (1994: 5–6) argues that N+*tul* denotes a set of plural individuals.[19]

As pointed out by one of the reviewers, if *tati* and *tul* are indeed plural markers, their existence argues against the hypothesis that J/K bare nouns are mass, since mass nouns do get pluralized. A question immediately arises as to when plural nouns are used, provided that bare NPs are number neutral in Japanese and Korean. In this subsection, I will investigate whether both bare nouns and plural nouns can appear in generic/kind-predication sentences.

As shown in (22), in English, bare plurals appear in generic/kind-predication sentences.

(22)   a.   Koreans and Japanese are mongoloids.
       b.   Babylonians were extinct.
       c.   Whales are mammals.
       d.   Blue birds are rare.
       e.   Watermelons are vegetables.
       f.   Who invented computers?

Let us first consider the Japanese equivalents of (22) given in (23)–(28). The ill-formedness of (23b) and (24b) indicates that plural nouns cannot appear in generic/kind-predication sentences in Japanese.

(23)   [J] a.   nihonzin-wa   mongoloid-da
                Japanese-TOP mongoloid-COP
                'Japanese are mongoloids.'
           b.   *nihonzin-tati-wa   mongoloid-da
                Japanese-PL-TOP mongoloid-COP
                'Japanese are mongoloids.'
(24)   [J] a.   babyloniazin-wa zetumetusita
                Babylonian-TOP extinct
                'Babylonians were extinct.'
           b.   *babyloniazin-tati-wa   zetumetusita
                Babylonian-PL-TOP   extinct
                'Babylonians were extinct.'

The ill-formedness of (25b) and (26b) also suggests that plural nouns cannot appear in generic/kind-predication sentences. Note, however, that it is rare for *tati* to be appended to nonhuman animate nouns, as noted above.

(25)   [J] a.   kuzira-wa   honyuurui da
                whale-TOP   mammal-COP
                'Whales are mammals.'

    b. *kuzira-tati-wa honyuurui da
       whale-PL-TOP mammal-COP
       'Whales are mammals.'

(26) [J] a. aoi tori-wa   mezurasii
          blue bird-TOP rare
          'Blue birds are rare.'

    b. *aoi-tori-tati-wa   mezurasii
       blue-bird-PL-TOP   rare
       'Blue birds are rare.'

The Japanese plural suffix *tati* cannot be appended to inanimate nouns. Therefore, we expect the ill-formedness of (27b) and (28b).

(27) [J] a. suika-wa   yasai-da
          watermelon-TOP   vegetable-COP
          'Watermelons are vegetables.'

    b. *suika-tati-wa   yasai-da
       watermelon-PL-TOP vegetable-COP
       'Watermelons are vegetables.'

(28) [J] a. dare-ga   computer-o   hatumeisita no
          who-NOM computer-ACC invented   Q
          'Who invented computers?'

    b. *dare-ga   computer-tati-o   hatumeisita no
       who-NOM computer-PL-ACC invented   Q
       'Who invented computers?'

We observed that plural nouns in Japanese cannot appear in generic/ kind-predication sentences.

    Let us next consider the Korean equivalents of (22) given in (30)–(35). One of the differences between the Japanese *tati* and the Korean *tul* is that the latter can be appended to nonhuman nouns. This is illustrated in (29).

(29) [K] a. Eunji-un   phran sai-tul / koray-tul-ul   po-ass-ta
          Eunji-TOP blue   bird-PL / whale-PL-ACC saw
          'Eunji saw blue birds/whales.'

    b. Hosuk-un   computer-tul / swupak-tul-ul
       Hosuk-TOP computer-PL / watermelon-PL-ACC
       sa-ass-ta
       bought
       'Hosuk bought computers/watermelons.'

Nevertheless, nonhuman plural nouns cannot appear in generic/kind-predication sentences, as shown in the ill-formedness of the (b) examples in (30)–(33).

(30) [K] a.   koray-nun   phoyuryu-i-ta
              whale-TOP   mammal-COP
              'Whales are mammals.'
      b.   *koray-tul-nun   phoyuryu-i-ta
              whale-PL-TOP mammal-COP
              'Whales are mammals.'
(31) [K] a.   pharan sai-un   tremul-ta
              blue   bird-TOP rare-COP
              'Blue birds are rare.'
      b.   *pharan sai-tul-un   tremul-ta
              blue   bird-PL-TOP rare-COP
              'Blue birds are rare.'
(32) [K] a.   swupak-un   chayso-i-ta
              watermelon-TOP vegetable-COP
              'Watermelons are vegetables.'
      b.   *swupak-tul-un   chayso-i-ta
              watermelon-PL-TOP vegetable-COP
              'Watermelons are vegetables.'
(33) [K] a.   Nwu-ka   computer-lul   mandel-ess-ni
              who-NOM   computer-ACC   made-Q
              'Who invented computers?'
      b.   *Nwu-ka   computer-tul-lul   mandel-ess-ni
              who-NOM   computer-PL-ACC   made-Q
              'Who invented computers?'

However, as far as human plural nouns are concerned, they can appear in generic/kind-predication sentences in Korean. This is illustrated in the well-formedness of (34b) and (35b).

(34) [K] a.   hankukin-un   mongoincong-i-ta
              Korean-TOP   mongoloid-COP
              'Koreans are mongoloids.'
      b.   hankukin-tul-un mongoincong-i-ta
              Korean-PL-TOP mongoloid-COP
              'Koreans are mongoloids.'
(35) [K] a.   babylonin-un   myelonang-ha-ess-ta
              Babylonian-TOP perished
              'Babylonians were extinct.'

    b. babylonin-tul-un   myelonang-ha-ess-ta
         Babylonian-PL-TOP   perished
         'Babylonians were extinct.'

In sum, we first observed that plural nouns in Japanese cannot appear in generic/kind-predication sentences. We can therefore argue that in Japanese, plural nouns in Japanese are not kind-referring and only bare nouns are kind-referring. However, we observed that in Korean, on the other hand, not only bare nouns but also human plural nouns appear in kind-predication sentences, although nonhuman plural nouns cannot.

We must now ask what the fact that Korean human plural nouns can appear in generic/kind-predication sentences says about Chierchia's (1998a, 1998b) hypothesis that J/K bare nouns are kind-denoting, and therefore come out of the lexicon with mass denotations.[20] In order to answer this question, we must find out how the examples with a bare noun ([34a] and [35a]) and the examples with a plural noun ([34b] and [35b]) differ. Specifically, we want to know whether (34b) and (35b) really have kind-readings. Although my informants feel that they are somewhat different, I could not find explicit differences between them. A question also arises as to why the degree of animacy is related to the availability of plural nouns in generic/kind-predication sentences. I must leave this question open for further research.

Since it is not the case that any plural nouns can appear in generic/kind-predication sentences in Korean, as of now, I assume that the data we observed in this section demonstrate that in Japanese and Korean, bare nouns are kind-referring, while plural nouns are not. In Section 4, we will discuss when plural nouns are used in Japanese and Korean.

4. Anaphoric NPs

In this section, I will explore the nature of anaphoric bare nominal arguments that refer to specific individuals introduced in the previous discourse. Note that mass nouns in English, for example, cannot refer to specific individual without determiners. Therefore, this is a crucial difference between J/K bare nouns and conventional mass nouns.

It is known that a bare nominal can be anaphoric and refers to a specific individual in Japanese and Korean, given an appropriate context.[21] Neither Japanese nor Korean has a definite article. However, both Japanese and Korean have topic markers, namely *wa* and *(n)un*, respectively. Kuno (1973: 40–41) argues that in order to be a topic, the NP must be either anaphoric or generic. In other words, in nongeneric sentences, the topic marker signals the anaphoricity of its associated NP.

Recall that we observed in (7) and (8), which are repeated in (36) and (37) below, that *ku beynch/sono benti* can refer to the three benches introduced in the domain of the discourse by (36a) and (37a), respectively.

(36) [K] a. bakkath-e   beynch-ka   ses   issta
           outside-at   bench-NOM   3-CL   exist
           'There are three benches outside.'
      b. ku   beynch-nun mae halmeoni-ui   seomnulita
         that bench-TOP my   grandmother's gift-COP
         'The benches are the gift from my grandmother.'
(37) [J] a. soto-ni   benti-ga   mittu arimasu
           outside-at   bench-NOM 3-CL exist
           'There are three benches outside.'
      b. sono benti-wa   sobo-kara-no   okurimono
         that bench-TOP grandmother-from-GEN gift
         desu
         COP
         'The benches are the gift from my grandmother.'

Notice, however, that (38b) and (39b), the examples with plural indicators, are also well-formed.

(38) [K] a. bakkath-e   beynch-ka   ses   issta
           outside-at   bench-NOM   3-CL   exist
           'There are three benches outside.'
      b. ku   beynch-tul-nun mae halmeoni-ui   seomnulita
         that bench-PL-TOP my   grandmother's gift-COP
         'The benches are the gift from my grandmother.'
(39) [J] a. soto-ni   benti-ga   mittu arimasu
           outside-at   bench-NOM 3-CL exist
           'There are three benches outside.'
      b. sore-ra-no   benti-wa   sobo-kara-no
         that-PL-GEN bench-TOP grandmother-from-GEN
         okurimono desu
         gift   COP
         'The benches are the gift from my grandmother.'

This is not a characteristic of mass nouns. One of the characteristics of mass nouns is that they cannot be pluralized: for example, (40a) cannot be followed by (40b).

(40) a.   There are three pieces of furniture outside.
     b. *These furnitures are gifts from my grandmother.

We will next examine whether animate (especially human) bare NPs can be anaphoric and refer to a specific individual. Very interestingly, Downing (1996: 205) remarks that "we find that anaphoric use of nouns to refer to groups of human characters introduced earlier in the text *typically* carry a 'plural marker' unless the sentence contains some other indicator of number, such as a classifier phrase." Similarly, Song (1975) claims that Korean has an obligatory plural marking rule on animate NPs with "specific reference," unless the sentence contains quantifiers that indicate the plurality of the NPs that they modify. Song's (1975: 541) and Downing's (1996: 205–206) examples are cited in (41a) and (41b), respectively. Song finds that *ku cangkwun* 'that general' cannot be construed as plural; Downing observes that *sono otoko-no ko* 'that boy' cannot refer to more than one boy.

(41) [K] a. *ku* *cangkwun*-i tomang-ul chi-ess-ta
            that general-NOM ran   away
            'That general ran away.'
            *'Those generals ran away.' (Song 1975: 541)

     [J] b. kao-o   ageta-ra   otoko-no ko-ga san-nin
             face-ACC raised-when boy-NOM   3-CL
             tatte-te ... de *sono otoko-no ko*-ga   koo ...
             standing-be and that boy-NOM   um
             'When (he) looked up, three boys were standing there,
             and those boys ...' (Downing 1996: 206)

It appears that the Japanese and Korean demonstratives such as *sono* and *ku* are number neutral: they can appear with numeral classifier phrases whose numeral is more than one.[22] This is illustrated in (42).

(42) [K] a. ku sey-myeng-ui   haksayng
            that three-CL-GEN   student
            'these three students'

     [J] b. sono san-nin-no   gakusei
             that three-CL-GEN   student
             'these three students'

Recall that we indeed observed that *ku beynch*/*sono benti* 'that bench' can refer to more than one bench in (36) and (37). Therefore, if human bare nouns can also refer to more than one person, *ku cangkwn*/*sono otoko-no ko* should be able to be construed as those generals/those boys in (41a) and (41b), respectively. As Song (1975) and Downing (1996) observe, the plural reading of *ku cangkwn*/*sono otoko-no ko* is not possible.

The observations by Downing (1996) and Song (1975) suggest that demonstrative+human bare nouns in Japanese and Korean cannot refer

to a plural individual. I am now going to investigate whether an animate
bare NP can refer to a plural individual. In (43a) and (44a), the bare NPs
haksayng and *gakusei* can be construed either as singular or plural, as
shown in the English translations provided in (43a) and (44a). The in-
tended reading is that either the (b) or (c) examples immediately follow
the (a) examples in (43) and (44). Given (43a) and (44a), we interpret *hak-
sayng* and *gakusei* with the topic markers in (43b)/(43c) and (44b)/(44c)
as anaphoric NPs. The grammaticality of (43c) and (44c) show that bare
NPs can be anaphoric in Japanese and Korean.[23]

(43) [K] a.   bakkath-e   haksayng-ka   issta
              outside-in   student-NOM   exist
              'There is/are a student/students outside.'

       b.   ku haksayng-nun   acwe   ttwungttwung-hata
              that student-TOP   very   fat
              'The student is very fat.'
              *'The students are very fat.'

       c.   haksayng-nun   acwe   ttwungttwung-hata
              student-TOP   very   fat
              'The student is very fat.'
              *'The students are very fat.'

(44) [J] a.   soto-in   gakusei-ga   imasu
              outside-in   student-NOM   exist
              'There is/are a student/students outside.'

       b.   sono gakusei-wa   totemo   hutotteimasu
              that student-TOP   very   fat-is
              'The student is very fat.'
              *'The students are very fat.'

       c.   gakusei-wa   totemo   hutotteimasu
              student-TOP   very   fat-is
              'The student is very fat.'
              *'The students are very fat.'

As expected from the observation in Song (1975) and Downing (1996),
(43b) and (44b) only obtain the singular interpretation of *ku haksayng/
sono gakusei*. Notice also that when bare NPs receive anaphoric interpre-
tations, as in (43c) and (44c), only the singular interpretation is available.
None of (43b), (43c), (44b), nor (44c) has the reading 'the students are
very fat.'

This phenomenon can be illustrated more explicitly when a numeral
classifier phrase is involved. The intended reading is that the (b) examples
or the (c) examples immediately follow the (a) examples in (45) and (46).
(45a) and (46a) introduce three children into the domain of discourse.

(45b) and (46b), in which bare NPs appear as anaphoric NPs, do not al-
low the intended anaphoric readings. This means that the bare NPs in the
(b) examples cannot refer to the three students introduced in the (a) ex-
amples, even with the topic marker. The plural nouns in (45c) and (46c),
on the other hand, can be anaphoric to the three students introduced to
the domain of discourse by (45a) and (46a), respectively.

(45) [K] a.   bakkath-e haksayng-i   sey-myeng issta
                outside-in student-NOM   3-CL   exist
                'There are three students outside.'
       b.   *haksayng-nun acwe ttwungttwung-hata
                student-TOP   very fat
                'The students are very fat.'
       c.   haksayng-tul-un   acwe ttwungttwung-hata
                student-PL-TOP   very fat
                'The students are very fat.'
(46) [J] a.   soto-ni   gakusei-ga   san-nin   imasu
                outside-in   student-NOM   3-CL   exist
                'There are three students outside.'
       b.   *gakusei-wa   totemo hutotteimasu
                student-TOP very   fat-is
                'The students are very fat.'
       c.   gakusei-tati-wa   totemo hutotteimasu
                student-PL-TOP very   fat
                'The students are very fat.'

We observed that an animate (human) anaphoric NP must have some
kind of plurality indicator when it refers to a plural individual.[24] On the
other hand, an inanimate anaphoric bare NP can refer to a plural individ-
ual. The traditional view that the context in which an NP appears can
control the singular/plural distinction cannot account for the data we
just observed.

   Indeed, as pointed out by Ikari (1989), although Japanese has plural
demonstratives, speakers of Japanese often use a singular demonstrative
for a sum of inanimate objects in Japanese.[25] For example, (47a) is more
natural than (47b), especially in informal conversations, as one asks to
whom these books belong, pointing to the books on the table.[26]

(47) [J] a.   kono hon,   dare-no
                this   book   whose
                'Whose book is this?'
                'Whose books are these?'

    b.   ?korera-no hon,   dare-no
        these   book whose
        'Whose books are these?'

According to my Korean informants, (48) is also good when one asks to whom these books belong.

(48) [K]   i   chayk, nugu ke-ye-yo
          this book   whose
          'Whose book is this?'
          'Whose books are these?'

However, as far as human nouns are concerned, neither Japanese nor Korean allows the singular demonstrative + bare noun phrase to refer to a plural individual. This is shown in (49).

(49) [K] a.   i   salam, nuku-ye-yo
             this   person, who
             'Who is this person?'
             *'Who are these people?'
      [J] b.   kono hito,   dare?
             this   person, who
             'Who is this person?'
             *'Who are these people?'

Let us summarize what we have observed in Section 4.

(50)   a.   In both Japanese and Korean, an animate (in particular human) anaphoric bare nominal argument cannot refer to a plural individual, whereas an inanimate anaphoric bare argument can.
        b.   An inanimate anaphoric bare nominal argument in Japanese and Korean can refer to a plural individual. However, plural nouns are also used to refer to a plural individual.

Given these observations, we must modify Chierchia's (1998a, 1998b) typology. We can say that kind-referring bare nominal arguments are mass in Japanese and Korean. However, we cannot say that bare nominal arguments are all kind-referring and have mass denotations. We observed that anaphoric nominal arguments behave like count nouns. In Section 5, I will consider how to accommodate these observations into Chierchia's (1998a, 1998b) theory.

5.   On mass denotations of bare nouns in Japanese and Korean

In this section, I am going to discuss the observations summarized in (50) in conjunction with Chierchia's remark that "[t]he idea that the extension

of all common nouns is mass applies to them as they come out of the lexicon. This is perfectly consistent with the possibility that the mass/count distinction reemerges at some phrasal level'' (Chierchia 1998b: 92).

Note first that Chierchia (1998a: 341) argues that ''bare arguments unambiguously refer to kinds.'' Therefore, the existence of non-kind-referring bare NP is problematic. Let us, then, hypothesize that bare nominal arguments that refer to specific singular individuals are not bare NPs. The nominal mapping parameter argues that bare nominal arguments are possible because they denote kinds, since kind-referring expressions are of the semantic type e. If a bare nominal does not denote a kind, and therefore it is not of the semantic type e, it cannot appear in the argument position without a determiner. One of the reviewers suggests that a null definite that is assigned by the context in which the relevant noun appears will project DP. It follows that anaphoric bare nominal arguments are actually DPs.

In fact, anaphoric ''bare NPs'' behave differently from kind-referring true bare NPs. Recall, for example, that kind-referring bare NPs do not take a wide scope over the universal quantifier.[27] This is illustrated in (51).

(51) [K] a.   modu-ka   oykwukun-ul   cip-ulo
            everyone-NOM   foreigner-ACC   home-to
            chotayha-ess-ta
            invited
            'Everyone invited a foreigner/foreigners to his/her home.'
     [J] b.   daremo-ga   gaikokuzin-o   uti-ni   syootaisita
            everyone-NOM   foreigner-ACC home-to invited
            'Everyone invited a foreigner/foreigners to his/her home.'

The anaphoric ones do, on the other hand, take a wide scope over the universal quantifier. In the intended reading of (52b) and (53b), the apparent bare NPs *oykwuin/gaikokuzin* refer to the foreigner who is introduced in the domain of discourse by (52a) and (53a), respectively.[28]

(52) [K] a.   cinen tal   oykwukin-i   ku mal-ey isao-ass-ta
            last   month foreigner-NOM the village into moved
            'Last month a foreigner moved into the village.'
        b.   modu-ka   oykwukin-ul   cip-ulo
            everyone-NOM   foreigner-ACC home-to
            chotayha-ess-ta
            invited
            'Everyone invited the foreigner to his/her home.'

(53) [J] a. sengetu   ano mura-ni   gaikokuzin-ga   hikkosite kita
            last month that village-to foreigner-NOM moved   in
            'Last month, a foreigner moved into the village.'
       b. daremo-ga   gaikokuzin-o   uti-ni   syootaisita
            everyone-NOM foreigner-ACC home-to invited
            'Everyone invited the foreigner to his/her home.'

Moreover, Cheng and Sybesma (1999) demonstrate that an NP that appears with a classifier phrase is not a bare NP: it projects a ClP (classifier phrase). Also, Noguchi (1995) claims that an NP that appears with a demonstrative is a DP; Li (1999) shows that the Chinese plural noun, namely N+*men*, projects a DP. Furthermore, Croft (1994) argues that classifier phrases individuate mass nouns; Downing (1996: 207) remarks that when the emphasis is on individual identity rather than on category identity, the plural marker *tati* is used.

In this light, I propose to account for the observation summarized in (50) by the hypothesis that the higher projections such as ClP and DP trigger the mass to count denotation shift. That is to say, all common nouns in Japanese and Korean come out of the lexicon with mass denotations; therefore, all nouns require classifier phrases to be counted. When they denote kinds, they retain mass denotations and appear as bare NPs. However, when they do not denote kinds, they are embedded under the higher projections such as ClP and DP. ClP and DP individuate nouns and the mass/count distinction reemerges.[29]

Once the mass/count distinction reemerges, ''count'' nouns have the singular/plural distinction. The plurality is expressed by a plural suffix, plural demonstrative, or a numeral classifier phrase. The singularity, on the other hand, appears to be expressed by the absence of the plurality indicator. In other words, the singularity indicator is zero-marked: the singular form and the mass form are phonetically identical.[30] Corbett (2000: 14–17) indeed observes that many languages from various linguistics families have an opposition of general/singular versus plural, where ''general'' means number-neutral. Japanese and Korean exhibit this characteristic. I argue that although *gakusei/haksayng* 'student' with a mass denotation and *gakusei/haksayng* that denotes a specific singular individual are phonetically the same, they are not syntactically the same: the former is an NP, whereas the latter is a DP.

A classifier, demonstrative, or definiteness effects from the context in which the relevant noun appears forces animate (especially human) nouns to be individuated. For example, consider *ku haksayng/sono gakusei* 'that student.' Although the demonstrative *ku/sono* is number neutral, it forces individuation of *haksayng/gakusei*, for they are human nouns. Without

any plurality indicator, *ku haksayng/sono gakusei* only refers to a singular individual. Note, however, that given that *ku chayk/sono hon* 'that book' can refer to more than one book and the plural versions *ku chayk-tul/ sorera-no hon* are also available, we must say that this individuation process is optional for inanimate nouns. The individuation due to definiteness effects from the context works the same way: it is mandatory for human nouns and optional for inanimate nouns. An anaphoric human bare nominal argument can only refer to a singular individual, while an anaphoric inanimate bare nominal argument can refer to a plural individual.

How about the individuation process by classifiers? Interestingly, Kurafuji (1999: 87) observes that the singular pronoun *sore* 'it' can be anaphoric to a plural antecedent. The pronoun *sore* in the second sentence of (54) refers to the three books that Hanako bought.

(54) [J] Hanako-wa   san satu-no   hon-o   katta   soshite
          Hanako-TOP   three-CL-GEN book-ACC   bought   and
          sore / sorera-o   yonda
          it   / they-ACC   read
          'Hanako bought three books and read them.' (adapted from
          Kurafuji [1999: 87 (70)])

We also observe the same phenomenon in Korean, as shown in (55).

(55) [K] Hosuk-un se-kwen-ui   chayk-ul   sa-ss-ta kuliko
          John-TOP three-CL-GEN   book-ACC   bought and
          ku kes / ku kes-tul-ul   ilk-ess-ta
          it   they-ACC   read
          'Hosuk bought three books and read them.'

This is different from how *furniture* behaves. The singular pronoun *it* cannot be anaphoric to the three pieces of furniture introduced in the previous discourse, as shown in (56).

(56) Calvin bought three pieces of furniture.
      He polishes *it/them every night.

When the relevant noun is human, however, the singular pronoun *ku/ kare* 'he' cannot be anaphoric to a plural antecedent. This is shown in (57a) and (57b).

(57) [K] a. Eunji-nun   se saram-ul   manna-ss-ta   kuliko
              Eunji-TOP   three person-ACC   met   and
              *ku / ku-tul-hako   iyalkiha-ess-ta
               he / they-with   talked
              'Eunji met three people and talked with them.'

[J] b.   Taroo-wa   san-nin-no   otoko-ni   atta   sosite
          Taro-TOP   three-CL-GEN man-DAT   met   and
          *kare / karera-to   hanasita
           he / they-with   talked
          'Taro met three men and talked with them.'

Although we need more research on Japanese and Korean pronouns, we can account for the contrast displayed in (54) and (55) on the one hand, and (57a) and (57b) on the other, if the individuation process is optional for inanimate nouns but mandatory for human nouns.[31] A question remains, however, of why animacy of nouns is related to the optionality of the individuation process.

In sum, in this section, I considered how to accommodate the observation that non-kind-referring nominal arguments in Japanese and Korean behave like count nouns into Chierchia's (1998a, 1998b) theory that J/K bare nouns come out of the lexicon with mass denotations. I argued that non-kind-referring bare nominal arguments are not bare NPs; they are either DPs or ClPs. When DP and ClP are projected, they trigger the mass to count denotation shift. This means that in Japanese and Korean, bare nouns come out of the lexicon with mass denotations but does not necessary to retain mass denotations. Consequently, I argue that bare nouns in an NP [+arg, −pred] language denote kinds and come out of the lexicon with mass denotation; they retain mass denotation as long as they refer to kinds.

6.   Contrastively focused sentences in Japanese

I argued in Section 5 that the anaphoric contexts individuate animate (especially human) nouns. In this section, I will examine apparent counterexamples, namely the cases with contrastively-focused sentences. As noted in Kiss (1998) and Schmitt and Munn (1999), among others, the contrastive focus has something to do with the interpretation of bare nominals. For ease of exposition, let us use the term ''bare DPs'' for demonstrativeless anaphoric nominal expressions.

In Japanese, the particle *wa* is used as a topic marker, as we observed in the examples we discussed above. The particle *wa* is also used to mark contrastive focus, as shown in (58).[32]

(58) yuki-*wa*   furimasen ga ame-*wa*   yoku furimasu
      snow-CONT   fall-not   but rain-CONT often falls
      'It does not snow but it often rains.'

Let us now consider the examples in (59) and (60) below. (59) involves the topic *wa*; (60) involves the contrastive *wa*. The well-formedness of (60b) shows that bare DPs with the contrastive focus marker behave differently from bare DPs with the topic marker.[33] (59a) introduces three girls into the domain of discourse. In (59b), as expected, the bare DP *onna-no ko* 'girl' cannot be refer to the three girls introduced in (59a).

(59) a. yuube   onnanoko-ga san-nin asobi-ni kimasita
          last night girl-NOM   3-CL   came to visit
          'Three girls came to visit last night.'
      b. *onnanoko-wa asa-made   nonde imasita
          girl-TOP   morning-until drinking was
          'The girls were drinking until this morning.'

(60a) introduces three girls and five boys into the domain of discourse. Notice that (60b) is well-formed and that means that the bare DPs *onna-no ko* 'girl' and *otokono-ko* 'boy' can refer to plural individuals, namely the three girls and five boys introduced in (60a).[34,35]

(60) a. yuube   san-nin-no onnanoko-to go-nin-no
          last night 3-CL-GEN girl-and   5-CL-GEN
          otokonoko-ga asobi-ni kimasita
          boy-NOM   came-to visit
          'Last night three girls and five boys came to visit.'
      b. onnanoko-wa asa-made   nonde   imasita-ga,
          girl-CONT   morning-until drinking but
          otokonoko-wa zyuu-ji   goro   kaerimasita
          boy-CONT   10 o'clock around went home
          'The girls were drinking until this morning, but the boys went home around ten o'clock.'

Those DPs are human; therefore, (60b) is a counterexample for our hypothesis that animate bare DPs cannot refer to plural individuals. Let us also observe similar paradigms in (61) and (62).

(61) a. soto-ni   gakusei-ga   san-nin imasu
          outside-at student-NOM   3-CL   exist
          'There are three students outside.'
      b. *gakusei-wa   totemo hutotteimasu
          student-TOP   very   fat
          'The students are very fat.'
(62) a. soto-ni   gakusei-ga   san-nin to sensei-ga   go-nin
          outside-at   studet-NOM 3-CL   and teacher-NOM 5-CL

          imasu
          exist
          'There are three students and five teachers outside.'

   b. gakusei-wa   totemo hutotteimasu-ga   sensei-wa
      student-CONT very   fat-but   teacher-CONT
      yaseteimasita
      skinny
      'The students are very fat but the teachers are skinny.'

The difference between the good cases, namely (59b) and (61b), and the bad cases, namely (60b) and (62b), is that the former involves the contrastive constructions.

A question arises as to what makes (60b) and (62b) well-formed. Although more research on contrastively focused elements is necessary, I propose to analyze the data as follows. In the contrastive context such as (60) and (62), what we contrast is the two (or more) different categories: for example, in (60b) we contrast the boy-category versus the girl-category. Therefore, the context does not require for a mass denotation to be individuated. Hence, the contrastive context allows a DP to retain a mass denotation. However, nothing prevents such a DP to have a count denotation; therefore, (63b) is also well-formed.

(63) a. yuube   san-nin-no onnanoko-to go-nin-no
       last night 3-CL-GEN girl-and   5-CL-GEN
       otokonoko-ga asobi-ni kimasita
       boy-NOM   came-to visit
       'Last night three girls and five boys came to visit.'
    b. onnanoko-tati-wa asa-made   nondeimasita-ga,
      girl-PL-CONT   morning-until was drinking-but,
      otokonoko-tati-wa zyuu-ji   goro   kaerimasita
      boy-PL-CONT   10 o'clock around went home
      'The girls were drinking until this morning, but the boys went home around ten o'clock.'

Note also that when a DP includes a demonstrative, a plurality indicator must be present even with the contrastive focus. This is illustrated in the ill-formedness of (64b).

(64) a. yuube   san-nin-no onnanoko-to go-nin-no
       last night 3-CL-GEN girl-and   5-CL-GEN
       otokonoko-ga asobi-ni kimasita
       boy-NOM   came-to visit
       'Last night three girls and five boys came to visit.'

    b.   *sono onnanoko-wa asa-made   nondeimasita-ga,
        that girl-CONT   morning-until was drinking-but,
        sono otokonoko-wa   zyuu-ji   goro   kaerimasita
        that boy-CONT   10 o'clock around   went home
        'The girls were drinking until this morning, but the boys
        went home around ten o'clock.'

    c.   sono onnanoko-<u>tati</u>-wa asa-made   nondeimasita-ga,
        that girl-PL-CONT   morning-until was drinking-but,
        sono otokonoko-<u>tati</u>-wa   zyuu-ji   goro
        that boy-PL-CONT   10 o'clock around
        kaerimasita
        went home
        'The girls were drinking until this morning, but the boys
        went home around ten o'clock.'

As noted above, a demonstrative itself forces human nouns to be individuated; therefore, the ill-formedness of (64b) is expected.

7. Concluding remarks

The present article discussed the nature of bare nominal arguments in Japanese and Korean in conjunction with Chierchia's (1998a, 1998b) hypothesis that bare nouns in NP [+arg, −pred] languages like these denote kinds and come out of the lexicon with mass denotations. I focused on two crucial differences between conventional mass nouns, such as the English *furniture*, and J/K bare nouns: the existence of plural nouns and anaphoric bare nominal arguments in Japanese and Korean.

    Firstly, I demonstrated that bare nouns rather than plural nouns appear in generic/kind-predication sentences in Japanese and Korean. This observation supports Chierchia's hypothesis that J/K bare nouns denote kinds. It also indicates that plural nouns are not kind-referring. We, however, are left with one potential problem. We observed that in Korean, human plural nouns can appear in generic/kind-predication sentences, although nonhuman plural nouns cannot. Some questions immediately arise. For example, is there any difference between the ones with bare nouns and the ones with plural ones? Why can't nonhuman plural nouns appear in generic/kind-predication sentences? We had to leave these questions open.

    Secondly, I demonstrated that an anaphoric human bare nominal argument cannot refer to a plural individual, although an inanimate bare nominal argument can. In order to accommodate this observation into

Chierchia's (1998a, 1998b) hypothesis, I argued that only kind-referring expressions are bare NPs and that the mass to count denotation shift occurs when ClP or DP projects over the noun. When this shift occurs, the mass/count distinction reemerges. This denotation shift is mandatory for human nouns and optional for inanimate nouns. A question remains, however, of why the animacy of nouns is related to the optionality of the individuation process.

Notes

1.   Abbreviations used throughout this article: TOP = topic marker; NOM = nominative case marker; ACC = accusative case marker; GEN = genitive case marker; PL = plural marker such as *tati* or *tul*; CL = classifier; COP = copula; CONT = contrastive marker; Q = question marker.
2.   Bare nominals in Japanese and Korean can be also construed as definite, as we discuss in Section 4. See Tawa (1993, 1999) and Tsutsui (1990) for related discussion.
3.   See, for example, Martin (1988: 143, 1992: 130), Gil (1987), Ikegami (1993), and Jarkey and Moore (2001) for relevant discussion.
4.   See also Kang (1994). He argues that the Korean noun *sakwa* 'apple,' for example, denotes |*apple'| under Link's (1983) LPM (logic for plurals and mass terms). In the LPM, the English *apple* denotes |apple'| and *apples* denotes |*apple'| minus |apple'|. (|.| is the denotation function.)
5.   The nominal mapping parameter categorizes Romance languages as NP [−arg, −pred] languages, and Germanic and Slavic languages as NP [+arg, −pred] languages.
6.   Chierchia (1998a: 348) states that "[b]y 'natural' kinds, we do not necessarily mean, in the present context, just biological ones or even 'well-established' ones. Artifacts (like chairs or cars) or complex things (like intelligent students or spots of ink) can qualify as kinds."
7.   Note that the Madarin Chinese nominal suffix *men* shares a number of characteristics with *tati/tul*. See Iljic (1994) and Li (1999) for more about *men*.
8.   Chierchia (1998a: 347) argues that this is because mass nouns are already pluralized.
9.   Note, however, that later we will observe that this is true only for inanimate nouns. See Section 4.

10. This is because the Japanese plural suffixes cannot be appended to inanimate nouns. If the relevant noun is animate, the plural suffix can be appended to the noun. See Section 3.1 for further discussion.

11. As noted above, bare nominal arguments can be definite in Japanese and Korean. It is, therefore, important to suppose that the domain of discourse is empty prior to the utterance of (12a)/(13a) to avoid definite interpretations of the relevant NPs.

12. When a prenominal numeral classifier phrase modifies the relevant noun, on the other hand, scope ambiguity arises, as shown in (i).

   (i) [K] a. modu-ka   sey-kwen-ui chayk-ul   ilkessta
              everyone-NOM 3-CL-GEN book-ACC read
              (a) For everyone there are three books such that s/he read.
              (b) There are three books such that everyone read.
       [J] b. daremo-ga   san-satu-no hon-o   yonda
              everyone-NOM 3-CL-GEN book-ACC read
              (a) For everyone there are three books such that s/he read.
              (b) There are three books such that everyone read.

   When classifier phrases float, as shown in (ii), scope ambiguity does not arise. See Fujita (1994) for related discussion.

   (ii) [K] a. modu-ka   chyak-ul   sey-kwen ilkessta
               everyone-NOM book-ACC 3-CL   read
               everyone > three books
        [J] b. daremo-ga   hon-o   san-satu yonda
               everyone-NOM book-ACC 3-CL   read
               everyone > three books

13. Japanese has four ''plural'' suffixes, namely *tati*, *ra*, *gata*, and *domo*: *ra* is considered to be more formal than *tati*; *gata* is an honorific plural suffix, while *domo* is a humble plural suffix. See Martin (1988: 143–154) for detailed discussion on these suffixes. In this article, I only discuss the most commonly used *tati*. See also Takano (1992) for some discussion on *tati*. See Kawasaki (1989) for discussion on the anaphor *zibun* 'self' + *tati*.

14. Note that the Chinese suffix *men* cannot appear with a numeral classifier phrase, as shown in the ill-formedness of (i).

   (i) *san-ge   xiueshen-men
        three-CL student-PL
        'three students'

   See Li (1999) for related discussion.

15. This is not the only difference between the Japanese *tati* and Korean *tul*. Song (1975: 543) notes that *tul* occurs not only with nouns but also with adverbs and verbs. His examples are cited below.

   (i) ese-*tul*   tuleo-key
       quickly-PL come in
       'Come right in, (you guys).' (imperative form)
   (ii) ku chayk-ul   ilk-e-*tul* po-ass-n-i
        that book-ACC   read-PL tried-Q
        'Have you all tried reading that book?'

   See also Kim (1994) and references cited therein for related discussion. The Japanese *tati*, on the other hand, appears only with nouns.

16. According to my Korean informants, Korean speakers do not use the proper name+*tul* construction very often; on the other hand, Japanese speakers use the proper name+*tati* construction frequently in their daily conversation.
17. See Corbett (2000) for more discussion on associative plurals. Martin (1988) calls these suffixes "collectivizers" rather than associative plurals.
18. See also Nemoto (2001, 2002) for related discussion.
19. Kang (1994) argues that *sakuwa-tul* 'apple-PL,' for example, denotes |*apple| minus |apple'| in Link's (1983) LPM.
20. See Schmitt and Munn (1999) and Müller (2001) for related discussion on Brazilian Portuguese.
21. According to my informants, in Chinese, bare NPs cannot be anaphoric: demonstratives are required for anaphoric expressions with common nouns. This is the reason that I excluded Chinese from this study, although Chierchia (1998a,b) argues that Chinese is a typical NP [+arg, −pred] language. Note also that it is not always the case that a bare NP can be an anaphoric NP by itself in Japanese and Korean. Some speakers may not like the examples as in (43b) and (44b). See Tsutsui (1990) for discussion on the optionality of anaphoric demonstratives in Japanese.
22. The English definite article *the* is number neutral: it can appear with either a singular noun or a plural noun, as in *the apple/the apples*.
23. As noted above, in Chinese, the bare NP *xuesheng* 'student' in (ib) cannot refer to the student(s) introduced in (ia). In order to constitute an anaphoric phrase, a demonstrative must be present, as shown in (ic) and (id).

    (i)   a.   waibian you xuesheng
                 outside have student
                 'There is/are student(s) outside.'
           b.   *xuesheng hen pang
                 student   very fat
                 'The student(s) is/are very fat.'
           c.   nei-ge xuesheng heu pang
                 that   student   very fat
                 'The student is very fat.'
           d.   nei-xie xueshen heu pang
                 that-PL student very fat
                 'These students are very fat.'

    Chinese is a so-called topic-comment language (cf. Huang 1984, among others); however, it does not have an overt general topic marker such as *wa/(n)un*.

24. See Downing (1996) for more discussion. The examples in (i) and (ii) illustrate different kinds of plurality indicators.

    (i) [K] a.   (ku) sey-myeng-ui haksayng-un acwe   ttwungttwung-hata
                 that 3-CL-GEN   student-TOP very   fat-are
                 'The three students are very fat.'
             b.   (ku) sey-myeng-un acwe ttwungttwung-hata
                 that 3-CL-TOP   very fat-are
                 'The three are very fat.'
    (ii) [J] a.   (sono) san-nin-no gakusei-wa   totemo hutotteimasu
                 that   3-CL-GEN student-TOP   very   fat-is
                 'The three students are very fat.'

    b.   (sono) san-nin-wa totemo   hutotteimasu
            that   3-CL-TOP very   fat-is
            'The three are very fat.'

    c.   sorera-no gakusei-wa   totemo   hutotteimasu
            those   student-TOP very   fat-is
            'These students are very fat.'

As noted in (42), the combination of a prenominal numeral classifer phrase and *tati* or *tul* is also possible.

25. Kang (1994: 6–7) notes that in Korean the plural demonstratives such as:

    (i)   i-tul   ce-tul   ku-tul
         this-PL   that-PL   that-PL

    are rather marked expressions. My informants do not accept these as plural demonstratives, for example. Note that *ku-tul* is the third person plural pronoun, which is only used for humans. Similarly, *i-tul* can mean 'these people.'

26. Ikari (1989), for example, categorizes the plural demonstratives such as *korera* 'these' as "written" forms, meaning that they are most likely to be used in writing.

27. Chierchia (1998a, 1998b) considers that so-called weak indefinite (cf. Wilkinson 1991, among others) are also kind-referring.

28. As noted above, it is not the case that bare nominals can always be anaphoric (Tsutsui 1990). Some speakers of Japanese and Korean may find it awkward that the bare nominals *oykwukin/gakukokuzin* 'foreigners' appear without a demonstrative in (52b) and (53b), respectively.

29. Note, however, that this does not mean that J/K nouns will be able to be counted by bare numerals when they are located under DP.

30. One of the reviewers questions why this shift is from mass to singular, not plural, if a bare noun comes out of the lexicon with a mass denotation, which is assumed to be already pluralized (Chierchia 1998a: 347). I do not have an explicit answer for this question. However, whenever a mass noun is "recategorized" (Corbett 2000: 81) to a count noun, its bare form becomes the singular form. For example, *coffee* is a mass noun. When it is recategorized to a count noun, its bare form appears as singular as *a coffee*. The bare form *coffee* cannot appear with the numeral *two*, for example: **two coffee* is ill-formed.

31. See Kurafuji (1999) for his account on (54).

32. For more discussion on contrastive *wa* in Japanese, see Kuno (1973), among many others.

33. This phenomenon is not observed in Korean.

34. I would like to thank Masako Hirotani for bringing this to my attention.

35. See Schmitt and Munn (1999) for related discussion.

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