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The Syntax of Japanese Nominal Projections and Some Cross-Linguistic Implications

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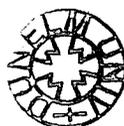
2002

ABSTRACT

The Syntax of Japanese Nominal Projections
and Some Cross-Linguistic Implications
Kyoko Oga
Ph.D. 2002

The purpose of this thesis is to examine the syntax of Japanese noun phrases and their interpretations from the cross-linguistic point of view.

It has been argued that argument noun phrases contain functional heads such as D, Num(ber), and Q(uantifier) as well as a lexical projection, NP (Abney 1987; Ritter 1991, 1992, Giusti 1991, etc.) across languages. This thesis shows that argument noun phrases in Japanese can also contain heads corresponding to D, Num and Q, and that the variety of their interpretations can be explained in terms of the positions of those heads and their semantic interaction with each other.

Chapter 1 outlines the theoretical background of the syntax of noun phrases and provides a review of the literature concerning Japanese noun phrases.

Chapter 2 focuses on the distribution of numeral classifiers (NC) and quantifiers (Q) that can appear within noun phrases in Japanese. I propose that NC and Q can head projections, NCP and QP, and can appear either DP-internally or -externally.

Chapter 3 focuses on NCs and Qs with a partitive interpretation. I argue that a partitive interpretation is obtained as the head NC or Q assigns a theta-role to its complement DP within partitive constructions. English partitive and pseudo-partitive constructions and Finnish partitives are also discussed.

Chapter 4 discusses ablative partitives in Turkish and another type of partitive constructions in Japanese called the "nominal partitive constructions". I argue that a sequence of an ablative partitive and an NC in Turkish and a nominal partitive construction in Japanese are both DPs, where D takes a partitive construction, namely an NCP as its complement, giving rise to a partitive interpretation.

In Chapter 5, I demonstrate that Japanese "bare" arguments have layered structures proposed in Chapter 2, containing empty heads, i.e., D and/or NC. Four possible interpretations of bare arguments are discussed.

Chapter 6 concerns predicate nominals in copular constructions. It is shown that predicate nominals in Japanese are just NPs, lacking D and NC, whereas predicate nominals in Romance and Germanic may be NPs, NumPs or DPs.

No part of this thesis has previously been submitted for a degree at the University of Durham or any other university.

Acknowledgements

friendship.

Finally, I would like to express my sincere gratitude to my family: my parents Yoko and Takafumi Oga, my sister and brother-in-law Hideko and Katsuhiko Mori and my nephew Kohei. Without their love and support, none of this would have been possible. I dedicate this thesis, with love, to them.

Table of Contents

Chapter One

Introduction

The purpose of this thesis is to provide an account of the layered structures of Japanese noun phrases and their interpretations. Japanese noun phrases have been studied exclusively in terms of their configurational structure and the genitive case-marker *-no* (Kamio 1983, Ueda 1990, Saito & Murasugi 1990, 1999, Murasugi 1991). Despite the fact that attention has been paid to how noun phrase structure parallels sentential structure in Japanese, it is not yet clear how the full complexity of noun phrases in Japanese can be captured in terms consistent with Universal Grammar. In this work, I demonstrate that the layered structures of noun phrases in Japanese can be captured in a systematic way using a cross-linguistic study of noun phrases.

1.1 Is DP parallel to sentential structure?

In this section, I outline the studies of noun phrase structure with respect to the lexical projection and functional projections within noun phrase structure, which will be the basis of this thesis.

1.1.1 The DP-hypothesis

It is well-known that there are a number of languages in which an overt agreement element appears in noun phrases. One of them is Hungarian, in which the head N of a noun phrase agrees with its possessor phrase, marking the possessor's person and

number with an agreement marker as shown below (Szabolcsi 1987: 171):[1]

(1)   a. az én   kalap-om

       the 1sg:NOM hat-POSS.1sg

       'my hat'

      b. a te   kalap-od

       the 2sg:NOM hat-POSS.2sg

       'your hat'

      c. a Péter   kalap-ja

       the Peter:NOM hat-POSS.3sg

       'Peter's hat'

Given that the nominative case of the possessor is assigned by AGR in the same way that the subject is assigned the same case by AGR in sentences in Hungarian, Abney (1987) argues that noun phrases have a sentence-like structure, namely, a structure headed by an Infl-like functional category. He uses "D" to denote such a functional category with [AGR] features within noun phrases and argues that D is an inflectional head of a noun phrase, and a noun phrase should be accounted for as a "DP" (see also Brame 1981, 1982; Fukui 1986). This approach is called the "DP-hypothesis".[2]

He analyses English possessive constructions and proposes that the possessor

---

[1] Sg = Singular; NOM = nominative; POSS = possessive
[2] Under the DP-hypothesis, determiners such as *the* may be treated as lexical elements of the noun phrase-internal functional category (see also Szabolcsi 1987).

appears in Spec of D, where it is assigned the genitive case by D as illustrated below.

(2)   DP

         Case ⌐→ DP   D'
               John's
              └──── D   NP
                          book
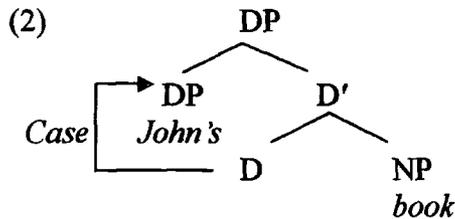
1.1.2 Japanese noun phrases under the DP-hypothesis

Tateishi (1989), Ueda (1990) and Morikawa (1993) examine noun phrases in Japanese

under the DP-hypothesis and Tateishi and Ueda propose that case particles such as *-ga*

(nominative), *-o* (accusative) and *-ni* (dative) that appear in the following example are

instances of the functional category D in Japanese:[3, 4]

(3)   Taro-**ga**   Hanako-**ni**   hon-**o**   okut-ta.

       Taro-NOM Hanako-DAT   book-ACC send-PAST

       'Taro sent a book/books to Hanako.'

Ueda (1990) raises the following points that support his claim:

---

[3] DAT = dative; ACC = accusative; PAST = past tense
[4] Fukui (1986) studies Japanese noun phrase structure with regard to the (non-)existence of the functional category D as a head of a constituent (Brame 1981, 1982). He observes that there are no determiners in Japanese corresponding to *the* or *a* in English. He also points out that in Japanese noun phrases, more than one genitive case-marked noun phrase can appear as shown below:

(i)   Kyonen-no   Yamada-sensei-no   so-no   koogi
       last yea-GEN Yamada-Professor-GEN   it-GEN   lecture
       (Lit.) 'last year's Prof. Yamada's that/the lecture'

Assuming that functional categories have a property to close off the category projection as English determiners do, Fukui suggests that Japanese noun phrases are projections of N, namely N', and therefore are never closed, i.e., more than one genitive case-marked noun phrase can appear.
       In Fukui (1995: 357), however, he abandons this argument and suggests that Japanese noun phrases have D and it plays a role at LF.   He tentatively assumes that Japanese D has no phonetic content and also does not induce agreement.

(4) Ueda (1990)

(I)   Case particles always appear to the right of the head Ns; given that Japanese is a head final language, it is reasonable to argue that the case particles are Ds and thus they appear in the rightmost position of the noun phrase.

(II)   Case particles are closed class elements: only -*ga* (nominative), -*o* (accusative) and -*ni* (dative) are identified as "case particles".

(III)   Case particles are phonologically and morphologically dependent elements and may be phonologically null in certain contexts (i.e. case-dropped) as functional categories across languages generally are.

(IV)   Case particles take only one complement, NP (or PP).

(V)   Case particles are inseparable from their complement NP in the sense that they are never stranded.

(VI)   Unlike postpositions, case particles are completely devoid of descriptive content, and function mainly as grammatical markers for abstract cases.

Several questions about this approach immediately arise.   One of them is about PP structure in Japanese.   As is well-known, in various languages including English, the head P of a PP selects a DP as its complement.   An example from English is shown below:

(5) A cat was asleep [in John's room].

Under the DP-hypothesis by Abney, the internal structure of PP in (5) can be illustrated as follows:

(6)
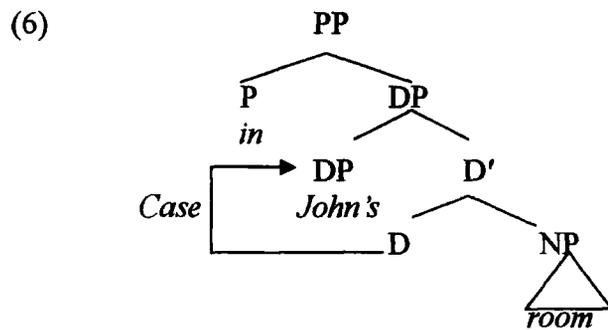
The Japanese counterpart of (5) is as follows:[5]

(7) Neko-ga   [John-no   heya-de]   net-ei-ta.

    cat-NOM   [John-GEN room-in]   sleep-ing-PAST

   'A cat was sleeping in John's room.'

In (7), -*de* is a postposition corresponding to 'in'. Under the DP-analysis of Japanese noun phrases by Ueda, the PP in (7) would be treated as follows. Since there is no case particle between the head noun *heya* 'room' and the postposition -*de*, there should be no head position available between the N and the rightmost P under the DP-analysis of Tateishi and Ueda. Thus, the PP structure in Japanese would be illustrated as in (8):

---

[5] GEN = genitive

(8)
```
                              PP
                          ╱      ╲
                    NP           P
                  ╱    ╲          de
            DP        N'    in
         John-no      |
         John-GEN     N
                      heya
                      room
```
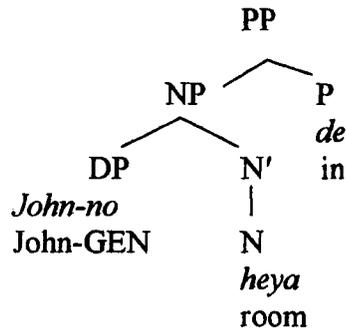
This structure is not consistent with that of the English PP shown in (6). On the assumption of structural uniformity, such a contrast presents problems.

Further, Ueda (1990:153) himself claims that a possessor phrase with the genitive case particle is base-generated in Spec of D, and receives its possessor θ-role from D. This leads to the suggestion that a complement of P which contains a genitive possessor phrase must be a DP. Thus, the structure in (8) is abandoned, and the complement of P is treated as a DP rather than an NP under Ueda's analysis. The revised structure is as follows:

(9)
```
                              PP
                          ╱       ╲
                    DP            P
                 ╱      ╲          de
           DP           D'
         John-no      ╱    ╲
         John-GEN  NP        D
                  ╱  ╲        Ø
                 heya
                 room
```
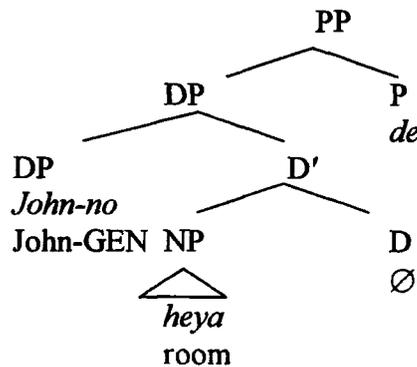
This structure is consistent with the one in English. If we assume, as Ueda does, that D is realised as a case particle, it remains unclear why D in (9) is left phonetically

unrealised.[6] One might argue that the oblique case assigned by P is not realised as a case particle in Japanese. However, this analysis weakens Ueda's initial claim that D is realised as a case particle.

Saito & Murasugi (1990) argue that the DP-hypothesis should hold for Japanese as it does for English, based on detailed examinations of the so-called NP-deletion phenomena. As observed by Jackendoff (1971), a nominal expression following some particular D in English can be deleted (Hankamer & Sag 1976):

(10) John's reliance on the faculty is more problematic than Mary's.

Under the DP-hypothesis, Saito & Murasugi argue that the genitive noun phrases in (10) are raised out of the NP structure within both the first and second DPs, respectively, and the NP in the second DP undergoes deletion at PF, since the internal structure of the second NP is identical to that of the first NP. (11a) shows the structures of the two DPs and (11b) shows the NP structure deleted from within the second DP.

---

[6] The following PPs are all ungrammatical:

(i)   *John-no   heya-ga-de
          John-GEN room-NOM-in

(ii)   *John-no   heya-o-de
          John-GEN room-ACC-in

(iii)   *John-no   heya-ni-de
          John-GEN room-DAT-in

(11) a. [$_{DP1}$ John's$_i$ D [$_{NP1}$ t_i reliance on the faculty]] is more problematic

than [$_{DP1}$ Mary's D [$_{NP2}$ e]].

b. [$_{NP2}$ t reliance on the faculty]

Saito & Murasugi point out that similar examples of deletion are possible in Japanese. A nominal expression can also be deleted from within a noun phrase in comparative sentences in Japanese as shown below:

(12) Gakubusei-no   sensei-e-no   izon-wa   yurus-eru   ga,

undergrad-GEN teacher-on-GEN reliance-TOP   tolerate-can but

insei-no-wa   yurus-e-nai.

postgrad-GEN-TOP   tolerate-can-not

'I can tolerate undergraduate students' reliance on faculty, but I cannot tolerate postgraduate students'.'

Under the DP-hypothesis, Saito & Murasugi argue that in (12), the genitive noun phrases are raised out of the NPs, and the NP within the second DP can be deleted since it is licensed by the genitive noun phrase in Spec of D. Their analysis is as follows:

(13) [DP1 Gakubusei-noᵢ D [NP1 *t*ᵢ sensei-e-no   izon]]-wa   yurus-eru ga

undergrad-GEN   faculty-on-GEN reliance -TOP   tolerate-can but

[DP2 insei-no   D [NP2 *e*]]-wa   yurus-e-nai.

postgrad-GEN   -TOP tolerate-can-not

Saito & Murasugi argue that only [+AGR] D agrees with and licenses an item in Spec of D, and that this [+AGR] D licenses NP-deletion. Note that in their analysis of Japanese DPs, D is not phonetically realised.

Although I will show that Japanese D has to do with a Case feature of noun phrases, I will not pursue the idea that case particles are instances of D in Japanese in this thesis. I will argue for Saito & Murasugi's (1990) claim that the DP-hypothesis does hold for Japanese noun phrases, and that Japanese has a functional category D that is not phonetically realised. In Chapter 2, I will demonstrate the existence of the phonetically unrealised D as the locus of a Case feature by applying some syntactic tests. Chapter 5 discusses a direct mapping between D and the variety of interpretations of arguments in Japanese.

1.2 Quantificational expressions

1.2.1 N-raising and NumberP (NumP)

Another similarity between noun phrase structure and sentence structure is word order. It is well-known that in languages such as Hebrew, Welsh and Irish, the verb precedes the subject and the object in sentences, i.e., the word order is VSO. In Hebrew, one type of noun phrase structure containing a possessive phrase called the "construct state"

shows NSO order as illustrated below (Ritter 1988, 1991, 1992, 1995):

(14) axilat dan   et   ha-tapuax (Ritter 1991: 39)

  eating Dan ACC the-apple

  'Dan's eating of the apple'

Following Abney's DP-hypothesis, Ritter (1988) claims that the noun phrase in (14) has a DP structure, and the head N *axilat* 'eating' undergoes head-raising to D, giving rise to the NSO order.   See also Longobardi (1994, 2001) for N-to-D raising in Italian.

However, this account runs into problems, as Ritter (1988) herself points out, because the N-to-D raising analysis under the DP-hypothesis cannot explain another type of noun phrase construction in Hebrew called the "free genitive" given below:

(15) ha-axila   šel   dan   et   ha-tapuax (Ritter 1991:43)

  the-eating of   Dan ACC the-apple

  'Dan's eating of the apple

In the free genitive construction in (15), D seems to be occupied by the determiner *ha*. The noun *axila* 'eating' follows the determiner, and the subject and object follow the noun.   The word order in (15) indicates that the head noun is raised to the intermediate position between the topmost head D *ha* and the subject *dan*.   This leads Ritter (1988, 1991) to argue that there is another landing site for N-raising, i.e., another head position, between DP and NP, and the head N is raised to it in the free genitive construction. She calls the intermediate category "Num (Number)".   Her structure for the free

genitive construction is illustrated below:[7]

(16) Free Genitive Construction

```
                    DP
              ┌──────────┐
          D              NumP
         ┌──►Num      ┌────────┐
         │          Num       NP
         │              ┌──────────┐
         │            Subj         N'
         │                     ┌───────┐
         └─────────────── N         Obj
              Head-raising
```
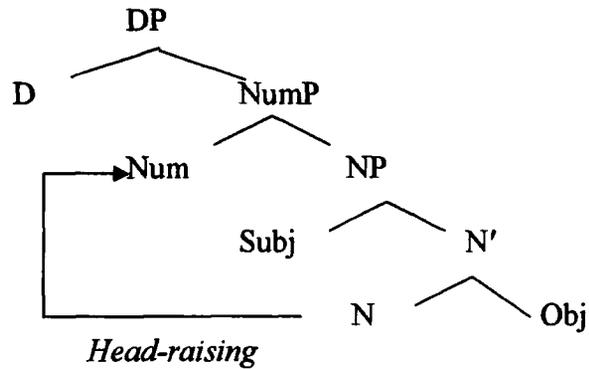
She argues that Num is the locus of the number specification (singular or plural) of the noun phrase.[8] This approach assumes that Ns are not inherently specified for number. N is the locus of gender in her analysis, and N undergoes movement to Num to get a number feature. The plural form of a noun is derived in syntax by amalgamation of N and Num, namely by N-to-Num raising in syntax under Ritter's NumP analysis.

In Ritter (1992), she provides further cross-linguistic evidence for Num. One piece of evidence is from Hungarian. As illustrated below, plurality is indicated by the plural suffix -V*k* on N in Hungarian noun phrases:

---

[7] *šel* is analysed as a dummy case-marker in Ritter (1991: 43).

[8] In Ritter (1991), gender is specified on the head N, but Ritter (1992) suggests that gender is specified on the Num head together with number, given the fact that Hebrew has both a masculine plural marker -*im* as well as a feminine plural marker -*ot*, on which both gender and number are specified.

(17) a. az ember

   the man

   'the man'

   b. az ember-**ek**

   the man-PL

   'the men'

In Hungarian, the plural marker and numeral quantifiers such as *három* 'three' are in complementary distribution. When a quantifier such as *három* 'three' appears within the noun phrase, the head noun appears in singular form as shown in (18a). As is clear from (18b), quantifiers cannot co-occur with the plural suffix.

(18) a. a   három   ember

      the   three   man

   b. *a   három   ember-ek

      the   three   man-PL

Having observed that the complementary distribution of the plural marker and quantifiers, Ritter proposes that either the plural suffix -V*k* or a quantifier is in Num, and N-to-Num raising takes place only when the plural suffix is in Num. She suggests that the plural suffix in Num is dependent, and thus it must be morphologically anchored by N raised to Num. On the other hand, N-raising is blocked in (18b) since

Num is occupied by the quantifier. She suggests that quantifiers are independent words and thus they do not have to be anchored by N-raising. The structure of the noun phrase including the plural marker is given below:

(19)

```
                    DP
                   /  \
              D         NumP
              az       /    \
              the  →N-Num      NP
                    ember-ek    |
                    man-PL      tₙ
```
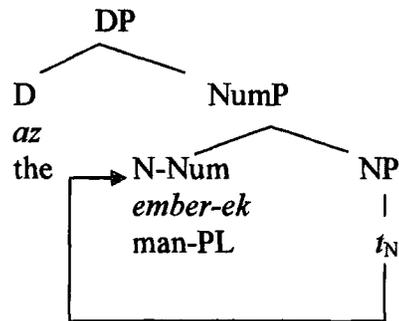
On the other hand, the noun phrase structure containing a quantifier is as follows (Ritter 1992: 215):

(20)

```
                DP
               /  \
           D        NumP
           a       /    \
           the   Num      NP
                 három     |
                 three     N
                          ember
                          man
```
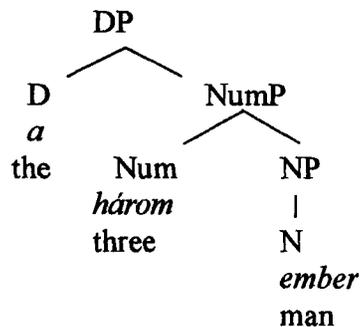
I will assume in this thesis that there is a head (Num or its equivalent) which is the locus of a number feature. Thus, a noun phrase can contain two kinds of functional heads, D and Num (or its equivalent), and one lexical projection, NP.

The structure of the Hungarian DP including NumP seems adequate to deal with the similar noun phrase construction in English. Consider:

13

(21) the three men

Under Ritter's analysis, the structure of (21) can be illustrated as follows:[9, 10]

(22)

```
              DP
          ┌────────┐
         D         NumP
        the     ┌────────┐
              Num        NP
             three        │
                          N
                         men
```
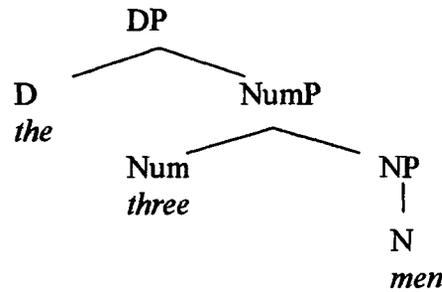
Ritter claims that in Hungarian, quantifiers such as *sok* 'many' also appear in Num.
Note, however, that it has been observed that not all quantifiers can follow a determiner
at least in English (Jackendoff 1977).   Giusti (1991) considers both pre-determiner and
post-determiner quantifiers, as outlined in the next section.

1.2.2 QP

In Ritter's (1991, 1992, 1995) analyses of NumP, the so-called weak quantifiers
(Milsark 1977) such as *many* are categorised as Num since they occur in the same
position as number phrases.   However, it is not clear from Ritter's analysis why the
so-called strong quantifiers (Milsark 1977) such as *all* cannot appear in the same

---

[9]   This structure is in clear contrast with Abney's (1987).   In Abney's analysis, quantifier phrases (QPs)
and measure phrases (MeasurePs) appear in Spec of NP, receiving the measure θ-role from the head N as
illustrated below:

(i)   [DP [D' D [NP QP/MeasureP [N' N]]]]

[10]   What remains unclear with (22) is the reason why the head N *men* with the plural feature and the
number head *three* can co-occur in standard English whereas they do not in Hungarian.   J. Emonds (per.
comm.) points out that in Northeast England, the United Kingdom, the complementary distribution is
widespread.   I assume, without discussion, that the plural feature on the head N in (22) is checked off by
raising to the Num head at LF.

position as in (23b).   Further, if we postulated another position for quantifiers such as *all* higher than D, it would not explain why *many* cannot appear higher than D as shown in (24a):

[the + Quantifier + N]

(23) a. the many men

     b. *the all men

[Quantifier + the + N]

(24) a. *many the men

     b. all the men

Giusti (1991) deals with the distribution of quantifiers under the account of her layered DP structure.   She proposes that quantifiers select either a DP or an NP as their complement, according to their semantic properties.   More precisely, universal quantifiers such as *all* can select a DP as their complement, whereas existential quantifiers ("indefinite quantifiers" in her terminology) such as *many* select an NP as their complement.   The structure proposed by Giusti (1991) is illustrated below:

(25) Giusti (1991)

```
            QP
           /  \
          Q    DP
         all   /  \
            D      NP
           the    /  \
              children
```

(26)

```
              DP
            /    \
          D       QP
         the     /  \
              Q      NP
            many    /\
                   /  \
               children
```
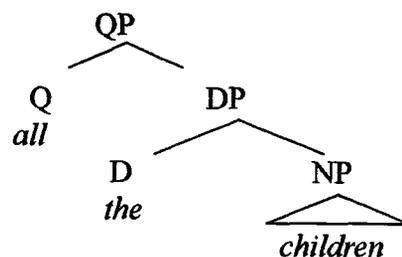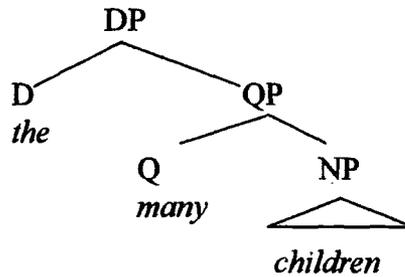
I assume that the lower Q in Giusti's QP-structure in (26) corresponds to the Num head in Ritter's NumP-structure in (20).

Giusti's account can explain the following example (27), in which both *all* as a universal quantifier and *three* as an existential quantifier can co-occur since there are two positions for Qs, and the schematised structure is in (28):

(27) [All the three children] have arrived.

(28)

```
            QP
          /    \
        Q        DP
       all      /   \
             D       QP
            the     /  \
                 Q      NP
               three    /\
                       /  \
                   children
```
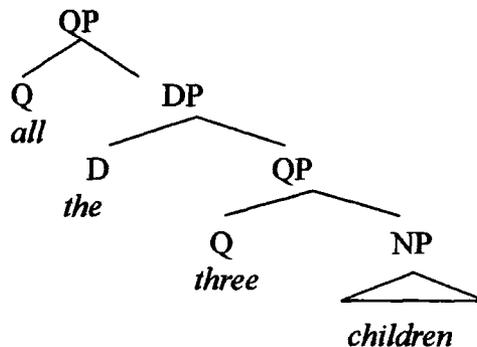
So far, I have outlined the NumP analysis and the QP analysis, both of which are based on the DP-hypothesis, and applied them to English schematically. The goal of this thesis is to see if we can extend these analyses to Japanese noun phrases. In the next subsection, I summarise the properties of numeral classifiers, which show the

number of counted objects, and quantifiers in Japanese.

1.2.3 Number properties of Japanese noun phrases

In Japanese, the action of counting people, animals or things invariably invokes the use of a "numeral classifier" (NC) that consists of a numeral and a classifier that agrees with the type of counted entity (Miyagawa 1989). To be more precise, a numeral alone is not enough to describe the number of counted object(s): a numeral must be followed by a suitable classifier. For instance, when we count three people, the NC is *san-nin*, which consists of a numeral *san* "three" and a classifier (henceforth, CL) *-nin* used for human beings.

Terada (1990) notes that NCs can appear in four formats, as given below. In (29), the NC follows a non-case-marked, bare noun. In (30), the NC is associated with the genitive case-marker *-no* and modifies the semantic-head noun *gakusei* 'student'. In (31), the NC follows a case-marked noun. In (32), the NC precedes a case-marked noun.

(29) Gakusei   san-nin-ga   ki-ta.

      student   three-CL-NOM   come-PAST

      'Three students came.'

(30) San-nin-no   gakusei-ga   ki-ta.

      three-CL-GEN   student-NOM   come-PAST

      'Three students came.'

(31) Gakusei-ga   san-nin   ki-ta.[11]

student-NOM   three-CL   come-PAST

(a) 'Three of the students came.'

(b) 'Three students came.'

(32) San-nin   gakusei-ga   ki-ta.

three-CL   student-NOM   come-PAST

'Three students came.'

Let us now turn to other quantificational expressions in Japanese. I will call quantificational expressions other than NCs such as *ooku* 'many' or 'much', *sukoshi* 'little' and *subete* 'all' "Quantifiers" (Q) in this thesis. The distribution of Qs is similar to that of NCs as shown in (33)-(35), except for the word order observed in (36):

(33) Gakusei   subete-ga   ki-ta.

student   all-NOM   come-PAST

'All students came.'

(34) Subete-no gakusei-ga   ki-ta.

all-GEN   student-NOM   come-PAST

'All students came.'

---

[11]   Examples like (31) can have either a partitive reading like (31a) or an existential reading like (31b), although Terada (1990) provides only the latter.   In Chapter 2, I will discuss this ambiguity in detail.

(35) Gakusei-ga   subete   ki-ta.

     student-NOM   all   come-PAST

     'All of the students came.'

(36) *Subete   gakusei-ga   ki-ta.

     all   student-NOM   come-PAST

     'All students came.'

I address the ungrammaticality of the example like (36) in Chapter 2.

In Chapter 2, I will show that the distribution of NCs and Qs in Japanese observed above can be captured under Giusti's QP-analysis, according to which there are two positions for quantifiers within noun phrases, a DP-internal position and a DP-external position. I will propose that Japanese noun phrases have layered structures that can contain two positions for NCs and Qs, i.e., a DP-internal position and a DP-external position (Giusti 1991). I will suggest that the variety of word orders and interpretations of noun phrases reflect the positions of NCs and/or Qs and the semantic interaction between these two categories, D and NP.

1.2.4 Partitive interpretations of NCs and Qs

It is also important to note that the subjects in examples (31) and (35), as is clear from their translations, can have a "partitive" interpretation, where the NC or Q and the subject are in a part-whole relationship. It is clear that the partitive interpretation does not originate from a theta-role assigned by V. How the partitive interpretation is obtained within noun phrases containing an NC or a Q is discussed in Chapter 3 and

Chapter 4. I will argue that NCs and Qs that appear DP-externally as in (25) have a theta-role to assign to their complement (Pesetsky 1982). The proposed analysis will be extended to English partitive and pseudo-partitive constructions and Finnish partitives in Chapter 3 and also to Turkish ablative partitives in Chapter 4.

1.3 DP as an argument vs. NP as a predicate

1.3.1 "Bare" nouns across languages

Assuming that the DP-hypothesis by Abney (1987) is on the right track, Stowell (1989) suggests that the DP/NP distinction reflects a semantic dichotomy between predicative and referential categories. In line with Stowell, Longobardi (1994) formulates a principle that DP can be an argument but NP cannot. He suggests that NP can be syntactically predicated of D. (see also Szabolcsi 1987: 181, 1994: 181.)

Consider the following bare nouns in Italian:

(37) a. Viene   giù   **acqua**   dalle colline.
        come   down   water   from the hills

    b. ***Acqua** viene   giù   dalle colline.
        Water   come   down   from the hills

Under the proposed principle, Longobardi suggests that the bare noun *acqua* 'water' in (37a) is a DP headed by an empty D, and the empty D is syntactically licensed in such a way that it is lexically governed in the observed position. (37b) is ruled out since the bare noun is in a position where it is not lexically governed.

It is widely assumed that Japanese does not have determiners corresponding to *the* and *a* in English and thus arguments often look "bare" (Chierchia 1998). Consider:

(38) Kanojo-ga **kuruma-o** kat-ta.

she-NOM **car-ACC** buy-PAST

The object *kuruma*-o 'car-ACC' is not associated with any determiner-like item, and its interpretation varies: a kind-denoting reading, an indefinite reading and a definite reading.[12] But if Longobardi's (1994) view that only DPs can be arguments is correct, bare arguments in Japanese must include the D head or its equivalent (cf. Chierchia 1998).

Interestingly, the distribution of bare nominals varies across languages. It is the case that singular count nouns appear in argument position in, for instance, Mainland Scandinavian languages, Albanian (Kallulli 1999) and Brazilian Portuguese (Schmitt & Munn 1999) as shown below, although this is impossible in English:

Norwegian (Kallulli 1999)

(39) Anne ønsker å kjøpe **sykkel**.

Ann wants to buy bicycle

'Ann wants to buy a bicycle.'

---

[12] In an appropriate context, a Japanese "bare" argument can also receive a generic reading. See Chapter 5.

Albanian (Kallulli 1999)

(40) Ana do   të   blejë **biçikletë**.

     Ann wants to   buy   bicycle.

     'Ann wants to buy a bicycle.'

Brazilian Portuguese (Schmitt & Munn 1999)

(41) **Criança** é   inteligente.

     Child   is   intelligent

     'Children are intelligent.'

English

(42) *Ann wants to buy **dress**.

(43) *****Child** is/are intelligent.

Note that Norwegian, Albanian and Brazilian Portuguese are languages that have a distinction between singular and plural. Thus, the above data, which contain bare singular count nouns, deserve a special attention in terms of the lack of a number feature. Given this, it becomes necessary to examine the internal structure of bare nominals within the NumP framework (Ritter 1991, 1992, Schmitt 1996), with reference to the Num head as well as the D head.

The distinction between DP as an argument and NP as a predicate becomes unclear when we take NumP into consideration. If NumP appears in the intermediate position between NP and DP as Ritter (1991, 1992) suggests, it is necessary to

investigate if Num can appear as an empty head within a bare nominal and if so, how the empty Num is relevant to the semantics of bare nominals.

1.3.2 Are arguments in Japanese "bare"?

My basic aim is to reduce various types of bare nominals observed cross-linguistically to a limited variation of noun phrase internal structure under the DP and NumP frameworks. Chapter 5 is devoted to a case study on Japanese bare nominal arguments, their interpretations and their internal structures. I will propose that four possible interpretations of bare arguments in Japanese result from the semantic interaction between the heads, i.e. N, D and/or NC.

1.4 Predicate nominals

In some languages, such as French and Swedish, it is the case that some predicate nominals appear "bare" without any determiner. The following examples are grammatical:

(44) Jean est **médecin.**   (French)

Jean is   doctor

'Jean is a doctor.'

(45) Per är   **pilot.**   (Swedish)

Per is   pilot

'Per is a pilot.'

Predicate nominals in Japanese also look bare, lacking NC, Q and determiner-like items. They are associated with a copula *-da* as shown below:

(46)   Taro-ga   isha-da.

       Taro-NOM   doctor-is

       'Taro is a doctor.'

The above examples seem to support the view that NPs are predicates (Stowell 1989, Longobardi 1994).

     In English, predicate nominals must be associated with an indefinite determiner in the following examples:

(47)   a. John is **a doctor**.

       b. *John is doctor.

(48)   a. Mary considered Tom **a genius**.

       b. *Mary considered Tom genius.

If we assumed, following Abney (1987), that an indefinite determiner is in D, the predicate nominals in (47a) and (48a) would be accounted for as DPs. This seems to indicate that in English, DPs can be predicates (Stowell 1989, Emonds 2000). On the other hand, if an indefinite determiner *a* is a disguised form of a numeral *one*, one may argue that the predicate nominals in English are NumPs headed by *a* in Num.

     The question that arises here is: are the predicate nominals in examples (44)-(48)

DPs, NumPs (or their equivalents) or NPs? The examples above show that there is cross-linguistic variation of predicate nominals in terms of the occurrence of an indefinite determiner. In Chapter 6, I will argue that Japanese bare predicate nominals are just NPs as lexical projections, and that the predicate NPs appear within the stative VP-shell structure (Ura 1996, Takezawa 1999). I will also extend my analysis to other types of predicate nominals observed in Romance and Germanic and provide an account for the cross-linguistic variation in terms of heads within the structures.

1.5 Theoretical assumptions: DP-syntax under the Minimalist framework

1.5.1 The minimalist assumptions

This thesis is conducted under the Minimalist framework advocated by Chomsky (1993, 1995, 1998, 1999). This section briefly reviews the guiding ideas of the Minimalist Program and issues relevant to the syntax of DP.

The goal of generative syntax is to understand the faculty of language, a subsystem of the human mind/brain, as a more complex structure, by examining parts that have distinctive characteristics, and their interactions. More specifically, to characterise the attained states of languages and the "initial state" of the faculty of language shared by human beings is the task of generative syntax.

A particular language, L, is an instantiation of the initial state of the cognitive system of the language faculty with options specified. The cognitive system of L stores information about sound, meaning, and structural organisation. L is taken to be a generative procedure that generates the "legible" expressions to systems that access these objects at the interfaces between the faculty of language and external systems. The expressions generated by L are constructed by pairs of legible expressions (π, λ),

respectively, as instructions to the external performance systems. π is a PF representation interpreted at the articulatory-perceptual (A-P) interface. λ is an LF representation interpreted at the conceptual-intentional (C-I) interface (Chomsky 1995).

L, as a generative procedure, consists of a *lexicon* and a *computational system*. The lexicon is a list of "exceptions," which contains words with their unpredictable features from general principles. For instance, the word *book* is in the lexicon with its categorial feature N. It might, for example, be the case that some intrinsic semantic properties such as the plural feature of *scissors* or grammatical gender are on a noun in the lexicon, since these are not predicted from other properties of the lexical entries. The words are selected from the lexicon, being assigned some features accessible in the course of computation, and an array of lexical choice is created. The array is called a *Numeration*. An item selected from the lexicon into a numeration is called a lexical item (henceforth, LI). LI and its index *i*, which is the number of times that LI is selected, form a pair (LI, *i*). A numeration is a set of such pairs. An LI is selected into the computational system by the operation *Select*; the index of the selected item is reduced by 1. The operation of a computational system called *Merge* takes two LIs and forms a new syntactic object (henceforth, SO). Merge also constructs SOs from LIs selected from the numeration and SOs already formed. A derivation converges only if Select and Merge exhaust the initial numeration and yield a single SO (Chomsky 1995).

There are (LF-) uninterpretable inflectional features selected together with LIs that enter into agreement relations with interpretable features. For instance, the φ-features of Tense (T) are uninterpretable at LF, and thus, must agree with the interpretable φ-features of a nominal expression. Otherwise, the SO with

uninterpretable features is not legible at the LF interface, and the derivation crashes.

In the Minimalist framework, the "displacement" of SOs occurs in languages to check

off the uninterpretable features.   Theoretically speaking, the operation of displacement

has undergone some technical changes.   In Chomsky (1995), it is suggested that

uninterpretable features and strong formal features, which are generally in functional

heads, "attract" the closest appropriate features to get their features checked off in the

course of derivation (*Attract*).   Thus, displacement takes place by feature attraction by

functional categories.

In Chomsky (1998:14), the operation Attract is dispensed with.   Instead, the

operation Merge is followed by the operation called *Agree*, which is language-specific,

and establishes a relation such as agreement and Case-checking between LI α and a

feature F in some restricted search space, i.e. its domain.   After the operation Agree,

the third operation called *Move* combines Merge and Agree by establishing agreement

between the LI α and a feature F and merges a phrase determined by F to a projection

headed by α, namely αP.

In Chomsky (1999), it is suggested that the α's uninterpretable features constitute

a *probe* that seeks a matching *goal* within the domain of αP, and matching of probe-goal

induces the operation Agree. α must have a complete set of ϕ-features to delete

uninterpretable features of the paired matching element.

1.5.2 DP-syntax in the Minimalist framework

Although the parallelism between the noun phrase structure and the sentence structure

has been observed (Chomsky 1970, Jackendoff 1977, Abney 1987), Chomsky (1998: 15,

fn31) admits that D as the head of DP seems to belong to a different system from other

functional categories, and puts aside questions about the internal structure of DPs. This thesis examines internal structures of noun phrases in Japanese and English under the feature-based Minimalist framework. I will discuss the distribution of features such as a Case feature and a number feature within noun phrases and how those features are checked.

On the standard assumption of the X-bar theory, the order of elements is determined by the head parameter. Japanese is known as one of the head-final languages. Under the Minimalist assumption, however, the head parameter is dispensed with, since there is no clear evidence that order plays a role at LF or in the computation from the numeration to LF, and thus it seems natural to suppose that ordering applies somewhere else (Chomsky 1995:334). Given that, Chomsky (1995:334) supposes that ordering applies to the output of Morphology as part of the phonological component.[13]

Adopting Chomsky's idea of ordering, I assume that order does not play a role at LF, and thus there is no linear order in the computation from the numeration to LF in Japanese. In this thesis, however, I represent the internal structures of Japanese noun phrases as head-final in terms of the traditional X-bar theory for expository convenience. I will represent tree diagrams in which heads such as N, D, NC and Q appear in the right node and take a complement to the left, assuming that the order represented in those tree diagrams is assigned to the output of Morphology in Japanese.

---

[13] Kayne (1993) proposes that word order universally reflects structural hierarchy by means of the Linear Correspondence Axiom (LCA), which states that asymmetric c-command imposes a linear ordering of terminal elements. That is, terminal elements are structurally assigned a linear order. His theory of phrase structure and word order contrasts with Chomsky's assumption that word order plays no role in the computation from the numeration to LF and that ordering is assigned to the output of Morphology. Chomsky (1995: 340) takes Keyne's LCA to be a principle of the phonological component. I assume with Chomsky in this thesis that there is no linear order as the computation proceeds from the numeration to LF.

In this chapter, I have discussed previous studies of noun phrases and their implications for the syntax of Japanese noun phrases and raised some questions to be investigated in this thesis. The rest of this thesis is organised as follows. In Chapter 2, I discuss the properties of NCs and Qs in Japanese and their distribution. Chapter 3 and Chapter 4 deal with partitive constructions observed in Japanese with regard to the theta-role assigning properties of NCs and Qs. I propose that NCs and Qs that take a DP as their complement have a theta-role assigning property. Under the proposed analysis, Russian genitive of negations, English partitive and pseudo-partitive constructions, Finnish partitives and Turkish ablative partitives are also discussed. In Chapter 5, I discuss "bare" arguments in Japanese with regard to the presence of empty heads, D and/or NC. I will argue that arguments in Japanese are more than just NPs and that they may contain empty heads. In Chapter 6, I examine predicate nominals in Japanese copular constructions, which are associated with a copula but lack a case-marker. I will argue that Japanese predicate nominals are just NPs, which lack both D and NC heads, and they appear in the stative VP-shell structure, while the category of predicate nominals varies across languages.

Chapter Two

Numeral Classifiers and Quantifiers in Japanese

2.1 Introduction

Based on the development of the study of functional categories in sentences, a number

of proposals have been made that noun phrases also contain some functional heads and

that their internal structure is parallel to that of sentences. Abney (1987) and Szabolcsi

(1987) claim that D is a functional category within a noun phrase and it heads a

projection, DP. This is called the "DP-hypothesis". Under the DP-hypothesis, Ritter

(1991, 1992), Valois (1991) and Szabolcsi (1994) propose that there is another

functional head, Number (Num), within DP, and that a Number Phrase (NumP) is the

complement of D. Ritter proposes the following DP-structure:

(1)

```
              DP
          ___/  \___
         /          \
        D          NumP
                  __/  \__
                 /        \
               Num        NP
```
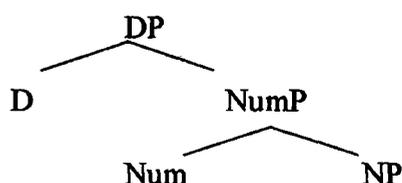
Ritter suggests that Num is the locus of the number specification while N is the locus of

grammatical gender.

    If D and Num are universal functional categories, we expect that noun phrases in

all languages have the structure illustrated in (1). However, the variations of noun

phrases across languages do not seem to follow from the above structure

straightforwardly: some languages lack determiners, some lack the number inflection on

30

nouns, and some lack both.

Japanese is a language of the last kind; it lacks both determiners and the inflection for number and gender on nouns. As mentioned in the introduction of this thesis, Japanese is known as one of the classifier languages. Numeral classifiers (henceforth, NC) are used to show the number of counted objects in Japanese. The question that arises from the viewpoint of Japanese as a classifier language is: are D and Num (or their equivalents) contained within noun phrases in Japanese? If they are, how are they manifested? In order to answer these questions, I will examine the distribution of NCs in Japanese in detail and propose configurational structures for noun phrases containing NCs. I will argue that an NC, which corresponds to Num, can head a projection and that it has a dual property of taking an NP or a DP as its complement.

Another approach to the noun phrase internal functional categories is to focus on quantifiers such as *all, many, most, every, some,* and so on. Quantifiers express the quantity of the individuals named by nouns. Numerals such as *two* are also considered as to be quantifiers in this approach. Much attention has been paid to structural positions of quantifiers within English noun phrases in the generative literature. Jackendoff (1977) divides quantifiers into two syntactic categories: (i) the quantifiers which cannot follow genitive noun phrases, determiners and demonstratives (e.g., *some, each, all, no, any*), and (ii) the quantifiers which can follow the genitive noun phrases, determiners, demonstratives and numerals (e.g., *many, few, several, two, three,* etc.). He assigns the category "Art" to the former and the category "Q" to the latter. Jackendoff proposes the following structure:

(2) Jackendoff (1977: 107)

```
                        N'''
               _____/_____
          N''''/Art'''            N''
          {Fred's, the, all, some}    ____/\____
                         Q'''              N'
                    {many, few, several}    |
                                            N
                                          dwarfs
```
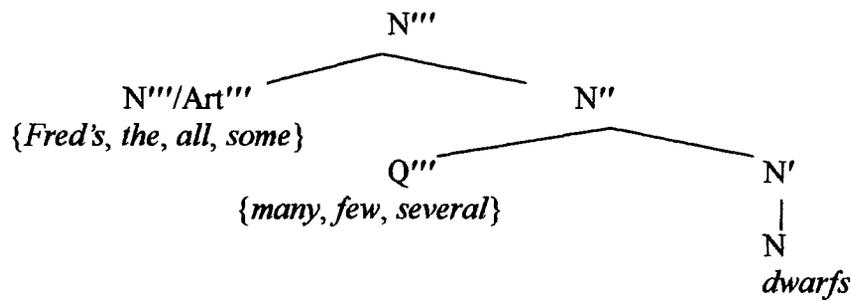
Given the restricted word order of determiners and two classes of quantifiers observed above, Cardinaletti & Giusti (1991), Giusti (1991) and Shlonsky (1991) propose, extending Abney's DP-hypothesis, that quantifiers can be another functional nominal head, Q, within noun phrases. This is called the "QP-hypothesis" (Cardinaletti & Giusti 1991). Giusti (1991) claims that Q takes either a DP or an NP as its complement, according to its semantic properties. She represents two structures for Qs as shown below. One is headed by a universal quantifier such as *all*, which can take a DP as its complement as illustrated in (3) (see also Shlonsky 1991). The other is headed by an indefinite, existential quantifier such as *many*, which takes an NP (Giusti 1991) or a DP (Cardinaletti & Giusti 1991) as illustrated in (4):[1]

(3)

```
                    QP
              _____/\_____
          Spec            Q'
                    _____/\_____
                   Q            DP
                           ____/\____
                        Spec         D'
                                   __/\__
                                  D      N
```

---
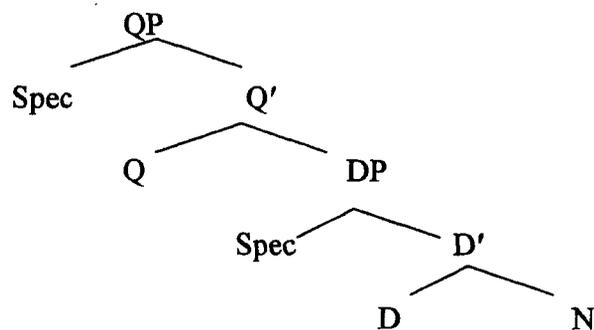
[1] Shlonsky (1991) also proposes that a universal quantifier *kol* 'all' in Hebrew can head a projection on the basis of the observation that a DP and its accompanying quantifier show agreement in gender and number when the DP is raised to Spec of Q.

(4)

```
                    QP
             _____
           Spec          Q'
                    _____
                  Q'            PP
             _____
            Q          NP/DP
```
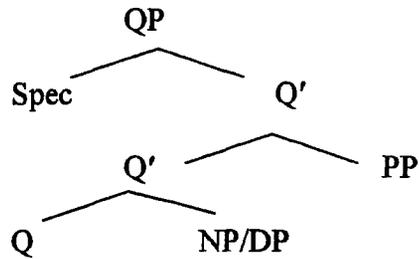
Giusti (1991) claims that the examples shown in (5) have the structures shown in (6):

(5) a. all the boys

   b. many boys

(6) a.   QP   b.   QP
         _____   _____
        Q   DP   Q   NP
       all   _____   *many*   *boys*
             D   NP
           the   *boys*
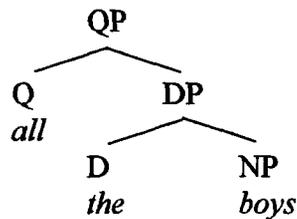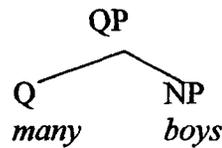
She notes that when an indefinite quantifier is preceded by a determiner as shown in (7), it behaves not as a functional head but as a modifier.   The structure is given below:

(7) the many boys

(8)   DP
            _____
           D   NP
         the   _____
                  many   NP
                            boys
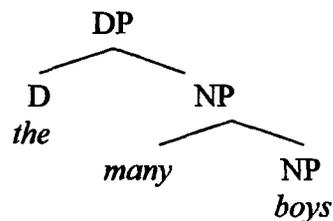
The analyses of QPs outlined thus far have been mainly based on data from Italian, English and Hebrew.

In what follows, I will examine the distribution and properties of Japanese

quantifiers and discuss whether they can head a projection, QP, within Japanese noun phrases. Although it is clear that Japanese NCs share many properties with quantifiers, I distinguish NCs from other quantifiers in this thesis, since NCs are different from other quantifiers in that the former semantically agree with the counted objects, while quantifiers such as *subete* 'all' do not show such semantic agreement with the object(s). Consider:

(9)   a. Taro-ga   hon-o   san-satsu   kat-ta.

        Taro-NOM   book-ACC three-CL$_{[book]}$ buy-PAST

        'Taro bought three books.' or 'Taro bought three of the books.'

    b. *Taro-ga   pen-o   san-satsu   kat-ta.

        Taro-NOM   pen-ACC three-CL$_{[book]}$ buy-PAST

        'Taro bought three pens.'

(10) a. Taro-ga   hon-o   subete   kat-ta.

        Taro-NOM   book-ACC all   buy-PAST

        'Taro bought all of the books.'

    b. Taro-ga   pen-o   subete kat-ta.

        Taro-NOM   pen-ACC all   buy-PAST

        'Taro bought all of the pens.'

(9a) is grammatical, in which the counted object *hon* 'book' and a classifier for books

-satsu agree, whereas (9b) is ungrammatical since the counted object *pen* 'pen' and the classifier for books *-satsu* do not agree. On the other hand, as shown in (10), *subete* 'all' can co-occur with any object, and thus (10a) and (10b) are both grammatical. In what follows, "Q" refers to quantificational expressions other than NCs in Japanese. Although most of the analyses offered for NCs in this chapter can be applied to Qs, I will attempt to provide a different account for Qs when NCs and Qs show syntactic differences.

The present chapter is organised as follows. Section 2.2 introduces the distribution of NCs and Qs in Japanese and present four types of constructions for NCs and three types of constructions for Qs. Terada's (1990) study of these constructions is summarised. In Section 2.3, I recast Terada's observations in the DP-framework. I will show from consideration of coordination data that an NC, Q and D can head projections within noun phrases in Japanese.

2.2 The distribution of NCs and Qs

This section outlines Terada's (1990) study on the distribution and interpretations of NCs and Qs. As mentioned in the introduction of this chapter, NCs can co-occur with an N in four formats, while Qs can do so in three formats.[2] In what follows, I will introduce Terada's analysis of each construction.

2.2.1 Positions of NCs and Qs

NCs and Qs share three constructions, and NCs occur in another construction which is

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[2]   This division of NCs follows Terada's (1990, Chapter 2).

not available for Qs.

First, an NC that follows a non-case marked noun can be precede a case-marker as in (11). Henceforth, the NC shown below is simplified as the "pre-case NC", since it is followed by a case-marker.

Pre-case NC

(11)   Gakusei san-nin-ga   ki-ta.

         student three-CL-NOM   come-PAST

         'Three students came.'

Qs can also appear in the same position. That is, the pre-case Q is observed in Japanese.

Second, an NC associated with the genitive case-marker *-no* can precede a semantic-head noun. The NC shown below is simplified as the "genitivised pre-nominal NC":

Genitivised pre-nominal NC

(12) San-nin-no   gakusei-ga   ki-ta.

       three-CL-GEN   student-NOM   come-PAST

  'Three students came (separately).' or 'A group of three students came (together).'

Notice that the genitivised pre-nominal NC and the following noun form an ambiguous subject as the translations show in (12). I will consider such an ambiguity in detail in section 2.3.2.1.

Note that, although a Q can replace the genitivised pre-nominal NC, it lacks such an ambiguity observed in (12). The unambiguity of the sequence of the genitivised pre-nominal Q and a noun is discussed in section 2.3.2.3.

Third, an NC can follow a case-marked noun. Such an NC is simplified as the "post-case NC", since it follows a case-marker. In (13), the noun *gakusei* 'student' is associated with the nominative case-marker –*ga* and the post-case NC *san-nin* 'three-CL' follows it:

Post-case NC

(13) Gakusei-ga   san-nin   ki-ta.

      student-NOM   three-CL   come-PAST

      'Three students came.' or 'Three of the students came.'

Notice that the sequence of a case-marked noun and the post-case NC is again ambiguous.

It should be noted that when the post-case NC in (13) is replaced with a Q, the sequence is not ambiguous.

Fourth, an NC can precede a case-marked noun, while a Q cannot, as pointed out by Terada (1990: 64). The NC in (14a) is simplified as the "bare pre-nominal NC". On the contrary, the "bare pre-nominal Q" is ungrammatical as shown in (14b):

Bare pre-nominal NC

(14) a. San-nin   gakusei-ga   ki-ta.

       three-CL   student-NOM   come-PAST

       'Three students came.'

Bare pre-nominal Q

    b. *Subete   gakusei-ga   ki-ta.

       all   student-NOM   come-PAST

       'All students came.'

Terada (1990) argues that the first two types of NC, the pre-case NC and the genitivised pre-nominal NC, are distinct from the latter two, the post-case NC and the bare pre-nominal NC. The contrasts between them observed by Terada are summarised in the following.[3]

2.2.2 Syntactic properties of NCs

Terada observes the following contrasts between the pre-case NC and the genitivised pre-nominal NC on the one hand and the post-case NC and the bare pre-nominal NC on the other.

First, the case-marker that follows the sequence of a non-case marked noun and the pre-case NC can be replaced with a postposition such as *-ni* 'to' as in (15):

---

[3] Terada's analysis of noun phrases is based on the traditional NP-analysis, rather than on the DP-hypothesis by Abney (1987). Thus, in her analysis, NP is the maximal projection of a noun phrase.

Pre-case NC

(15) Takashi-wa   [kobuta   san-biki-ni]   okashi-o   age-ta.

      Takashi-TOP   piglet   three-CL-to   sweet-ACC   give-PAST

      'Takashi gave sweets to three piglets.'

The case-marker that follows the sequence of the genitivised pre-nominal NC and a noun can also be replaced with the same postposition as in (16):

Genitivised pre-nominal NC

(16) Takashi-wa   [san-biki-no   kobuta-ni] okashi-o   age-ta.

      Takashi-TOP   three-CL-GEN   piglet-to   sweet-ACC give-PAST

      'Takashi gave sweets to three piglets.'

On the other hand, the case-marker that precedes the post-case NC cannot be replaced with the postposition as shown below:

Post-case NC

(17) *Takashi-wa   [kobuta-ni san-biki]   okashi-o   age-ta.

      Takashi-TOP   piglet-to   three-CL   sweet-ACC give-PAST

      'Takashi gave sweets to three piglets.'

Likewise, the case-marker of a noun preceded by the bare pre-nominal NC cannot be replaced with the postposition:

Bare pre-nominal NC

(18) *Takashi-wa   [san-biki   kobuta-ni]   okashi-o   age-ta.

    Takashi-TOP   three-CL   piglet-to   sweet-ACC give-PAST

    'Takashi gave sweets to three piglets.'

Secondly, the sequence of a non-case marked noun and the pre-case NC can be preceded by an adjective.   Consider:

Pre-case NC

(19) Nigiyakana   [josei   san-nin-ga]   ki-ta.

    noisy   woman   three-CL-NOM   come-PAST

    'Three noisy women came.'

The sequence of the genitivised pre-nominal NC and a noun can also be preceded by an adjective as in (20):[4]

---

[4] The sequence of the genitivised pre-nominal Q and a noun cannot be preceded by an adjective as in (i):

Genitivised pre-nominal Q
(i)   *Nigiyakana [subete-no   josei-ga]   ki-ta.
       noisy   all-GEN   woman-NOM come-PAST
       'All noisy women came.'

However, if an adjective appears between the genitivised pre-nominal Q and a noun as (ii), the sentence becomes acceptable.

Genitivised pre-nominal Q
(ii)   [Subete-no   nigiyakana   josei-ga]   ki-ta.
        all-GEN   noisy   woman-NOM come-PAST
        'All noisy women came.'

I will discus the genitivised pre-nominal Q in section 2.3.2.

Genitivised pre-nominal NC

(20)   Nigiyakana   [san-nin-no   josei-ga]   ki-ta.

       noisy   three-CL-GEN   woman-NOM   come-PAST

      'Three noisy women came.'

The sequence of a case-marked noun and the post-case NC can also be preceded by an adjective as in (21), but that of a noun and the bare pre-nominal NC cannot as in (22):

Post-case NC

(21) Nigiyakana [josei-ga   san-nin]   ki-ta.

     noisy   woman-NOM   three-CL   come-PAST

      'Three noisy women came.' or 'Three of the noisy women came.'

Bare pre-nominal NC

(22) *Nigiyakana   [san-nin   josei-ga]   ki-ta.

     noisy   three-CL   woman-NOM   come-PAST.

Terada points out that *nigiyakana* 'noisy' in (19) modifies the whole three women, while *nigiyakana* 'noisy' in (20), can modify individual women as well as the whole three women.   (21) is different from (19) and (20) in that *nigiyakana* 'noisy' in (21) does not modify the whole three women.

Thirdly, the sequence of a non-case marked noun and the pre-case NC and that of

the genitivised pre-nominal NC and a noun can have a group reading, while the sequence of a case-marked noun and the post-case NC and that of the bare pre-nominal NC and a case-marked noun cannot.[5] As shown below, the pre-case NC and the genitivised pre-nominal NC can co-occur with the verb *kazoeru* 'count' which requires the counted objects to be a group:

Pre-case NC

(23) Takashi-wa   kootei-de [seito   gojuu-nin-o]   kazoe-ta.

Takashi-TOP   ground-in student   fifty-CL -ACC count-PAST

'Takashi counted fifty students in the school ground.'

Genitivised pre-nominal NC

(24) Takashi-wa kootei-de [gojuu-nin-no   seito-o]   kazoe-ta.

Takashi-TOP ground-in   fifty-CL-GEN   student-ACC   count-PAST

'Takashi counted fifty students in the school ground.'

However, the post-case NC and the bare pre-nominal NC cannot co-occur with this verb:

---

[5] Note that the sequence of the genitivised pre-nominal NC and a noun can also have a distributive reading, whereas that of a bare noun and the pre-case NC has only a group reading. I will return to the ambiguity of the genitivised pre-nominal NC in section 2.3.2.

Post-case NC

(25) *Takashi-wa   kootei-de   [seito-o   gojuu-nin]   kazoe-ta.

       Takashi-TOP   ground-in   student-ACC   fifty-CL   count-PAST

Bare pre-nominal NC

(26) *Takashi-wa   kootei-de   [gojuu-nin seito-o]   kazoe-ta.

       Takashi-TOP   ground-in   fifty-CL   student-ACC   count-PAST

Terada notes that the following test also confirms that the sequence of a non-case marked noun and the pre-case NC and that of the genitivised pre-nominal NC and a noun can have a group reading, while the sequence of a case-marked noun and the post-case NC and that of the bare pre-nominal NC and a case-marked noun do not.   In the given context, the subject must refer to a group of individuals so that the individuals can "scatter" into four directions:

Pre-case NC

(27) Shi-hoo-ni   [ninja hachi-nin-ga]   ton-da.

       four-direction-to ninja eight-CL-NOM fly-PAST

       'Eight ninjas flew away in four directions.'

Genitivised pre-nominal NC

(28) Shi-hoo-ni   [hachi-nin-no   ninja-ga]   ton-da.

       four-direction-to eight-CL-GEN   ninja-NOM   fly-PAST

       'Eight ninjas flew away in four directions.'

Post-case NC

(29) ?*Shi-hoo-ni   [ninja-ga   hachi-nin]   ton-da.

      four-direction-to   ninja-NOM eight-CL   fly-PAST

Bare pre-nominal NC

(30) ?*Shi-hoo-ni   [hachi-nin ninja-ga]   ton-da.

      four-direction-to eight-CL ninja-NOM   fly-PAST

In (27) and (28), a group reading is possible whereby there is a group of eight ninjas and they scatter in different directions. (29) and (30) are not acceptable with the same reading as (27) and (28). This shows that the sequence that contains either the post-case NC or the bare pre-nominal NC lacks a group reading.

From the above contrasts between the pre-case NC and the genitivised pre-nominal NC on the one hand and the post-case NC and the bare pre-nominal NC on the other, Terada (1990:21) proposes that the pre-case NC and the genitivised pre-nominal NC appear within an NP, assuming that an NP has a group reading under the traditional NP-analysis. She also proposes that the post-case NC is the head Q of QP, and that the bare pre-nominal NC appears in the observed position as a consequence of NC-raising from within QP.

Terada (1990:18) points out that the pre-case NC and the genitivised pre-nominal NC are distinguished from the post-case NC and the bare pre-nominal NC in that only

the latter show weak crossover effects (Saito & Hoji 1983). If NCs can head a maximal projection, QP, the QP is expected to undergo Quantifier Raising (QR). She predicts that if a QP in the direct object position crosses over a subject that contains an item co-indexed with the QP at LF, the sentence should show weak crossover effects. Consider:

(31) Jibun$_i$-no   shikake-ta   wana-ga   kekkatekini

     self-GEN   place-PAST   trap-NOM   consequently

     Takashi-o$_i$ otoshiireru   koto-ni   nat-ta.

     Takashi-ACC   entrap   fact-to   become-PAST

     'The trap that he placed consequently entrapped Takashi.'

In (31), *jibun* 'self', which is co-indexed with the object *Takashi*, appears in the subject position. This sentence does not show degraded acceptability, since the object *Takashi* is not a QP and does not undergo QR, i.e., no weak crossover effect shows up. Given this, Terada examines sentences in which objects contain an NC. Consider the objects in the following examples that contain (i) the pre-case NC as in (32) or (ii) the genitivised pre-nominal NC as in (33):

Pre-case NC

(32) (?) Jibun_i-no   shikake-ta   wana-ga   kekkatekini

self-GEN   place-PAST   trap-NOM   consequently

[otoko   san-nin-o]_i   otoshiireru koto-ni   nat-ta.

man   three-CL-ACC   entrap   fact-to   become-PAST

(Lit.) 'The trap that self placed consequently entrapped the three men.'

Genitivised pre-nominal NC

(33) Jibun_i-no shikake-ta   wana-ga   kekkatekini

self-GEN   place-PAST   trap-NOM   consequently

[san-nin-no   otoko-o]_i   otoshiireru koto-ni   nat-ta.

three-CL-GEN   man-ACC   entrap   fact-to   become-PAST

(Lit.) 'The trap that self placed consequently entrapped three men.'

Neither (32) nor (33) show degraded acceptability. Terada explains the acceptability of (32) and (33) as follows. Since the pre-case NC and the genitivised pre-nominal NC are part of NPs, the whole NPs do not undergo QR, and thus they do not show weak crossover effects.

Next, consider the post-case NC and the bare pre-nominal NC in the same context:

Post-case NC

(34) *Jibun$_i$-no shikake-ta   wana-ga   kekkatekini

self-GEN place-PAST   trap-NOM consequently

[otoko-o   san-nin]$_i$ otoshiireru koto-ni   nat-ta.

man-ACC three-CL   entrap   fact-to   become-PAST

Bare pre-nominal NC

(35) *Jibun$_i$-no   shikake-ta   wana-ga   kekkatekini

self-GEN   place-PAST   trap-NOM consequently

[san-nin   otoko-o]$_i$ otoshiireru koto-ni   nat-ta.

three-CL man-ACC entrap   fact-to   become-PAST

(34) and (35) show that the objects containing either the post-case NC or the bare pre-nominal NC show degraded acceptability.   Terada suggests that the post-case NC is the head of QP, and thus the QP undergo QR, showing the weak crossover effects and degraded acceptability as predicted.   She further claims that the bare pre-nominal NC originates from the post-case NC within the QP and thus the sequence of the bare pre-nominal NC and a case-marked noun also shows the weak crossover effects.

So far, we have seen that the sequence of a non-case marked noun and the pre-case NC and that of the genitivised pre-nominal NC and a noun show NP-like properties, whereas the sequence of a case-marked noun and the post-case NC and that of the bare pre-nominal NC and a case-marked noun show QP-like properties. Keeping Terada's distinction between the former two types of NC and the latter two

types of NC, I reconsider the above data discussed in Terada (1990) in the DP framework.

2.3 My analysis of the constructions containing NCs and Qs

2.3.1 Pre-case NC

I start off with the analysis of the pre-case NC.[6]   An example is repeated below:

(36) [Gakusei   san-nin-ga]   ki-ta

        student   three-CL-NOM come-PAST

       'Three students came.'

In this section, I focus on the fact that the noun before the post-case NC is not case-marked.[7]

2.3.1.1 Case-markers, postpositions and bare nouns

It is important to note that a noun that precedes the pre-case NC is extraordinary since noun phrases are generally associated with at least an optional case-marker or a postposition in sentences in Japanese.   I call such a non-case marked noun phrase followed by the pre-case NC a "bare noun" in this chapter.

Let us compare bare nouns with other ordinary noun phrases as arguments.   A distinctive property of noun phrases as arguments in Japanese is that they are generally

---

[6]   Since the pre-case NC and the pre-case Q show the same distribution, I will limit myself to the analysis of the pre-case NC in this section, assuming that the same analysis can be applied to the pre-case Q.

[7]   This type of construction is not covered in Kawashima (1994, 1998).   In Kawashima's analysis, the head NC takes only a DP as its complement.   Her analysis does not explain the various properties of the pre-case NC observed in this chapter.

associated with a case-marker or a postposition (P), contrary to bare nouns. Consider (37):

(37) Taro*(-ga)   Hanako*(-ni)   tegami*(-o)   okut-ta.

      Taro-NOM   Hanako-to   letter-ACC   send-PAST

      'Taro sent a letter to Mary.'

(37) shows that case-markers and Ps most often cannot be omitted.

Even within the noun phrase structure, noun phrases preceding some others are likely to be associated with the genitive case-marker *-no*. Consider (38):

(38) Taro-ga   [Hanako*(-no)   hon-o]   nakushi-ta.

      Taro-NOM   [Hanako-GEN   book-ACC]   lose-PAST.

      'Taro lost Hanako's book.'

In (38), the object phrase consists of a possessor *Hanako*, associated with the genitive case-marker *-no*, and a possessee *hon* 'book', and the whole object phrase is associated with the accusative case-marker *-o*. The object phrase becomes ungrammatical if the possessor phrase is not associated with the genitive case-marker.

Both the agent and theme arguments of a derived noun are also associated with the genitive case-marker in Japanese as in (39). It is not possible to omit these genitive case-markers from the noun phrase:

(39) [Taro*(-no)   rekishi*(-no)   kenkyu-ga]   hihans-are-ta.

Taro-GEN   history-GEN   research-NOM   criticise-PASSIVE-PAST[8]

'Taro's research on history was criticised.'

Further, attributive nominals are also associated with the genitive case-marker when they modify nouns, and the case-marker cannot be omitted as in (40) and (41).

(40) Taro-ga   [men*(-no)   jaketto-o]   kat-ta.

Taro-NOM   [cotton-GEN   jacket-ACC]   buy-PAST

'Taro bought a cotton jacket.'

(41) [Mahoganii*(-no)   tsukue-wa] totemo   taka-katta.

[mahogany-GEN   desk-TOP] very   expensive-was[9]

'A mahogany desk was very expensive.'

It follows from the above observation that noun phrases are often associated with case-markers or with Ps. Therefore, a bare noun that is not associated with any case-marker should be treated differently from these ordinary noun phrases.

2.3.1.2 Terada's (1990) analysis of the pre-case NC

For the pre-case NC, Terada (1990:30) stipulates that a bare noun and the pre-case NC form an NP, although she does not show its internal structure. The pre-case NC in question may be analysed as the noun that heads the whole phrase, NP, and the bare

---

[8]   PASSIVE = a passive morpheme
[9]   TOP = a topic marker

noun may be in Spec of NC under her account. In other words, under Terada's

analysis, the pre-case NC is considered to be categorically ambiguous: it can appear as a

noun and as a Q. Under her approach, the pre-case NC in (36) may appear within the

following structure:

(42)

```
              NP
            /    \
         NP        N'
       gakusei   /    \
       student         N (= NC)
                       san-nin-ga
                       three-CL-NOM
```
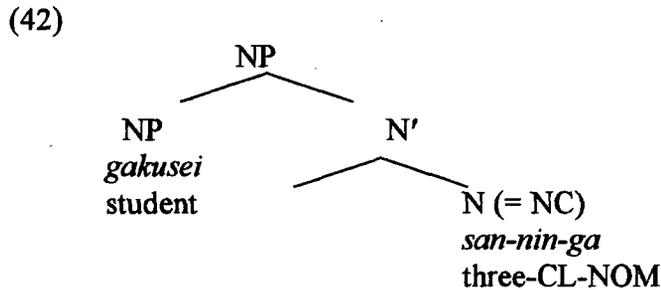
However, this idea runs into trouble when we recall that noun phrases preceding

other noun phrases are generally associated with the genitive case-marker *-no* in

Japanese. As shown in examples (38)-(41), possessor phrases, arguments and

attributive noun phrases, all of which precede semantic-head nouns, are associated with

the genitive case-marker *-no*.

Note that the bare noun followed by the pre-case NC is never associated with the

genitive case-marker as illustrated below:[10]

(43) [Gakusei (??/*-no)   san-nin-ga]   ki-ta.

       student   -GEN   three-CL-NOM come-PAST

       'Three students came.'

---

[10] The ungrammatical example containing the genitive case-marker in (43) may become acceptable if
we take it as a partitive construction, although it still shows degraded grammaticality (Kawashima 1994).
Note that if there is no genitive case-marker *-no* in (43), a partitive interpretation is not obtained. Thus,
it is clear that the grammatical example in (43), which lacks a partitive interpretation, is not derived by
deleting the genitive case-marker. For partitive constructions in Japanese, see Chapter 3 and Chapter 4.

Therefore, I claim that the bare noun followed by the pre-case NC must stand alone without any case-marker.

2.3.1.3 A bare noun as the most embedded NP

It is clear that the sequence of a bare noun and the pre-case NC functions as an argument in sentences. Following Longobardi (1994), Szabolcsi (1994) and Stowell (1989), I adopt the position here that arguments are DPs, and that an NC can be an intermediate head between DP and NP, which is the locus of number, much as the Num head (Ritter 1991, 1992, Giusti 1991). I propose to assign the following structure (44) to the sequence of a bare noun and the pre-case NC in (36) (Oga 2001):[11]

(44)
```
                    DP-ga (NOM)
                   /          \
              NCP               D
             /    \
          NP        NC
         /  \      san-nin
     gakusei       three-CL
     student
```

---
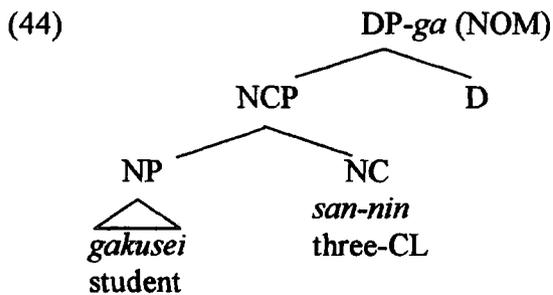
[11] In Kitahara (1993b) and Kawashima (1994, 1998), the pre-case NC, the post-case NC and the bare pre-nominal NC occupy the same position in the D-structure. I will argue in the following section that the structure shown in (44) is assigned only to the pre-case NC; for the structures of the post-case NC and the bare pre-nominal NC, see section 2.3.3 and 2.3.4.

In (44), the bare noun *gakusei* 'student' occupies the lexical projection, NP; the NC *san-nin* 'three-CL' is the intermediate head NC which takes an NP as its complement.

I suggest that D does exist as the topmost head and it takes an NCP as its complement, although it is not phonetically realised.[12]

2.3.1.4 A group reading of the sequence of a bare noun and the pre-case NC

Let us now consider how the proposed structure (44) for the sequence of a bare noun and the pre-case NC can obtain a group reading observed in section 2.2.2. I will argue that a group reading of the sequence in question is a consequence of the interaction between the NP, the NC head and the D head within the proposed structure.

Longobardi (1994:634) argues that within the traditional DP-structure, in which the D head takes an NP as its complement, the NP has a kind-referring nature, and the head D has the function of singularising the kind referred to by the NP. (see also Stowell 1989, 1991; Szabolcsi 1987, 1994). Given this, Longobardi illustrates the interpretation of a DP *the table* as follows:

---

[12]   J. Emonds (per. comm.) raises the possibility that Japanese classifiers are Ds and the classifier *-nin* in (44) appears in D as the topmost head. This idea is in line with Cheng & Sybesma's (1998, 1999) proposal that Chinese classifiers can stand alone as a head, Cl, that corresponds to the D head of the DP structure. Their proposal is supported by the fact that a classifier in Cantonese and Mandarin can co-occur with a noun phrase, without a numeral, as illustrated below:

(i)   [Zek   gau] zungji sek   juk.   (Cantonese)
         CL   dog   like   eat   meat
         'The dog likes to eat meat.'

(ii)   Wo   xiang   mai   [ben shu]. (Mandarin)
         I   would-like buy   CL   book
         'I would like to buy a book.'

An obvious difference between Chinese and Japanese is that Japanese classifiers cannot stand alone: a classifier must co-occur with a numeral. Thus, I maintain that a classifier and a numeral form an NC, and that classifiers are not accounted for as heads. I will discuss Japanese D in detail in Chapter 5.

(45) *the table*

   the x, such that x belongs to the class of tables

Following Longobardi, I propose that within the structure shown in (44), the bare noun, as a lexical projection NP, has a kind-referring function, and the topmost head D has a singularising function. The question that immediately arises is: what does the NC head do in (44)? I claim that the NC, as the locus of number, functions to indicate the number of instances picked out of the range defined by the NP. This function of the NC might sound inconsistent with the "singularising" function of D. However, I would like to suggest that within the proposed structure (44), the singularising function of D is to identify its complement NCP as "a single group". Hence, the sequence of a bare noun and the pre-case NC can refer to a group of *x* that belongs to the class of NP.

In the following sections, I will demonstrate that the proposed layered structure is supported by coordination facts.

2.3.1.5 NCP-level coordination

In this section, I show evidence for the proposed layered structure (44) for the sequence of a bare noun and the pre-case NC. My argument is based on two types of coordination found within the sequence.

Heycock & Zamparelli's (1999, 2000a, 2000b) seminal work on coordination inside the noun phrase provides a new insight on the internal layered structure of noun phrases and its mapping to the semantics of noun phrases in English and Italian.

Assuming that NumP is an intermediate functional projection between DP and NP in English, they present an interesting set of coordination data in English shown in (46) and (47). From (46), we understand that eight people entered the bar. From (47), on the other hand, we understand that four people entered the bar:

Heycock & Zamparelli (2000a)

(46) Four men and four women walked into a bar.   *Total = 8*

(47) Four men and women walked into a bar.   *Total = 4*

In terms of the syntactic structure of (47), one might claim that it is derived from (46) by deleting the second *four*. However, a question arises as to the difference in the total number of people between (46) and (47). This leads Heycock & Zamparelli to claim that (47) is not derived from (46) and suggest that coordination in (47) takes place at a lower level than the NumP-level. That is, there are at least two levels where coordination can take place within noun phrases in English.

Given that the NC head shares many properties with Num, we predict that the same contrast in coordination between (46) and (47) is found in Japanese noun phrases. The prediction is borne out: two types of coordination are possible within noun phrases in Japanese, which are parallel to examples (46) and (47). The first type of coordination shows that two sequences of a bare noun and the pre-case NC can be coordinated as shown below (see Kitahara 1993b):

(48)   [[[dansei yo-nin] to   [josei   yo-nin]]-ga]   baa-ni   hai-tta.

man   four-CL   and   woman four-CL-NOM   bar-to   enter-PAST

'Four men and four women walked into a bar.'

In (48), [*dansei yo-nin*] 'man four-CL' and [*josei yo-nin*] 'woman four-CL' are coordinated by the conjunction -*to* 'and', and the total number of the people who entered the bar is eight. Notice that the reading of (48) is parallel to the English example (46). Kitahara (1993b) claims that two DPs are coordinated here. However, it is important to notice that a case-marker is and must be missing from the first phrase.

In line with Aoyagi (1998), I assume that Japanese D bears a Case feature together with a whole set of formal features.[13] Provided that arguments are DPs and D bears a Case feature such as an [NOM] Case feature, the first phrase *dansei yo-nin* 'man four-CL' that lacks a case-marker is not best analysed as a DP.[14] Given that two constituents of the same kind are subject to coordination (Chomsky 1975), I would like to suggest that two coordinated sequences in (48) are NCPs, rather than DPs. In other words, coordination takes place at a lower level than DP, i.e., at the NCP-level. The coordination is illustrated in (49):

---

[13]   Following Murasugi (1991), Kitahara (1993b) assumes that the pre-case NC is a nominal category, which may bear a Case feature. However, I maintain that a Case feature is in D.

[14]   This does not imply that case-markers are Ds (cf. Tateishi 1989). Note that the accusative case-marker can drop when the accusative object phrase is adjacent to V in Japanese (Saito 1985), but the interpretation of the object phrase is not affected by case-marker dropping. Given this, I assume that the case-marker is a morphological realisation of a Case feature in D.

(49)   *Total = 8 people*

```
                    DP-ga (NOM)
                   /\
              NCP        D[NOM]
             /    \
      NCP₁      CONJ    NCP₂
      /  \        to    /  \
   NP     NC   and  NP      NC
  dansei  yo-nin   josei    yo-nin
  man     four-CL  woman    four-CL
```
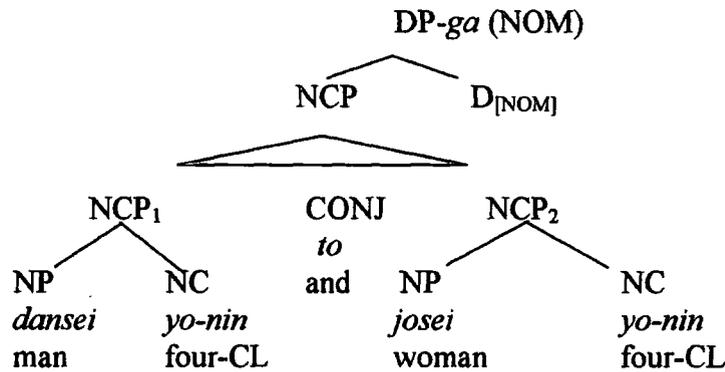
In (49), two NCPs are coordinated and a new NCP is formed.[15]   D with a Case feature
is above the NCP-layer and it takes the newly formed NCP as its complement.   Hence,
the first sequence is not associated with a case-marker, since the first NCP does not
contain D.[16]

2.3.1.6 NP-level coordination

The second type of coordination is that two bare nouns are coordinated and they are
followed by the pre-case NC:

(50) [[[[dansei] to [josei]]   yo-nin]-ga]   baa-ni   hai-tta.   *Total = 4*

man   and   woman   four-CL-NOM bar-to   enter-PAST

'Four men and women walked into a bar.'

---

[15]   I will leave the internal structure of the NCP open here.   For a binary branching structure for
coordination, see Munn (1993).

[16]   The coordination of two sequences of a bare noun and the pre-case Q is also possible as shown below:

(i)   [[[Dansei   subete]   to   [josei   hotondo]]-ga]baa-ni hai-tta.
       man   all   and   woman   most- NOM   bar-to enter-PAST
       'All men and most women walked into a bar.'

I claim that the structure for (i) is parallel to the structure (49).

In (50), the conjunction *-to* coordinates two bare nouns; *dansei* 'man' and *josei* 'woman'. Notice that both *dansei* and *josei* do not bear plurality, contrary to the English example (47).[17] I would like to claim that coordination takes place at a lower level than the NCP in (50): namely, at the NP-level. The schematised structure of (50) is as follows:

(51) *Total = 4*

```
                          DP-ga (NOM)
                            /\
                   NCP          D [NOM]
                   /\
            NP          NC
          /‾‾\          yo-nin
      NP₁  CONJ  NP₂    four-CL
    dansei  to   josei
     man   and  woman
```
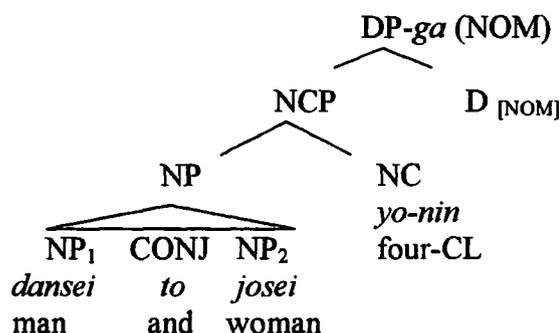
This structure is in accordance with Heycock & Zamparelli's (2000a) claim that coordination in (47) can take place at a lower level than the NumP-level in English.[18]

In this section, I have provided the coordination data in favour of the proposed three-layered structure (44) for the sequence of a bare noun and the pre-case NC. The data has confirmed that there exist the DP-level, the NCP-level, and the NP-level within

---

[17] Heycock & Zamparelli (2000a) propose that there are two functional projections between N and D: NumP and Plural Phrase (PlP). Based on their cross-linguistic analysis of bare NP coordination, they argue that NumP hosts the so-called weak determiners such as the indefinite article and cardinal numerals, and that the *Pl* head is where pluralities are constructed from the denotation of the NP. The issue of a plural head is outside the scope of this chapter, and I leave it open.

[18] In English, two DPs can be coordinated as follows:

(i) [[Mary] and [John]] went shopping.

(ii) The thief stole [[my bag] and [John's camera]].

In Japanese, case-markers must drop before the conjunction *-to*. This may suggest that it is not the case that two DPs are coordinated in Japanese. I might suggest that this is due to a language-specific property of Japanese D. Further cross-linguistic research is necessary on this issue.

the sequence of a bare noun and the pre-case NC.[19]

2.3.1.7 Adjectives and the pre-case NC

In this section, I will examine the position where adjectives occur in the proposed

layered structure (44) for the sequence of a bare noun and the pre-case NC. As noted

by Terada (1990), an adjective can precede the bare noun as below:

(52) Nigiyakana   [josei   san-nin-ga]   ki-ta. (=19)

      noisy   woman   three-CL-NOM   come-PAST.

      'Three noisy women came.'

A question arises as to where the adjective is adjoined. On independent grounds,

Murasugi (1991) proposes that adjectives are adjoined to some projection of N. This is

confirmed by the following test. As pointed out by Kamio (1983) and Murasugi

(1991), an adjective can license the pro-form *no* 'one' in Japanese as shown below:

(53) a. akai   shatsu

       red   shirt

       'the red shirt'

---

[19] Longobardi (1994) argues that N sometimes raises to D in order to license the empty D position overtly (in Italian) or covertly (English). One might argue that N undergoes head-raising to D in Japanese at LF. But since I have no empirical evidence to offer to support the view of N-to-D raising at LF in Japanese, I leave the issue open here.

b. akai   no

   red   one

   'the red one'

Murasugi (1991) claims that the pro-form *no*, like *one* in English, is licensed by modifiers that are sisters to some projection of N.   (53) thus suggests that adjectives may be adjoined to NP, and can license the pro-form.[20]   Therefore, it is reasonable to claim that adjectives that precede a bare noun are adjoined to the most embedded lexical projection, NP.   Schematically:

(54)   DP-*ga* (NOM)

                            NCP   D[NOM]

                    NP   NC
                                  san-nin
            Adj   NP   three-CL
         nigiyakana   *josei*
            noisy   woman
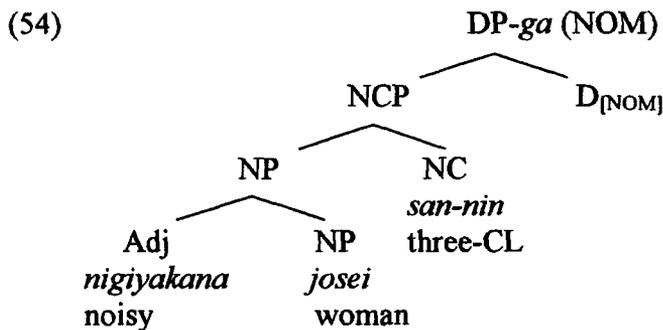
The proposed structure is supported by coordination facts again.   Consider:

(55) [[[[Nigiyakana josei] -to   [genkina kodomo]] kyuju-nin]-ga]   atsumat-ta.

       noisy   woman and cheerful child   ninety-CL-NOM gather-PAST

       (Lit.) 'Ninety noisy women and cheerful children gathered.'

---

[20]   Murasugi (1991) assumes that an adjective is adjoined to N', and a restrictive relative clause is adjoined to NP.   Since I dispense with bar-level categories under the traditional X-bar schema, I simply assume, without discussion, that an adjective is adjoined to NP first, and a restrictive relative clause is adjoined higher than the adjective.

(55), where [*nigiyakana josei*] 'noisy woman' and [*genkina kodomo*] 'cheerful child'

undergo coordination, describes a situation that noisy women and cheerful children got

together and the total number of people was ninety. This indicates that coordination

takes place at a lower level than the NCP-level, i.e., the NP-level, and the adjectives

nigiyakana 'noisy' and *genkina* 'cheerful' are within the first and the second NPs,

respectively. The structure of the subject in (55) is illustrated below:

(56)

```
                          DP-ga (NOM)
                          ╱      ╲
                  NCP              D[NOM]
                  ╱  ╲
              NP       NC
           ╱      ╲    kyuju-nin
      NP       CONJ   NP ninety-CL
    ╱   ╲      to    ╱    ╲
  Adj    NP   and  Adj      NP
nigiyakana josei  genkina  kodomo
noisy     women  cheerful  child
```
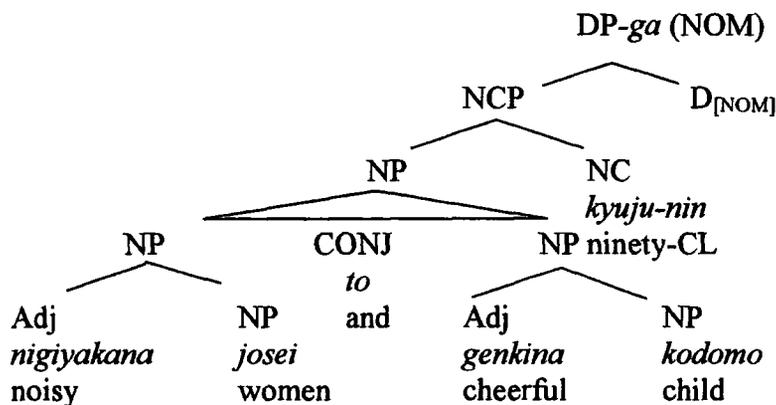
This also suffices to support my proposal that the sequence of a bare noun and the

pre-case NC has a three-layered structure and that an adjective is adjoined to NP.[21]

In this section, I have proposed that the sequence of a bare noun and the pre-case

NC is best analysed as a DP, which has a three-layered structure containing an NP, the

intermediate head NC and the topmost head D. The coordination facts have confirmed

---

[21]   J. Emonds (per. comm.) points out that the following example from English supports my analysis of
the pre-case NC:

(i)   *Those [young ten men] and [older five women] drank a lot of beer.

This suggests that [*ten men*] and [*five women*] are accounted for as NumPs and adjectives such as *young*
and *older* cannot be adjoined to those NumPs.

that there exist three levels; the NP-level, the NCP-level and the DP-level. I have also

suggested that the interaction between NP, NC and D gives rise to a group reading of the

sequence of a bare noun and the pre-case NC.

2.3.2 Genitivised pre-nominal NC and Q

This section deals with the sequence of the genitivised pre-nominal NC and a noun and

that of the genitivised pre-nominal Q and a noun. As is observed in the literature, the

former is ambiguous, whereas the latter is not (Kamio 1983). Consider:

Genitivised pre-nominal NC

(57) a. Taro-ga   [san-bon-no   wain-o]   kat-ta.

Taro-NOM   three-CL-GEN   wine-ACC buy-PAST

(i) 'Taro bought a pack of three bottles of wine.'

(ii) 'Taro bought three bottles of wine.'

Genitivised pre-nominal Q

b. Taro-ga   [subete-no   wain-o]   kat-ta.

Taro-NOM   all-GEN   wine-ACC buy-PAST

'Taro bought all the wine.'

Below, I will show that the (un)ambiguity is directly relevant to the internal structures

of each sequence. Before doing so, I will briefly repeat the properties of the sequences

in question that are pointed out by Terada (1990).

The sequence of the genitivised pre-nominal NC and a noun shares some syntactic properties with that of a bare noun and the pre-case NC I discussed in the previous section: the case-marker can be replaced with a postposition as in (16), the sequence bears a group reading as in (24) and it does not show any weak crossover effect as in (33). Having seen these shared properties, I assume with Terada that the genitivised pre-nominal NC and the pre-case NC are embedded within the same nominal category.

I have proposed in the previous section that the pre-case NC is the intermediate head within a DP. Suppose here that the sequence of the genitivised pre-nominal NC and a noun is also a DP whose topmost head is D. Let us next consider the categorial status of the genitivised pre-nominal NC and its position. We have seen in the previous section that the pre-case NC, as an intermediate head, is not associated with any case-marker. This indicates that the genitivised pre-nominal NC is not best accounted for as an intermediate head since it is associated with the genitive case-marker. It is also clear that the genitivised pre-nominal NC is not a DP-internal argument such as an agent argument or a theme argument of a derived N, since it does not bear any thematic role.

As shown in (40) and (41), attributive noun phrases are associated with the genitive case-marker in Japanese. This leads me to suggest that the genitivised pre-nominal NC is a maximal projection, an NCP, associated with the genitive case-marker, and that it modifies the following noun as attributive noun phrases do in (40) and (41).[22]

A question arises as to which the genitivised pre-nominal NC is adjoined, either to DP or to NP. I will show in the following that the genitivised pre-nominal NC can be

---

[22] This analysis implies that the *Q-of-N* sequences in English and the sequence of the genitivised pre-nominal NC and a noun in Japanese have quite different structures (cf. Murasugi 1991).

adjoined either to DP or to NP, while the genitivised pre-nominal Q can be adjoined only to DP.

2.3.2.1 Two structures for the genitivised pre-nominal NC

Let us consider the genitivised pre-nominal NC. As shown in (57a), the genitivised pre-nominal NC is ambiguous: it has either (i) a group reading or (ii) a distributive reading. Given this observation, Kamio (1983) proposes that there are two types of genitivised pre-nominal NC: one appears in Spec of NP, and the other appears under NP', an intermediate level between the head N and the topmost NP in his analysis. He claims that the distinction between the group and the distributive interpretations of the genitivised pre-nominal NC reflects its position. His structure for the sequence of the genitivised pre-nominal NC and a noun is illustrated below:

(58) Kamio (1983)

```
              NP
          ___/  \___
        /           \
      NCP₁           NP'
                  __/  \__
                /         \
             NCP₂          N
```
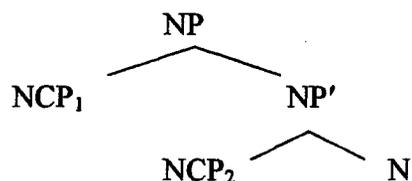
He suggests that NCP_1 in Spec of NP expresses number while NCP_2 under NP' is just an attributive phrase.

Partly retaining Kamio's idea, I would like to propose that the genitivised pre-nominal NC can appear in two positions; namely, it is adjoined either to DP or to NP. In what follows, I will show that the reading of the genitivised pre-nominal NC reflects

its position.

In the previous section, I have argued that the group reading of the sequence of a bare noun and the pre-case NC is obtained as the head D singularises its complement NCP as a group. Extending this idea, I claim that D can also singularise its complement NP as a group when the genitivised pre-nominal NC is adjoined to NP. I propose the following structure for the sequence of the genitivised pre-nominal NC and a noun with a group reading.[23]

(59)

```
                    DP
                   /  \
              NP        D[Case]
             /  \
         NCP      NP
       san-nin-no   gakusei
       three-CL-GEN  student
```
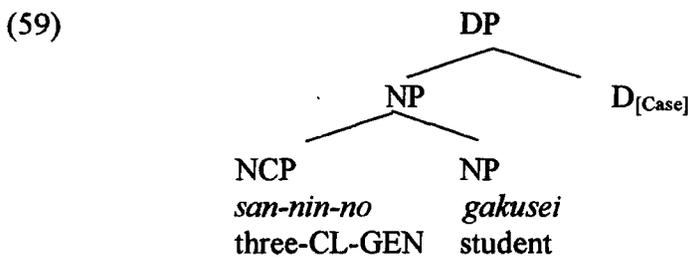
In this structure, NCP presents the number of individuals and D has a function to singularise three individuals denoted by the upper NP as a group.

Let us turn to the other reading: a distributive reading. I suggest that the genitivised pre-nominal NC is adjoined directly to DP when the sequence of the genitivised pre-nominal NC and a noun has a distributive reading. The schematised structure is below:

---

[23] One might argue that the noun *gakusei* 'student' in (59) is the head N. Note, however, that another modifier can appear between the NCP and the noun, keeping a group reading as shown below:

(i) San-nin-no   daaramu-daigaku-no   gakusei
     Three-GEN   Durham-University-GEN student
     'Three students of Durham University'

This suggests that the category of the noun *gakusei* 'student' is more than just N, i.e. NP, and the genitivised NC, as a modifier, is adjoined to NP or to DP.

(60)

```
                    DP
                 ___|___
                /        \
              NCP         DP
          san-nin-no    __|__
                       /     \
       three-CL-GEN  NP       D[Case]
                     gakusei
                     student
```
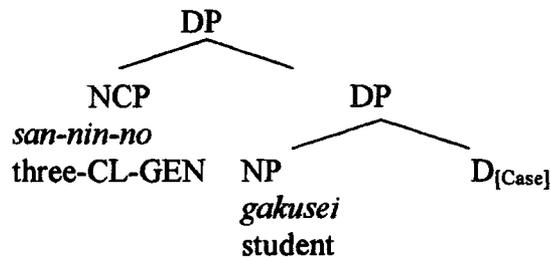
In (60), D takes a kind-referring category NP as its complement. I take it that D's singularising function identifies the kind denoted by the NP as "a single kind" here. The NC retains its inherent distributive interpretation since the NCP is not within the complement of D, and thus the whole DP has a distributive reading.

This view of the genitivised pre-nominal NC can explain the facts regarding the pro-form licensing property of the genitivised pre-nominal NC (Kamio 1983, Murasugi 1991). Consider:

(61) Taro-ga   [san-bon   no-o]   kat-ta. .

Taro-NOM [three-CL   one-ACC] buy-PAST.

(Lit.) 'Taro bought a pack of three ones.'

As Kamio (1983) points out, the object in (61) in which the pro-form *no* is licensed by an NC bears only a group reading.[24]

Recall that Murasugi (1991: 84) claims that only overt modifiers that are sisters to

---

[24] The genitive case-marker *-no* does not appear here. It has been argued that when the genitive case-marker *-no* directly precedes the pro-form *no*, the genitive case-marker is deleted for a phonological reason (Okutsu 1974, Murasugi 1991: 64). I adopt this view in this section without further discussion.

some projection of N can license the pro-form *no*. We have seen in (53) that adjectives are adjoined to NP and they can license the pro-form. We are thus led to conclude that *san-bon* 'three-CL' in (61) is also adjoined to NP, i.e., a maximal projection of N, and hence it can license the pro-form. This is consistent with our discussion that the sequence of the genitivised pre-nominal NC and a noun in (61) has a group reading.

As for the fact that (61) lacks a distributive reading, the account is straightforward. I have claimed that the sequence of the genitivised pre-nominal NC and a noun has a distributive reading when the NC is adjoined to DP. Since DP is not a projection of N, the elements adjoined to DP cannot license the pro-form. Hence, (61) cannot have a distributive reading.

2.3.2.2 Adjectives and the genitivised pre-nominal NC

The proposed structures (59) and (60) are nicely confirmed by the placement of adjectives. An adjective can precede or follow the genitivised pre-nominal NC as shown below. As predicted, when an adjective precedes the genitivised pre-nominal NC, the whole sequence has a group reading, while when an adjective follows the genitivised pre-nominal NC, on the other hand, the whole sequence has a distributive reading:

(62) a. Taro-ga   [koseitekina   san-bon-no   wain-o]   kat-ta.

       Taro-NOM   distinctive   three-CL-GEN   wine-ACC buy-PAST

      'Taro bought a distinctive pack of three bottles of wine.'

b. Taro-ga   [san-bon-no   koseitekina   wain-o]   kat-ta.

Taro-NOM   three-CL-GEN   distinctive   wine-ACC buy-PAST

'Taro bought three bottles of wine, each of which is distinctive.'

(62a) describes the situation where Taro bought a pack of three bottles, and the three bottles of wine share a distinctive feature. It is likely that three bottles of wine are identical in terms of the shape of the bottles, taste or flavour. (62b), on the other hand, describes the situation where Taro bought three bottles of wine, each of which has a distinctive characteristic in terms of flavour, colour, price, and so on. It is most likely that Taro bought three different types of wine. What is important here is that the object in (62a) fails to receive such a distributive reading.

Maintaining that the adjective *koseitekina* 'distinctive' is adjoined to NP both in (62a) and in (62b), I suggest that the difference in word order indicates that the genitivised pre-nominal NC is adjoined higher or lower than the adjective. I propose that in (62a), the genitivised pre-nominal NC is adjoined lower than the adjective, i.e., to NP, giving rise to a group reading, while in (62b), the genitivised pre-nominal NC is adjoined higher than the adjective, i.e., to DP, giving rise to a distributive reading. The proposed structures are illustrated below:

(63) a. [koseitekina   san-bon-no   wain] (a group reading)
       distinctive   three-CL-GEN wine
       'a distinctive pack of three bottles of wine'

```
                        DP
                      /    \
                  NP          D
                 /  \
              Adj      NP
          koseitekina  /  \
          distinctive NCP      NP
                   san-bon-no   wain
                   three-CL-GEN wine
```
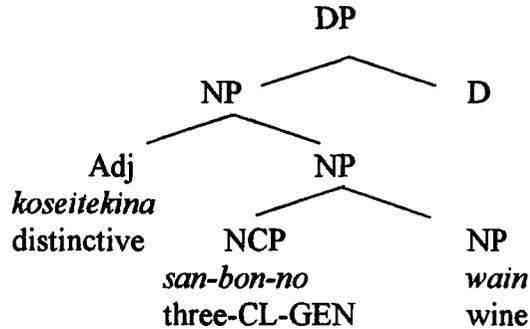
b. [san-bon-no   koseitekina wain] (a distributive reading)
   three-CL-GEN distinctive wine
   'three bottles of wine, each of which is distinctive'

```
             DP
           /    \
       NCP        DP
    san-bon-no   /  \
  three-CL-GEN NP     D
              /  \
           Adj     NP
       koseitekina wain
       distinctive wine
```
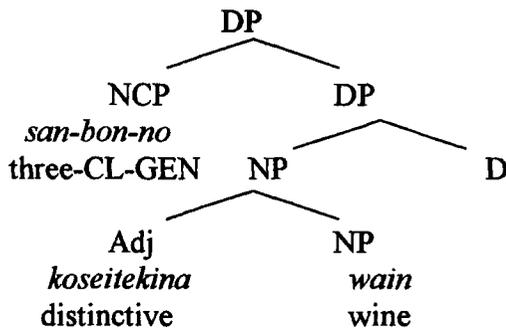
To sum up, I have argued that the genitivised pre-nominal NC, as an NCP, is adjoined either to NP or to DP, and the ambiguity of the sequence of the genitivised pre-nominal NC and a noun reflects the position of the NC.

2.3.2.3 The restricted position for the genitivised pre-nominal Q

Let us next consider the genitivised pre-nominal Q. As shown in (57b), the sequence of the genitivised pre-nominal Q and a noun is not ambiguous: it has only a distributive reading. I have claimed in the previous section that when the genitivised pre-nominal

NC is adjoined to DP, a distributive reading occurs.   Given that, I would like to claim that the genitivised pre-nominal Q is also adjoined to DP, giving rise to a distributive reading.   The structure I propose for the genitivised pre-nominal Q is given below:

(64) Genitivised pre-nominal Q

```
              DP
           ___/\___
         QP        DP
      subete-no   _/\___
      all-GEN   NP      D[Case]
                wain
                wine
```
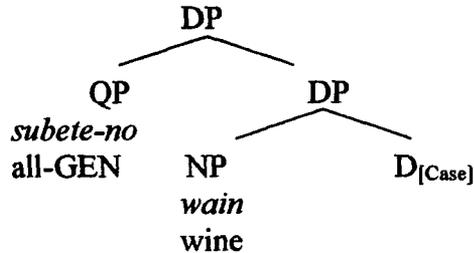
I have argued that the genitivised pre-nominal NC adjoined to DP is not subject to the singularising function of D, and thus it retains its inherent distributive property as a Q.   I claim that this also applies here: the head Q of the genitivised pre-nominal Q retains its inherent distributive property in the proposed position.

Recall that the pro-form *no* can be licensed by only overt modifiers that are sisters to some projection of N in Japanese.   We then predict that the genitivised pre-nominal Q which is adjoined to DP cannot license the pro-form *no* since it is not a sister to NP. This prediction is borne out: the genitivised pre-nominal Q cannot precede the pro-form *no* as shown below:

(65) *Taro-ga   [subete   no-o]   kat-ta.

      Taro-NOM   all   one-ACC   buy-PAST

We also predict that an adjective, which is adjoined to NP, must follow the genitivised pre-nominal Q.   This prediction is also borne out: an adjective can follow

the genitivised pre-nominal Q but cannot precede it:

(66) a. Taro-ga   [subete-no   koseitekina   wain-o]   kat-ta.

   Taro-NOM   all-GEN   distinctive   wine-ACC buy-PAST

   'Taro bought all the bottles of wine with a distinctive feature.'

   b. *Taro-ga   [koseitekina   subete-no wain-o]   kat-ta.

   Taro-NOM   distinctive   all-GEN   wine-ACC buy-PAST

The structure proposed in (64) provides an explanation for the contrast in word order in (66). Given that the adjective *koseitekina* 'distinctive' is adjoined to NP, the genitivised pre-nominal Q in (66a) must be adjoined higher than the adjective, i.e., to DP. Therefore, (66a) has the following internal structure:

(67)

```
                        DP
                   _____
                  QP          DP
               subete-no   _____
               all-GEN    NP        D[Case]
                       _____
                      Adj       NP
                   koseitekina  wain
                   distinctive  wine
```
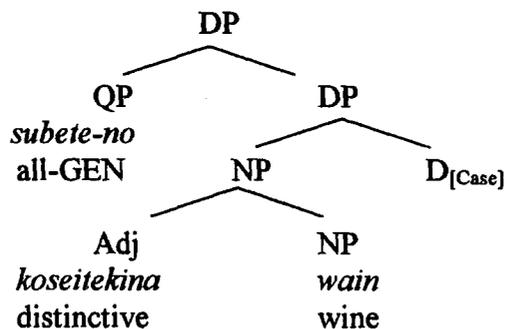
This word order restriction thus nicely supports my proposal that the genitivised pre-nominal Q is adjoined to DP.

In sum, I have suggested in this section that the genitivised pre-nominal NC and Q are an NCP and a QP, respectively, and modify the noun. The genitivised pre-nominal NC is adjoined either to NP or to DP, while the genitivised pre-nominal Q is adjoined

only to DP. Thus the sequence of the genitivised pre-nominal NC and a noun has either a group reading or a distributive reading, whereas that of the genitivised pre-nominal Q and a noun has only a distributive reading.[25]

So far, I have examined the pre-case NC and the genitivised pre-nominal NC and Q, and suggested that these are embedded within DP. In what follows, I will discuss the other two kinds of NCs, the post-case NC and the bare pre-nominal NC and the ungrammatical bare pre-nominal Q.

2.3.3 Post-case NC

Let us now turn to the post-case NC.[26] The post-case NC follows a case-marked noun as repeated below:

(68) [Gakusei-ga   san-nin]   ki-ta. (=13)

       student-NOM   three-CL   come-PAST

       'Three students came.' or 'Three of the students came.'

Terada (1990) claims that the post-case NC is the topmost head Q of QP. Kitahara

---

[25] The genitivised pre-nominal NC and Q cannot co-occur within a noun phrase as shown below:

(i) *[Subete-no   san-nin-no   josei-ga]   ki-ta.
      all-GEN   three-CL-GEN   woman-NOM come-PAST

(ii) *[San-nin-no   subete-no   josei-ga]   ki-ta.
       three-CL-GEN   all-GEN   woman-NOM   come-PAST

This may suggest that the genitivised pre-nominal NC and Q compete for exactly the same position and thus they cannot co-occur.

[26] The post-case Q shows the same distribution as the post-case NC, but the sequence of a case-marked noun and the post-case Q is not ambiguous, contrary to the post-case NC in (68). As for the structure for the sequence of a case-marked noun and the post-case as well as the unambiguity of the post-case Q, see section 2.3.4.3.

(1993b), on the other hand, argues that the post-case NC and the pre-case NC are embedded within the same structure, DP.[27] In this section, I will offer an account for the post-case NC in favour of Terada's analysis and argue that the post-case NC is the topmost head of NCP and it takes a DP as its complement.

2.3.3.1 The sequence of a case-marked noun and the post-case NC as a constituent

Terada (1990: 24) notes that coordination of two sequences of a case-marked noun and the post-case NC is possible as shown below:

(69) Hanako-wa [saba-o san-biki] to [iwashi-o yon-hiki] tairage-ta.

Hanako-TOP mackerel-ACC three-CL and sardine-ACC four-CL eat up-PAST

'Hanako ate up three mackerels and four sardines.'

or 'Hanako ate up three of the mackerels and four of the sardines.'

Given that two constituents of the same kind are subject to coordination, Terada (1990) suggests that a case-marked noun and the post-case NC form a constituent, QP, which is

---

[27] Kitahara (1993b) argues that both the pre-case NC and the post-case NC have the same syntactic structure as given below.

(i) Pre-case NC: [$_{DP}$ [$_{D'}$ [$_{NCP}$ [$_{NC}$ NP NC-Case]] D$_{[+Case]}$]]

(ii) Post-case NC [$_{DP}$ [$_{D'}$ [$_{NCP}$ [$_{NC}$ NP-Case NC]] D$_{[+Case]}$]]

They differ in the locus of a Case feature and the landing sites of phrases for feature-checking at S-structure. In (i), a Case feature is in NP and the NP undergoes raising to Spec of D to enter into a checking relationship with D. In (ii), a Case feature is in the NC and the NCP undergoes raising to Spec of D for Case feature checking. Since I assume with Aoyagi (1998) that a Case feature is in D in both the pre-case NC and the post-case NC, I do not follow Kitahara's analysis of the pre-case NC and the post-case NC.

headed by the post-case NC. [28]

Terada suggests that an NC cannot bear Case, from consideration of the interpretative difference between (70) and (71):

(70) Daremo-ga   san-biki   tsut-tta.

everyone-NOM three-CL   catch-PAST

'Everyone caught three (fish).'

(71) Daremo-ga   san-biki-o   mi-ta.

everyone-NOM three-CL-ACC see-PAST.

'Everyone saw a group of three (fish)'

In (70) and (71), counted objects are construed as small animals (e.g. fish) from the CL *-biki* used for small animals as well as from the context. In (70), the NC appears without any case-marker, and it has a distributive reading. In (71), on the other hand, the NC appears with the accusative case-marker *-o* and it has a group reading. Compare (70) and (71) to the following construction where the kind of the counted objects is specified by a case-marked noun:

---

[28] Observe that two sequences of a case-marked noun and the post-case Q are also able to coordinate:

(i)   Hanako-wa [saba-o   subete] to [iwashi-o   hotondo] tairage-ta.
        Hanako-TOP mackerel-ACC all   and sardine-ACC most   eat up-PAST
          'Hanako ate up all the mackerels and most of the sardines.'
          or 'Hanako ate up all the mackerel and most of the sardine.'

This shows that a case-marked noun and the post-case Q also form a constituent.

(72) Daremo-ga   [sakana-o   san-biki]   tsut-ta.

everyone-NOM   fish-ACC   three-CL   catch-PAST

'Everyone caught three fish.'

Notice that in (72), the object has only a distributive reading and does not have a group reading. This leads Terada to suggest that the objects in (70) and (72), both of which lack a group reading, have the same internal structure, and that (70) contains an empty case-marked noun.[29] That is for her, NP, not NC, bears Case within the sequence of a case-marked noun and the post-case NC. She thus proposes the following structure for the post-case NC:

(73) Terada's (1990) analysis for the post-case NC

```
              QP
            /    \
     NP-Case      Q
```
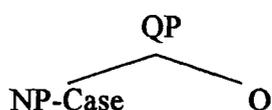
Adopting part of Terada's analysis, I agree that the post-case NC heads a projection, and the preceding case-marked noun bears a Case feature. In what follows, I recast her analysis under the DP-framework.

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[29] I suggest that (71) with a group reading has the following structure, in which an empty NP is contained:

(i)   [DP [NCP [NP ∅] NC]D]

Since NCP is embedded under DP, the case-marker, which is a morphological realisation of a Case feature in D, can appear together with the NCP.

2.3.3.2 NCP-analysis

In section 2.3.1, I assumed that there is a Case feature in D and it can be morphologically realised as a case-marker. Keeping in mind Terada's claim that a case-marked noun followed by the post-case NC bears Case, I would like to propose that the case-marked noun is a DP, and the post-case NC takes the DP as its complement.[30] Schematically:

(74) Post-case NC

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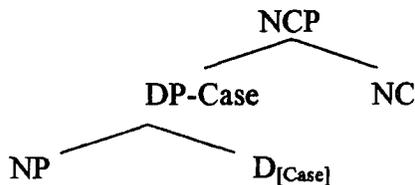
[30] Kitahara (1993b:178) suggests that the post-case NC in (i) appear within the structure (ii):

(i) Taro-ga   [hon-o   san-satsu]   kat-ta.
    Taro-NOM book-ACC   three-CL   buy-PAST
    'Taro bought three books.'

D-structure
(ii) [DP [D' [D [NCP [NC [NP hon-o]   [NC san-satsu] D[+ACC]]
                              book-ACC   three-CL

In (ii), *hon-o* 'book-ACC' is base-generated in the complement position of the NC. Kitahara argues that *hon-o* 'book-ACC' moves to Spec of NC to enter into a checking relation with NC. Then, *hon-o* 'book-ACC' moves to Spec of D where [+ACC] of D is checked by the accusative case of the NP.

S-structure
(iii) [DP [NP hon-o] [D' [NCP t'NP [NC' tNP [NC san-satsu] D[+ACC]]

However, this analysis runs into theoretical problems. Under the current Minimalist framework, movement is driven by morphological feature checking, and a Case feature of a raised phrase is checked as a free rider (Chomsky 1995, Chapter 4). In other words, a Case feature does not drive the movement of NP. Therefore, Kitahara's analysis of noun phrase movement to Spec of D for Case feature checking is not theoretically motivated. Further, Kitahara does not show any empirical evidence for the movement to Spec of NC and Spec of D. From the viewpoint of Economy of Representation (Chomsky 1991, 1993, 1995), derivations must be as economical as possible, and there is no superfluous rule application and thus unnecessary movement should be dispensed with. Hence, I do not follow Kitahara's analysis of the post-case NC in this thesis.

I thus agree with Terada that the post-case NC is the topmost head of the sequence.[31]

The crucial difference between Terada's structure (73) and my structure (74) is the category of the complement of NC: in my analysis, the complement of the head NC is a DP.

In the previous section, I have introduced the claim made by Stowell (1989), Szabolcsi (1994), and Longobardi (1994) that DPs can function as arguments. The constituency observed in (69) leads me to suggest that an NCP, as an extended nominal projection, can also function as an argument.

Let us now consider how NC, D and NP interact with each other and how a distributive reading is obtained in the structure (74).

In the previous section, I argued, following Longobardi (1994), that NP has a

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[31]   Given this structure, we expect that there should be no modifiers of any sort before the NC.   A possible counterexample is the following, in which the NC is preceded by an adverbial item *tatta* 'only' (Ueda 1986):

(i)   [Gakusei-ga   tatta   hito-ri]   ki-ta.
        student-NOM   only   one-CL   come-PAST
        'Only one of the students came.'

Tatta 'only' must co-occur with an NC to emphasise that the number of counted objects is small. Nothing intervenes between *tatta* and the emphasised NC.   However, it is important to note that *tatta* 'only' cannot co-occur with any other lexical item such as a noun phrase.   Consider:

(ii)   *[Tatta   Taro-ga]   ki-ta.
         only   Taro-NOM   come-PAST
        'Only Taro came.'

(iii)   *Taro-ga   [tatta   mizu-o]   non-da.
         Taro-NOM   only   water-ACC   drink-PAST
        'Taro drank only water.'

I assume that *tatta* 'only' is adjoined to the NC in the base-position, forming a complex NC head in (i). Thus, *tatta hito-ri* 'only one-CL' in (i) functions as a complex NC in the course of a derivation.   (ii) and (iii) are ungrammatical, on the other hand, since *tatta* 'only' is adjoined to N (or some projection of N), rather than NC.

kind-referring nature, D has a singularising function, and NC has the function of indicating the number of instances. As observed in (25), the sequence of a case-marked noun and the post-case NC lacks a group reading. This leads me to claim that in (74), the singularising function of D works to identify "a single kind" not "a single group". When the topmost head NC takes a DP as its complement, the NC indicates the number of the instances picked out of the single kind denoted by the DP. Therefore, the sequence of a case-marked noun and the post-case NC has a distributive reading. It is thus concluded that even within the structure (74), NP, D and NC retain their own functions and the interaction between them necessarily gives rise to a distributive reading.

2.3.3.3 NP-level coordination

In this section, I present coordination facts as evidence to show that the sequence of a case-marked noun and the post-case NC has the structure (74).

The existence of the intermediate D is supported by the following coordination fact. Consider:

Post-case NC

(75) Hanako-ga   [[[saba]   -to   [iwashi]]-o   ju-ppiki]   tabe-ta.

Hanako-NOM mackerel and sardine-ACC   ten-CL   eat-PAST

'Hanako ate ten mackerels and sardines.'

or 'Hanako ate ten (out) of the mackerels and sardines.'

In (75), two bare nouns, *saba* 'mackerel' and *iwashi* 'sardine', are coordinated. This

indicates that coordination takes place at the NP-level and the newly formed NP is a complement of D, and the DP is a complement of the topmost head NC. The schematised structure is given below:

(76)

```
                          NCP
                        /      \
                DP-o (ACC)       NC
                /      \          ju-ppiki
            NP          D[ACC]    ten-CL
           /  \
      NP₁  CONJ  NP₂
      saba   to   iwashi
    mackerel and  sardine
```
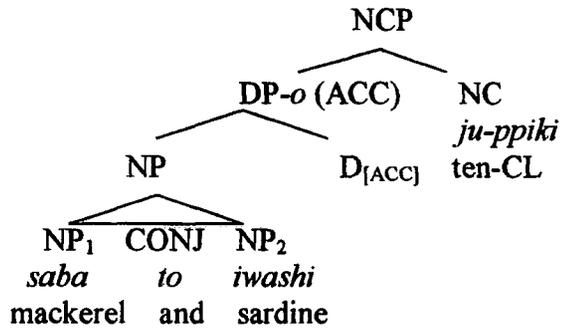
The fact that only one case-marker is observed within (75) suffices to indicate that there is only one DP in the structure as illustrated in (76).

2.3.3.4 Adjectives and the post-case NC

As observed in (21), the sequence of a case-marked noun and the post-case NC can be preceded by an adjective as repeated below:

(77) Nigiyakana [josei-ga   san-nin]   ki-ta. (=21)

     noisy   woman-NOM   three-CL   come-PAST

     'Three noisy women came.' Or 'Three of the noisy women came.'

Maintaining that the adjective is adjoined to NP, I propose to assign the following structure for (77):

(78)

```
                              NCP
                        _____/_____
                 DP-ga (NOM)            NC
                   ____/\____           san-nin
            NP              D[NOM]      three-CL
         ___/\___
      Adj       NP
    nigiyakana  josei
    noisy       woman
```
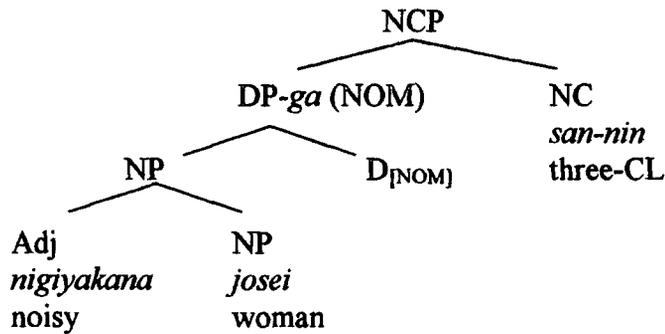
In (78), the NP *josei* 'woman' is a kind-referring category. By being modified by an adjective *nigiyakana* 'noisy', the range of the kind is limited at the upper NP-level. I claim that D takes the upper NP as its complement, where the singularising function of D is applied to the NP, and excludes other possible kinds. To be more precise, in (78), D designates only one kind, *nigiyakana josei* 'noisy woman', and excludes other possible kinds such as *shizukana josei* 'quiet woman', *kenkouna josei* 'healthy woman', and so on. That is, D functions to identify only one kind the NP refers to. Then, the post-case NC *san-nin* 'three-CL' takes the DP *nigiyakana josei-ga* 'noisy woman-NOM' as its complement, where the NC indicates the number of instances picked out of the kind *nigiyakana josei* 'noisy woman' identified by D.

2.3.3.5 DP-raising out of NCP

In this section, I will show that the distribution of the so-called floating quantifiers in Japanese provides a piece of evidence for my analysis of the post-case NC.

When a case-marked noun is followed by its accompanying NC, they need not be adjacent (Miyagawa 1989: 43). Compare (79) to (80):

(79) [Doa-ga   futa-tsu]   kono kagi-de   ai-ta.

   door-NOM two-CL   this key-with   open-PAST

   'Two doors opened with this key.' Or 'Two of the doors opened with this key.'

(80) Doa-ga   kono kagi-de   futa-tsu   ai-ta.

   door-NOM this   key-with   two-CL   open-PAST

   'Two of the doors opened with this key.

In (79), the case-marked noun *doa-ga* 'door-NOM' is adjacent to the post-case NC and they form a constituent, while in (80), the case-marked noun is separated from its accompanying NC, and a PP *kono kagi-de* 'this key-with' intervenes between them. Despite the word order difference, (79) and (80) can share the same reading. This leads Terada (1990) and Kitahara (1993b) to claim that (80) is derived from (79) by raising the case-marked noun phrase out of the constituent. The question is: how does the derivation go in (80) under my analysis of the post-case NC proposed in this chapter?

Such NCs apart from their accompanying nouns have been called Floating Quantifiers in the literature (Okutsu 1974, Inoue 1976, Shibatani 1978, Miyagawa 1989). Following the Unaccusative Hypothesis that the theme argument of an unaccusative verb is base-generated within VP (Perlmutter 1978, Burzio 1986), Miyagawa (1989) argues that a case-marked noun phrase and its accompanying NC are in a mutual c-command relationship in their base-position, and only the case-marked

noun phrase undergoes raising, leaving its accompanying NC within the VP. Thus, the stranded NC is adjacent to the trace of the case-marked noun phrase. Therefore, Floating Quantifiers have been used to show the trace position, i.e., the base-position of a noun phrase (Miyagawa 1989, Terada 1990, Kitahara 1993b, Kawashima 1994, 1998).

Sharing much with Miyagawa (1989), Terada (1990) and Kitahara (1993b), I argue that (80) is derived from (79) by raising the case-marked noun as a DP to Spec of T (see also Sportiche (1988), Giusti (1991)). The derivation proceeds as follows. First, the DP *doa-ga* 'door-NOM' and the post-case NC merge and form an NCP.[32, 33] Next, the newly formed NCP and the unaccusative verb *ai-ta* 'open-PAST' merge, where the whole NCP receives its θ-role from the V. Then, T is selected and merged with the VP. I assume, without discussion, that a nominative DP undergoes raising to Spec of T for EPP-feature checking in Japanese as in English (Chomsky 1995, Chapter 4). I propose that there are two options in terms of DP raising: one option is that only the DP is raised to Spec of T, leaving the post-case NC behind; the other option is that the whole NCP is pied-piped together with the DP when the DP undergoes raising.[34] When the former option is selected, the outcome is that the post-case NC is stranded

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[32] I assume that when an NC and a DP merge, the NC checks the DP's semantic feature, i.e., the CL -*tsu* and the case-marked DP *doa-ga* 'door-NOM' semantically agree.

[33] I do not assume NCP-internal movement for semantic feature checking (cf. Kitahara 1993b). I assume that an NC and a DP merge where they agree in semantic features. This relationship between an NC and a DP through the Merge operation is consistent with Miyagawa's "mutual c-command" requirement.

[34] The pied-piping observed here takes effect in some other areas of syntax. The following shows that either a *wh*-phrase is raised by itself or it pied-pipes the whole PP:

(i) a. Which platform does the train leave from?
     b. From which platform does the train leave?

In (ia), the wh-phrase *which platform* is raised to Spec of C to enter into the checking relationship with the Q-feature of C, while in (ib), the wh-phrase pied-pipes the whole PP to Spec of C for the same reason.

within the VP, i.e., its base-position, as shown in (80). When the latter option is selected, the whole NCP appears as a constituent in syntax, as shown in (79). These two options for raising are illustrated below:

(81) DP-raising: No pied-piping
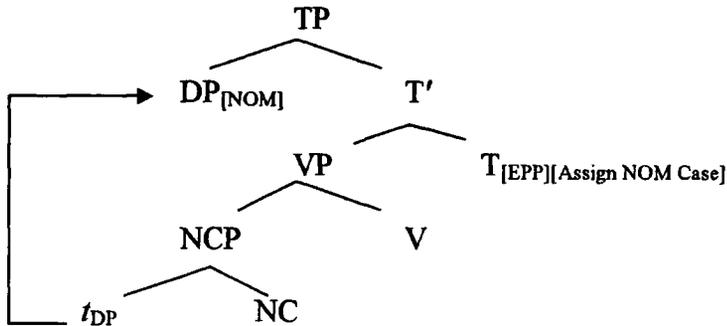
(82) Pied-piping
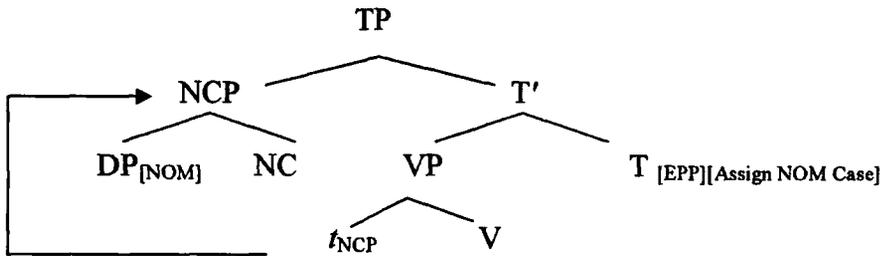
It is also the case that a case-marked noun and the post-case NC form a constituent. The constituent can precede V as shown in (83a); the constituent can also precede the subject as shown in (83b), and the accusative case-marked noun can be separated from its accompanying NC as shown in (83c):

(83) a. Taro-ga   [sara-o   san-mai] arat-ta.

      Taro-NOM   plates-ACC three-CL wash-PAST

      'Taro washed three plates.' or 'Taro washed three out of the plates.'

b. [Sara-o   san-mai],   Taro-ga   arat-ta.

  plates-ACC   three-CL,   Taro-NOM wash-PAST

  'Taro washed three plates.' or 'Taro washed three out of the plates.'

c. Sara-o,   Taro-ga   san-mai   arat-ta.

  plates-ACC   Taro-NOM three-CL   wash-PAST

  'Taro washed three plates.' or 'Taro washed three out of the plates.'

These three examples share the same reading, despite the difference in word order. Thus, I propose that both (83b) and (83c) are derived from (83a). It has been argued that in Japanese, the object with the accusative case-marker is subject to scrambling in overt syntax (Saito 1985, 1994, Miyagawa 1997, Takano 1998). Provided that scrambling is an overt syntactic movement driven by some kind of feature, I suggest that the accusative DP embedded within the NCP is subject to scrambling and may pied-pipe the whole NCP. In (83c), the DP is raised out of the NCP leaving the post-case NC behind, while in (83b), the DP pied-pipes the whole NCP.[35] The two options of scrambling are illustrated below:

---

[35] I assume, without discussion, that an object is optionally raised to Spec of v for EPP-feature checking in Japanese.

(84) No Pied-piping

```
                              TP
                    ┌─────────┴──────────┐
            ┌──▶ DP[ACC]               TP
            │    sara-o          ┌──────┴──────┐
            │    plates-ACC    DP_Subj         T'
            │                  Taro-ga     ┌────┴────┐
            │                  Taro-NOM vP           T
            │                        ┌────┴────┐
            │                      t_Subj      v'
            │                            ┌─────┴─────┐
            │                            v           VP
            │                                   ┌─────┴─────┐
            │                                 NCP_Obj        V
            │                                               ara-tta
            │    Scrambling          t_DP       NC         wash-PAST
            └───────────────────────────────┘  san-mai
                                               three-CL
```

(85) Pied-piping

```
                              TP
                    ┌─────────┴──────────┐
            ┌──▶ NCP_Obj                 TP
            │ ┌────┴─────┐         ┌──────┴──────┐
            │ DP[ACC]   NC       DP_Subj         T'
            │ sara-o    san-mai  Taro-ga     ┌────┴────┐
            │ plates-ACC three-CL Taro-NOM  vP         T
            │                         ┌──────┴──────┐
            │                       t_Subj          v'
            │                                 ┌─────┴─────┐
            │                                VP           v
            │                            ┌────┴────┐
            │    Scrambling            t_Obj       V
            └─────────────────────────────────┘  ara-tta
                                                 wash-PAST
```
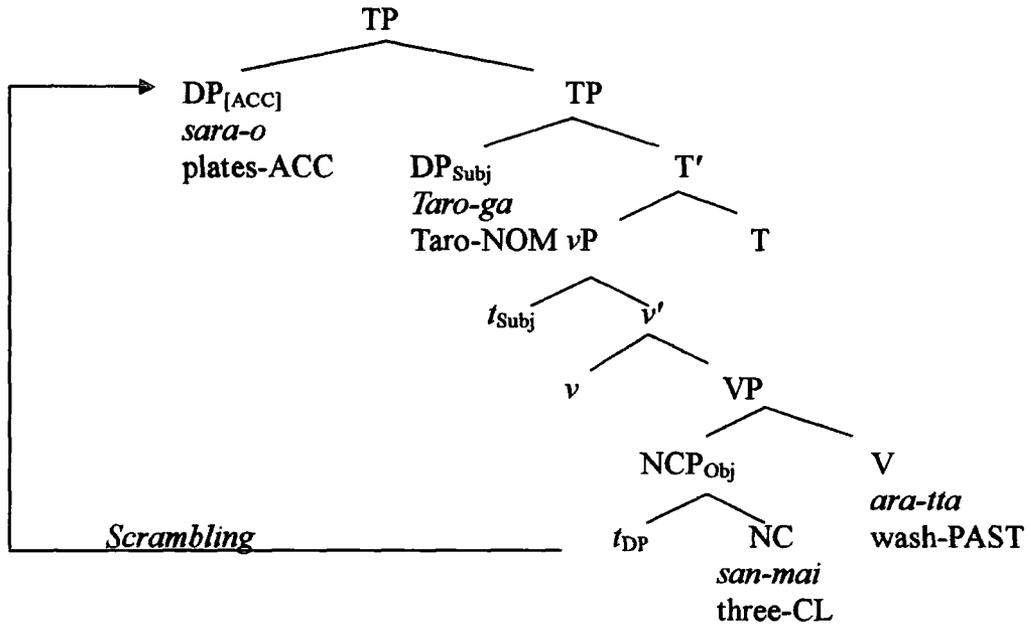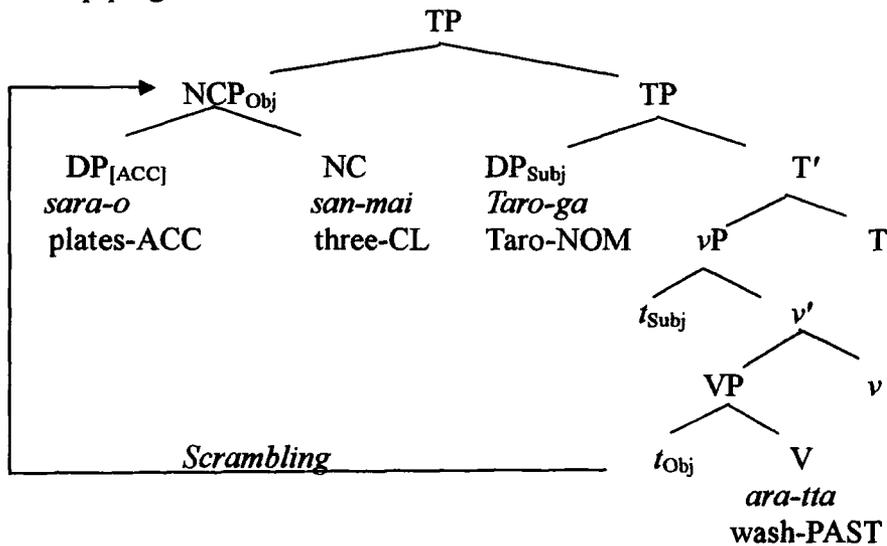
To sum up, I have argued that the post-case NC is the topmost head and takes a DP as its complement. I have presented cases where the so-called floating quantifiers are the post-case NCs left behind after DP movement out of NCP. I have shown that when a DP is subject to raising out of NCP in syntax, it is either raised on its own or

pied-pipes the whole NCP to a feature-checking position. If the whole NCP is pied-piped in the course of DP-raising, it retains its constituency. When only the DP undergoes raising, on the other hand, its constituency is not retained any longer. It is thus concluded that the floating quantifier phenomenon is strong evidence for my analysis of the post-case NC.

2.3.4 The contrast between the bare pre-nominal NC and the bare pre-nominal Q

So far, we have examined three types of NCs, the pre-case NC, the genitivised pre-nominal NC and the post-case NC. In this section, I discuss the fourth type, the bare pre-nominal NC repeated in (86a). Also, I will consider why the bare pre-nominal Q repeated in (86b) is ruled out.

Bare pre-nominal NC

(86) a. [San-nin   gakusei-ga]   ki-ta.   (=14a)

      three-CL   student-NOM   come-PAST

      'Three students came.'

Bare pre-nominal Q

    b. */?? [Subete   gakusei-ga]   ki-ta.   (=14b)

        all   student-NOM   come-PAST

      'All the students came.'

Terada (1990: 64) also points out a similar contrast between NC and Q; a bare NC can appear in the sentence-initial position while a bare Q cannot (see also Kawashima

1994, 1998):

(87) a. San-satsu,   Hanako-ga   hon-o   kat-ta.

      three-CL   Hanako-NOM   book-ACC buy-PAST

      'Hanako bought three books.'

b. *? Subete,   Hanako-ga   hon-o   kat-ta.

      all   Hanako-NOM   book-ACC buy-PAST

The ungrammaticality of (86b) and (87b) seems to show that these two examples are ruled out for the same reason. What follows discusses why only the bare pre-nominal NC is ruled in.

2.3.4.1 Terada's (1990) NCP-raising analysis

In this section, I summarise the properties of the bare pre-nominal NC observed by Terada (1990). She points out that the bare pre-nominal NC shares the following properties with the post-case NC. First, as observed in (18), the case-marker of the noun associated with the bare pre-nominal NC cannot be replaced by a postposition. Secondly, as in (26), the sequence of the bare pre-nominal NC and a case-marked noun lacks a group reading. Thirdly, as shown in (35), the sequence does not show any weak crossover effect.

The only difference between the bare pre-nominal NC and the post-case NC is that the sequence of the bare pre-nominal NC and a case-marked noun cannot be

preceded by an adjective, whereas that of a case-marked noun and the post-case NC may be.   Compare (88a) to (88b):

Bare pre-nominal NC

(88) a. *Nigiyakana   [san-nin   josei-ga]   ki-ta.

       noisy   three-CL   woman-NOM   come-PAST

       'Three noisy women came.'

Post-case NC

      b. Nigiyakana   [josei-ga   san-nin]   ki-ta.

        noisy   woman-NOM   three-CL   come-PAST

        'Three noisy women came.'

These facts lead Terada to suggest that the bare pre-nominal NC shows up in the observed position by adjoining the post-case NC to VP.   Terada initially proposes that the sequence of a case-marked noun and the post-case NC is a QP headed by the NC. However, if the head NC were subject to adjunction to VP, it would violate Structure Preservation, since head adjunction to XP is prohibited.   To avoid this problem, Terada (1990:61) raises the alternative idea that the post-case NC optionally appears as a maximal projection, QP, to which the case-marked noun phrase, as a DP, is adjoined. In other words, the post-case NC appears either within [QP NP Q] or within [QP NP QP] in her analysis, and the bare pre-nominal NC originates from the latter by raising the lower QP.   It does not violate Structure Preservation to adjoin a QP as a maximal

projection to VP.[36]

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[36] Kawashima (1994, 1998) provides an alternative view for the contrast between the bare pre-nominal NC and the bare pre-nominal Q. Following Kitahara (1993b), Kawashima argues that the bare pre-nominal NC is derived from the post-case NC by scrambling a remnant NCP after DP-raising out of NCP. She explains the contrast between the bare pre-nominal Q and the bare pre-nominal NC with regard to two grammatical conditions, the Mapping Hypothesis (Diesing 1992) and the Proper Binding Condition (Fiengo 1977, Saito 1989, 1992) shown below:

(i) Mapping Hypothesis
Material from VP is mapped into the nuclear scope.
Material from IP is mapped into a restrictive clause.

(ii) Proper Binding Condition
Traces must be bound.

In her analysis, the structures of (87a) and (87b) are derived by scrambling a remnant NCP/QP as below:

NCP scrambling
(iii)   [$_{CP}$ [$_{IP}$ [$_\alpha$ t(β) san-satsu][$_{IP}$ Hanako-ga [$_{VP}$ [$_\beta$ hon-o][$_{VP}$ t(α) kat-ta]]]]]
         three-CL   Hanako-NOM book-ACC   buy-PAST

QP scrambling
(iv)   [$_{CP}$ [$_{IP}$ [$_\alpha$ t(β) subete][$_{IP}$ Hanako-ga [$_{VP}$ [$_\beta$ hon-o][$_{VP}$ t(α) kat-ta]]]]]
         all   Hanako-NOM   book-ACC   buy-PAST

She explains why only remnant QP scrambling in (iv) is ungrammatical as follows. She supposes that the scrambled NCP [$_\alpha$ t(β) san-nin] in (iii) and QP [$_\alpha$ t(β) subete] in (iv) are reconstructed to their base-position at LF, respectively, as shown below (Saito 1989, 1992):

(v)   [$_{CP}$ [$_{IP}$ [$_{IP}$ Hanako-ga [$_{VP}$ [$_\beta$ hon-o][$_{VP}$ [$_\alpha$ t(β) san-satsu]   kat-ta]]]]]
         Hanako-NOM   book-ACC   three-CL   buy-PAST

(vi)   [$_{CP}$ [$_{IP}$ [$_{IP}$ Hanako-ga [$_{VP}$ [$_\beta$ hon-o][$_{VP}$ [$_\alpha$ t(β) subete]   kat-ta]]]]]
         Hanako-NOM   book-ACC   all   buy-PAST

She suggests that (vi) violates the Mapping Hypothesis for the following reason. Diesing (1992) argues that Qs such as *all* are necessarily presupposed (see also Milsark (1974)). In other words, Qs imply the existence of a set of individuals in the context. Thus at LF, they must be mapped into a restrictive clause, i.e., an IP-level structure that is c-commanding the VP, where phrases receive a presuppositional reading. Given that material mapped into the nuclear scope, i.e., a VP-internal structure, receives a non-presuppositional interpretation, whereas only material mapped into a restrictive clause receives a presuppositional interpretation (see Heim (1982)), she suggests that the QP [$_\alpha$ t(β) *subete*], which is necessarily presupposed, violates the Mapping Hypothesis since it is mapped into the nuclear scope in (vi). On the other hand, the scrambled NCP [$_\alpha$ t(β) *san-satsu*] is back in a VP-internal position in (v) where phrases receive a non-presuppositional reading at LF. She further suggests that since the NC is a numeral with a non-presupositional reading, the reconstructed NC at LF does not violate the Mapping Hypothesis. Thus, only remnant NCP scrambling is grammatical. She notes that even if the scrambled QP [$_\alpha$ t(β) *subete*] is not subject to reconstruction and stays in the surface position at LF, the QP violates the Proper Binding Condition, since the trace contained within the scrambled QP is not bound at LF. She thus concludes that the ungrammaticality of QP scrambling is deduced from an interaction of (i) the Mapping Hypothesis analysis and (ii) the Proper Binding Condition analysis.

2.3.4.2 The ambiguity of the post-case NC

Before tackling the internal structure of the sequence of the bare pre-nominal NC and a case-marked noun, I believe that it is necessary to recast the internal structure of the sequence of a case-marked noun and the post-case NC proposed in the previous section in terms of the categorial status of the NC.   In line with Terada, I would like to propose that the post-case NC can be a maximal projection, NCP, and thus the post-case NC has two different structural representations as formulated below:[37]

Post-case NC
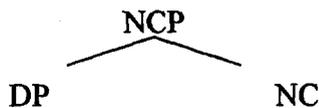
(89)a.   b.
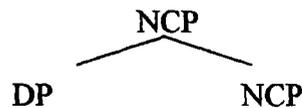
Following Terada, the bare pre-nominal NC is derived from (89b) by raising the lower NCP to adjoin to VP.   This adjunction is in accord with Structure Preservation.

One new piece of evidence I offer for these two structural representations is the fact that the sequence of a case-marked noun and the post-case NC is ambiguous.   As Inoue (1978), Kitagawa & Kuroda (1992), Ishii (1997) and Muromatsu (1998) note, the sequence of a case-marked noun and the post-case NC can have two interpretations: a partitive interpretation and a non-partitive reading (Ishii 1997).   Consider:

---

[37] However, it remains unclear why the case-marked noun can appear as an adjunct within [$_{NCP}$ DP NCP], and how its formal features such as a Case feature are checked off within the NCP (see Kitahara 1993b).   I will leave the issue for future research.

(90) Hanako-ga   [hon-o   san-satsu]   kat-ta.

Hanako-NOM   book-ACC three-CL   buy-PAST

(a) 'Hanako bought three of the books.' (Partitive)

(b) 'Hanako bought three books.' (Non-partitive)

(90a) shows that there is a restricted set of books, out of which Hanako bought three. In (90b), the post-case NC has a non-partitive, i.e., existential reading and there is no such a restricted set of books implied.

I propose that one of the two structures in (89) is for a partitive interpretation (90a) and the other for a non-partitive interpretation (90b). The question is, which structure is for which interpretation?

It is interesting to note that the sequence of the bare pre-nominal NC and a case-marked noun is not ambiguous and it has a non-partitive interpretation only as shown below:

Bare pre-nominal NC

(91) Hanako-ga   [san-satsu   hon-o]   kat-ta.

Hanako-NOM   three-CL   book-ACC buy-PAST

'Hanako bought three books.' (Non-partitive)

Likewise, when a bare NC appears in the sentence-initial position, the sentence has only a non-partitive reading:

(92) San-satsu, Hanako-ga   hon-o   kat-ta.

three-CL   Hanako-NOM   book-ACC buy-PAST

'Hanako bought three books.' (Non-partitive)

I would like to suggest that the NCs in (91) and (92) are NCPs and that they are

scrambled out of the structure given in (89b) and adjoined to VP or to TP, respectively.

I thus conclude that (89b) has a non-partitive interpretation whereas the structure (89a)

has a partitive interpretation.[38]

2.3.4.3 The ungrammaticality of the bare pre-nominal Q

Let us consider the ungrammaticality of the bare pre-nominal Q.   Suppose that the bare

pre-nominal Q originates from the post-case Q.   Note that the post-case Q has only a

partitive interpretation as in (93), contrary to the post-case NC, which is ambiguous as

in (90):

Post-case Q

(93) Hanako-ga   [hon-o   hotondo] kat-ta.

Hanako-NOM   book-ACC most   buy-PAST

'Hanako bought most of the books.' (Partitive)

In (93), the case-marked noun *hon-o* 'book-ACC' denotes a definite or restricted set of

books, and Q refers to the quantity picked out of the set.   The lack of the ambiguity in

(93) suggests that the post-case Q appears in only one structural representation, which is

---

[38]   In Chapter 3 and Chapter 4, I will argue that a partitive interpretation is obtained in the course of theta-role assignment by the head NC.

for a partitive interpretation. I propose that the post-case Q heads a QP as below:

(94) Post-case Q

```
            QP
          /    \
      DP         Q
```
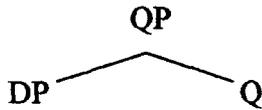
The ungrammaticality of the bare pre-nominal Q follows from the approach developed here. Since the post-case Q has only the one structural representation given in (94), which has a partitive interpretation, the Q head is not subject to adjunction to a maximal projection such as VP and TP, because of Structure Preservation; thus the ungrammaticality of the bare pre-nominal Q results.

In this section, I have discussed the grammaticality of the bare pre-nominal NC and the ungrammaticality of the bare pre-nominal Q. I have argued that the bare pre-nominal NC originates from the post-case NC as a maximal projection NCP within [$_{NCP}$ DP NCP]. On the other hand, the bare pre-nominal Q is ungrammatical since the post-case Q is always the head Q, and thus, adjoining the head Q to a maximal projection such as VP and TP violates Structure Preservation. Hence, the bare pre-nominal Q becomes ungrammatical.

2.3.5 Co-occurrence of a Q and an NC

Before closing this chapter, I present cases where a Q and an NC can co-occur within a noun phrase. Giusti (1991) stipulates the possibility of a unified structure in which two Qs co-exist: one selects a DP and the other selects an NP in a grammar whose lexicon is rich enough to provide a different selection for each Q. The following

represents such an example, *all the three children*:

(95) Giusti (1991: 443)

```
                QP
           ┌────┴────┐
           Q         DP
          all    ┌────┴────┐
                 D         QP
                the    ┌───┴───┐
                       Q       NP
                     three   children
```
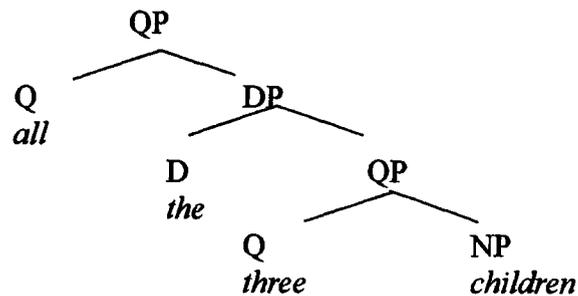
This structure shows that the universal quantifier *all* selects a DP *the three children* as its complement, and the other quantifier *three* selects an NP *children* as its complement.

If a structure like (95) is generalised to all kinds of quantified nominals across languages, we expect that two quantifiers can co-exist in a noun phrase in Japanese. I will present a case where a Q and an NC co-occur within a noun phrase in Japanese, which supports Giusti's unified QP structure in (97).

We have seen that both NCs and Qs can appear DP-internally or DP-externally. Under this view, we expect to find four cases given below, where either an NC or a Q appears DP-internally and either of them DP-externally at the same time:

(96) a. [NCP [DP [NCP NP NC] D] NC]

      b. [QP [DP [QP NP Q] D] Q]

      c. [NCP [DP [QP NP Q] D] NC]

      d. [QP [DP [NCP NP NC] D] Q]

Let us consider the examples of each structure. Contrary to our expectation, only (96d) is a grammatical structure as (97d) shows:[39]

(97)

a. [NCP [DP [NCP NP NC] D] NC]

*Hanako-ga   [ure-nokotta hon sanju-ssatsu-o   san-satsu] kaeshi-ta.

Hanako-NOM   unsold-left book thirty-CL-ACC   three-CL   return-PAST

(Lit.) 'Hanako returned three of the thirty books that were left unsold.'

b. [QP [DP [QP NP Q] D] Q]

*Hanako-ga   [ure-nokotta   hon hotondo-o subete]   kaeshi-ta.

Hanako-NOM unsold-left   book most-ACC all   return-PAST

(Lit.) 'Hanako returned all of most books that were left unsold.'

---

[39] Kawashima (1994) points out that in Japanese, an NC and a Q can co-occur in the following construction:

(i)   Gakusei-ga   [hon-o   san-satsu   subete]   yon-da.
      student-NOM book-ACC   three-CL   all   read-PAST
      'A student read all the three books.'

Kawashima (1994, 1998), incorporating Giusti's (1991) idea, proposes to assign the following structure to (i):

(ii)   [QP [DP [NumP N-Case Num] D] Q]

Note, however, that the observed sequence of a case-marked noun, Num and Q is not productive: if the Q *subete* 'all' is replaced with other Qs such as *hotondo* 'most', the sentence becomes unacceptable:

(iii)   ?*Gakusei-ga   [hon-o   san-satsu   hotondo]   yon-da.
        student-NOM   book-ACC   three-CL   most   read-PAST

I thus assume that only the [NC+all] sequence such as *san-satsu subete* 'three-CL all' can exceptionally function as a complex Q in (i).

c. [NCP [DP [QP NP Q] D] NC]

*Hanako-ga   [ure-nokotta   hon   hotondo-o   san-satsu]   kaeshi-ta.

Hanako-NOM unsold-left   book most-ACC three-CL   return-PAST

(Lit.) 'Hanako returned three of the most books that were left unsold.'

d. [QP [DP [NCP NP NC] D] Q]

Hanako-ga   [ure-nokotta hon   sanju-ssatsu-o   hotondo]   kaeshi-ta.

Hanako-NOM   unsold-left book thirty-CL-ACC   most   return-PAST

'Hanako returned most of the thirty books that were left unsold.'

The schematised structure of the grammatical example (97d) is below:

(98)
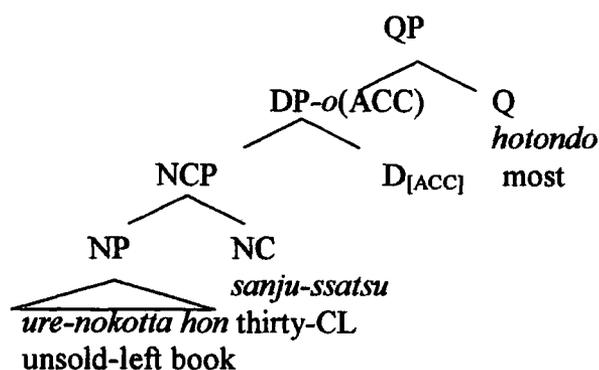
(98) shows that Q takes a DP as its complement, and D in turn identifies its complement NCP as a single group: Q functions to indicate the quantity picked out of the single group denoted by the complement DP. This structure supports Giusti's unified structure (95).

As for the ungrammaticality of examples (97a)-(97c), I have only a few speculations to offer. One possible explanation for the ungrammaticality of (97a) would be that the topmost NC lacks a property of taking a single-group-denoting DP as its complement.[40] As for the ungrammaticality of the example (97b), I would suggest a descriptive generalisation that a DP-internal QP and a DP-external QP cannot co-occur. As for (97c), one possible solution is to say that there is a hierarchical constraint in Japanese that Q must be higher than an NC when they co-occur (Jackendoff 1977, Giusti 1991). Thus, (97c) would be ruled out by such a hierarchical constraint. I leave for future research the clarification of the hierarchy among Qs and NCs in Japanese.

2.4 Conclusion

In this chapter, I have examined the distribution of NCs and the similarities and contrasts between NCs and Qs within noun phrase. The pre-case NC is the intermediate head of a three-layered structure that contains an NP as the most embedded lexical category and D as the topmost head. Within DP, the genitivised pre-nominal NC can be adjoined either to NP or to DP, whereas the genitivised pre-nominal Q is adjoined only to DP. The post-case NC is the topmost head that takes a DP as its complement, forming an NCP. I have argued that the case-marked DP within the NCP undergoes raising and it may or may not pied-pipe the whole NCP when raised. I have also suggested that the post-case NC can be a maximal projection, NCP, with a non-partitive reading and it may undergo raising, showing up as the bare pre-nominal NC. On the other hand, the bare pre-nominal Q is ungrammatical since the Q within

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[40] In Chapter 3, I will argue that the complement DP of an NC must lack a number feature.

the sequence of a case-marked noun and the post-case Q is always a head and is not

subject to adjunction to a maximal projection. Finally, I have presented a case where

Q can take a complement DP that contains an NC.

Chapter Three

Theta-role Assignment within Partitive Constructions and its

Cross-linguistic Consequences in Syntax

3.1 Introduction

The purpose of this chapter is to present an analysis for partitive and pseudo-partitive constructions. I will argue that numeral classifiers (NCs) and quantifiers (Qs) can be the heads of partitive constructions, that they assign a theta-role to their complement, and that the theta-role assignment leads to the part-whole interpretation between the head and its complement.

Two types of partitive constructions will be discussed in this chapter. The first type of partitive construction is a Japanese NCP whose complement is a DP. The second type of partitive construction is an English QP whose complement is a PP. This chapter also concerns cases in which the complement is moved out of partitive constructions both in Japanese and in English. I will suggest that when the head assigns a theta-role to its complement within the partitive constructions, the Chain Condition interprets the syntactic chain formed by raising the complement as legitimate at LF (Chomsky & Lasnik 1993, Chomsky 1995).

The organisation of this chapter is as follows. Section 3.2 will deal with the first type of partitive construction in Japanese and discuss DP-raising out of the partitive constructions. My analysis of Japanese partitive constructions will be confirmed by Pesetsky's (1982) analysis of the genitive of negation in Russian. Section 3.3 will consider the second type of partitive construction and PP extraposition out of partitive

and pseudo-partitive constructions in English. Section 3.4 will deal with Finnish

partitives and discuss the structural representations and interpretations of Finnish

partitives are parallel to that of English partitive and pseudo-partitive constructions.

3.2 A partitive interpretation of NCs in Japanese

In Japanese, there is no case-marker corresponding to "partitive case" observed in such

languages as Finnish and Turkish (Vainikka 1989, Belletti 1988, Kornfilt 1996).

Instead, NCs and Qs can receive a *partial* interpretation in certain constructions. In

what follows, I will focus on Japanese NCs with a partial interpretation and consider

how such a partial interpretation is obtained in certain constructions. Japanese Qs with

a partial interpretation will be also discussed in detail when they present contrasts to

Japanese NCs in distribution.

As briefly mentioned in 2.3.4.3, it has been observed in the generative literature

that an argument and its associated NC can be interpreted as being in a "part-whole"

relationship (Inoue 1978, Kitagawa & Kuroda 1992, Miyamoto 1996, Ishii 1997,

Muromatsu 1998). (1) shows such an example:

(1) John-ga   ure-nokotta hon-o   isoide   san-satsu kaeshi-ta.

     John-NOM unsold-left book-ACC quickly   three-CL   return-PAST

     'John returned three of the books that were left unsold quickly.'

The NC *san-satsu* 'three-CL', which may be called "a floating quantifier" for not being

adjacent to its associated argument object, shows the number of the books selected out

of a set of books designated by the case-marked object *ure-nokotta hon-o* 'unsold-left

book-ACC'. Thus, the NC and the case-marked object are interpreted to be in a "part-whole" relationship. In what follows, I will call such a *partial* interpretation of NCs "a partitive interpretation" when they are in a "part-whole" relationship with case-marked arguments.[1]

How the floated NC or Q is interpreted as associated with the case-marked noun phrase in the above constructions has been the centre of attention in the generative literature. Miyagawa (1989) proposes a structural restriction that a case-marked noun phrase and its accompanying NC must satisfy a mutual c-command condition at D-structure. He suggests that the case-marked noun phrase undergoes movement from the D-structure position to its surface position, leaving the NC behind, and thus, the NC shows the original position of the case-marked noun phrase. This movement analysis has been widely accepted and NCs have been used as a test of the base position of the subject or the object. Assuming that the movement analysis is correct, this section focuses on the partitive interpretation of the NC observed in the example (1).

3.2.1 The base position of a case-marked noun

Following Miyagawa's movement analysis, Ishii (1997) argues that (1) is derived from the following construction:

---

[1]   Q such as *hotondo* 'most' can replace the NC as in (i), receiving a partitive interpretation:

(i)   John-ga   ure-nokotta   hon-o   isoide   hotondo   kaeshi-ta.
      John-NOM   unsold-left   book-ACC   quickly   most   return-PAST
      'John returned most of the books that were left unsold quickly.'

101

(2)   John-ga   isoide   [ure-nokotta hon-o   san-satsu] kaeshi-ta.

John-NOM quickly   unsold-left book-ACC three-CL   return-PAST

'John quickly returned three of the books that were left unsold.' (Partitive)

'John quickly returned three books that were left unsold.' (Non-partitive)

In (2), the case-marked noun phrase and the post-case NC form a constituent. Ishii

claims that only the case-marked noun phrase is raised out of the constituent. It is

important to note that as observed by Kitagawa & Kuroda (1992) and Ishii (1997), the

NC is ambiguous when it is adjacent to the case-marked noun phrase, as its two

translations show in (2), with either a partitive or a non-partitive interpretation.[2] In

what follows, I will consider the internal structure of the object sequences of a

case-marked noun and the post-case NC based on my argument in Chapter 2, and

discuss how the partitive interpretation is obtained from the NC-floating constructions.

3.2.2 NCP as a partitive construction

Let us now consider the internal structure of the object phrase containing the post-case

NC with a partitive interpretation as in (2). Recall that I proposed on independent

grounds in Chapter 2 that a sequence of a case-marked noun and the post-case NC is an

NCP headed by the NC, and the head NC takes a DP as its complement.[3] The

---

[2] The NC in (2) can also be replaced by a Q:

(i)   John-ga   isoide   [ure-nokotta hon-o   hotondo]   kaeshi-ta.
       John-NOM   quickly   unsold-left   book-ACC   most   return-PAST
       'John quickly returned most of the books that were left unsold.'

Notice here that in (2) and (i), the object noun phrases are the sequences of a case-marked noun and the
post-case NC or Q, which have been exclusively discussed in Chapter 2.   A difference between (2) and
(i) is that (2) is ambiguous while (i) is not: the sequence of a case-marked noun and the post-case Q in (i)
has only a partitive interpretation.
[3]   For empirical evidence for this structure, see Chapter 2.

schematised structure proposed in Chapter 2 is repeated below:[4]

(3)

```
              NCP
             /\
          DP     NC
         /\
```
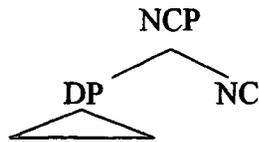
The question to be answered in this chapter is: how is the partitive interpretation obtained from the proposed structure (3)? I will argue that NCs in Japanese have a theta-role assigning property in the structure (3). They take a complement DP and assign a theta-role to it, and the theta-role itself gives rise to the part-whole interpretation between the head NC and its complement DP. The base structure of the object in (2) illustrated below:

(4)

```
                        NCP
                     /       \
         DP-o(ACC)   θ-role    NC
         /\       ◄·············  san-satsu
    ure-nokotta hon              three-CL
    unsold-left  book
```
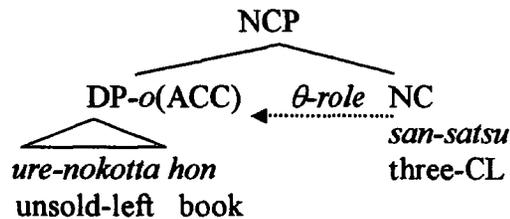
I thus suggest that the proposed structure characterises Japanese partitive constructions.

One might wonder what kind of theta-role the NC assigns. It is clear that the theta-role is different from the ones assigned by categories such as verbs, adjectives, and derived nouns. I simply claim that the theta-role is to establish a part-whole relationship between the head NC and its complement DP. Although I leave the name of the theta-role as undetermined, I will show in the following sections that the theta-role assignment by the head within partitive constructions has cross-linguistic consequences with regard to movement of the complement.

---

[4] I will put aside the internal structure of the complement DP for the time being.

3.2.3 DP-raising out of partitive constructions

Let us now turn to the case where the case-marked noun phrase is not adjacent to its associated NC and the NC obligatorily receives a partitive interpretation, as repeated below:

(5)　John-ga　　ure-nokotta hon-o　　isoide　　san-satsu　kaeshi-ta.

　　　John-NOM unsold-left book-ACC quickly　　three-CL　return-PAST

　　　'John returned three of the books that were left unsold.' (Partitive)

In line with Miyagawa (1989), I claim that the case-marked noun phrase *ure-nokotta hon-o* 'unsold-left book-ACC' is base-generated together with the NC *san-satsu* 'three-CL', forming an NCP partitive construction, and then undergoes short-scrambling out of the NCP.[5]　The derivation of (5) is illustrated below:

　　　　　　　　　　　　　　　　　　　　　　θ-role

(6)　Taro-ga [DP ure-nokotta hon-o]ᵢ　　isoide [NCP　　*t*ᵢ　san-satsu] kaeshi-ta.

　　　　　　　　⌐___ *Scrambling* ___⌐
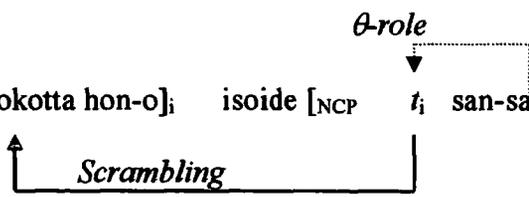
Taro-NOM unsold-left book-ACC quickly　　　　　三-CL　return-PAST

'Taro quickly returned three of the books that were left unsold.

Recall that as in (2), the sentence is ambiguous when a case-marked DP is adjacent to its associated NC. As in (6), on the other hand, the NC lacks this ambiguity when the case-marked DP is moved away from the NC. If (5) is derived

---

[5]　Following Tada (1993), I assume that short-scrambling is a syntactic movement.

from (2) by DP-raising as illustrated in (6), the question arises as to why (5) lacks a

non-partitive interpretation. This fact requires a syntactic explanation.

Consider first the ambiguity of (2). I assume with Pesetsky (1982) that it is the

case that an NC does not assign any theta-role to its adjacent DP.[6] Thus, only when a

case-marked DP receives a theta-role from the adjacent head NC in its base-position, a

partitive interpretation occurs; otherwise, a non-partitive interpretation occurs.[7]

Consider next the unambiguity of (5). I assume that a case-marked DP

base-generated within an NCP partitive construction must undergo raising to have its

formal features (e.g. a Case feature) checked off, whether or not it has a theta-role

(Chomsky 1995, Ayano & Oga 2000). This movement of the case-marked DP is

motivated for purely syntactic reasons and has nothing to do with the lack of theta-role

assignment by theta-role assigning categories in the base position. In accord with

Ayano & Oga (2000), the chain formed by the DP raised out of the NCP partitive

construction can be interpreted as legitimate at LF by the Chain Condition which

applies at LF (Chomsky & Lasnik 1993, Chomsky 1995), when the DP is assigned a

theta-role in its base-position. However, the chain formed by the case-marked DP with

no theta-role is interpreted as illegitimate at LF, since it is not assigned any theta-role in

its base-position, and the trace left behind lacks semantic content. That is, no DPs

without a theta-role can appear away from their base-positions. Hence, only the

syntactic chain formed by a DP with a theta-role is legitimate at LF, and (5) has only a

---

[6] I will suggest in section 3.2.7 that this is the case where the NC is actually an NCP, and there is no thematic relation established between the case-marked DP and the NC.

[7] As noted in footnote 2, the sequence of a case-marked noun and the post-case Q has only a partitive interpretation. This suggests that Q always assigns a theta-role to its complement DP in its base-position. Thus, the complement DP can undergo raising out of the QP partitive construction as the complement DP does in (5). This may also imply that Q cannot project itself into a QP while NC can project itself into an NCP.

partitive interpretation.

The proposed analysis can be applied to argument-raising. In the following example, a PP *kono kagi-de* 'this key-with' intervenes between the NC and the nominative case-marked arguments:

(7) Doa-ga   kono kagi-de futa-tsu   ai-ta.

   door-NOM this   key-with two-CL   open-PAST

   'Two of the doors opened with this key.'

The derivation of these examples proceeds as follows. The nominative DP is base-generated together with the head NC forming NCP in VP-internal position, where the nominative DP receives its theta-role from the NC. The whole NCP receives a theme role from the matrix verb. The nominative DP has a bunch of features (EPP feature, a Case feature, among others) to be checked off by T, and thus it undergoes raising to Spec of T, forming a syntactic chain. Since the nominative DP is assigned a theta-role from the NC in its base-position, the syntactic chain formed by raising the nominative DP out of NCP is interpreted as legitimate at LF. DP-raising out of NCP is illustrated below:

(8)
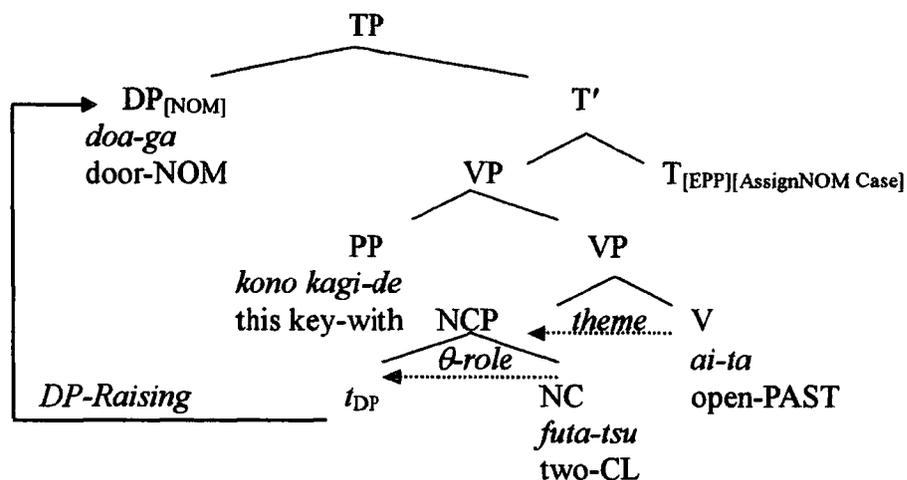
To sum up, I have presented an analysis for DP-raising out of the NCP partitive constructions. I have argued that the head NC can assign a theta-role to its complement DP in the base position, and the DP undergoes raising for purely syntactic reason. The chain formed by the complement DP with a theta-role is interpreted as legitimate at LF by the Chain Condition, and a partitive interpretation results.

3.2.4 The source of the "presuppositinal reading" of indefinite noun phrases

An alternative approach to the relation between DP-raising and a partitive interpretation is taken by Ishii (1997, to appear). Ishii (1997) suggests that the case-marked noun phrase that is scrambled away from the NC is indefinite. Using De Hoop's (1996) generalisation that NPs with a partitive interpretation can appear in A-positions while NPs with a non-partitive interpretation cannot, he proposes that De Hoop's generalisation applies to Japanese case-marked noun phrases short-scrambled from the position next to the head NC to an A-position, where the noun phrase has a partitive interpretation.

However, this solution seems to miss an important property of partitive

constructions. It has been assumed in the literature that partitive constructions show

the part-whole relationship between a set and its members or between an individual and

its part (Barwise & Cooper 1981, Hoeksema 1984, Ladusaw 1982, De Hoop 1997). It

is also important to note that partitive constructions generally have mixed properties

with regard to (in)definiteness: definiteness originates from the set/individual and

indefiniteness originates from the part. Take an English partitive construction for

example.

(9)   John quickly returned [three of the books that were left unsold].

In this object, there are two sets included: a set of books that were left unsold and a set

of three books selected out of the whole set. The definite noun phrase following *of* is

mapped to a set of books provided in context or elsewhere. The whole partitive

construction, on the other hand, is construed as indefinite due to the indefiniteness of

the numeral *three*.

Maintaining this two-sets analysis, I argue that in Japanese, when an NC has a

partitive interpretation in the partitive constructions, the NC is the locus of

indefiniteness, while the case-marked DP is mapped to a definite or restricted set. I

propose that the case-marked DP can be definite and mapped to an existing set of

individuals. My analysis of Japanese partitive constructions is different from Ishii's

(1997) in that a partitive interpretation is brought about by theta-role assignment by the

NC to its complement DP in the present analysis, whereas it is due to scrambling the

case-marked noun phrase to an A-position in Ishii's.

Based on the idea that the source of the partitive interpretation lies in the interface

(see Neeleman & Reinhart 1998), Ishii (to appear) provides another analysis for the same phenomena. He argues that the case-marked noun phrase scrambled away from the NC is no longer in the most deeply embedded position, and thus, at the PF interface, the noun phrase is de-stressed and receives a "presuppositional" reading, which means that the existence of a set of entities the noun phrase refers to is presupposed (cf. Diesing 1992).

In my approach, on the other hand, a "presuppositional" reading can be accounted for as a reflection of theta-role assignment to DP by the head NC. Given that a presuppositional reading implies the existence a set of individuals provided in context or elsewhere, it seems plausible to consider the complement of NC as the source of the presuppositional reading. Thus, I suggest that due to theta-role assignment by the NC to its complement in the proposed structure for Japanese NCP partitive constructions, the complement DP comes to denote a definite or restricted set of individuals, with which a subset denoted by the NC is in a part-whole relationship.

So far, I have provided an analysis of NCPs as partitive constructions in Japanese. I have argued that NCs can head partitive constructions and that they assign a theta-role to their complement DP. I have suggested that the theta-role assignment gives rise to a part-whole interpretation between the set of entities denoted by the complement DP and the subset denoted by the NC.

3.2.5 The internal structures of the complement DPs within partitive constructions

3.2.5.1 Qs in entity partitives and NCs in set partitives

Let us now consider the internal structure of the complement DP within partitive constructions in detail. In Chapter 2, I pointed out that the complement of Q can

contain an NC, whereas the complement of the head NC cannot. Observe the

following contrast:

(10) *John-ga [ure-nokotta   hon   kyuu-satsu-o   san-satsu]   kaeshi-ta.

John-NOM   unsold-left   book nine-CL-ACC   three-CL   return-PAST

'John returned three of the nine books that were left unsold.'

(11) John-ga   [ure-nokotta   hon   kyuu-satsu-o   hotondo]   kaeshi-ta.

John-NOM unsold-left   book nine-CL-ACC   most   return-PAST

'John returned most of the nine books that were left unsold.'

(10) shows that the NC cannot take a complement containing an NC, while (11) shows

Q can. We are led to a question as to what permits Q to take a complement containing

an NC within the QP partitive construction (11). It is necessary to distinguish Qs and

NCs with regard to their complement-selectional restriction.

De Hoop (1997) separates quantifiers into two sets, based on their complement

selectional restriction. She suggests that there is a distinction between quantifiers that

take "entities" as their first argument and those that take "sets of entities" as their first

argument. In English, for instance, quantifiers such as *half* and *much* are of the former

class, and those such as *three* and *many* are of the latter class. The clear contrast

between these two classes is given below:

(12) a. Half of the water

     b. *One of the water

     c. One of the linguists

De Hoop argues that (12a) shows that *half* is a quantifier that can take an entity *the water* as its argument; (12b) shows that *one* cannot take such an entity as its argument; (12c) shows that *one* can take a set of entities as its argument.   De Hoop calls partitive constructions like (12a) *entity partitives* and partitive constructions like (12c) *set partitives.*[8]

     Following De Hoop, I will argue that the distinction between entity partitives and set partitives takes effect in NCP and QP partitive constructions.   A piece of empirical evidence is that Qs can take an entity as their complement, whereas NCs cannot, as shown below:

(13) a. Taro-ga   kono hon-o   hotondo   yon-da.

         Taro-NOM   this book-ACC most   read-PAST

         'Taro read most of this book.'

     b. *Taro-ga   kono hon-o   yon-satsu yon-da.

         Taro-NOM   this book-ACC four-CL read

Kono hon 'this book' refers to an entity and it is interpreted as definite.   In (13a), the Q *hotondo* refers to a large part of the entity.   Thus, the Q and its complement DP are in a

---

[8]   *Entity partitives* may correspond to Hoeksema's (1984) *mass partitives.*

part-whole relationship. It is clear from (13b) that the NC cannot take an entity as its complement. Given that, I suggest that Japanese Qs are heads of entity partitives, whereas Japanese NCs are heads of set partitives.

Let us consider the internal structure of the complements of Qs. In (13a), Q takes an entity *kono hon* 'this book' as its complement. Since it is definite and it lacks an NC, I propose the following structure for (13a):

(14)

```
                              QP
                          ___/  \___
              DP-o (ACC)              Q
             __/    \__              hotondo
         kono        D'             most
         this      __/ \__
                 NP      D[ACC]
                 hon
                 book
```
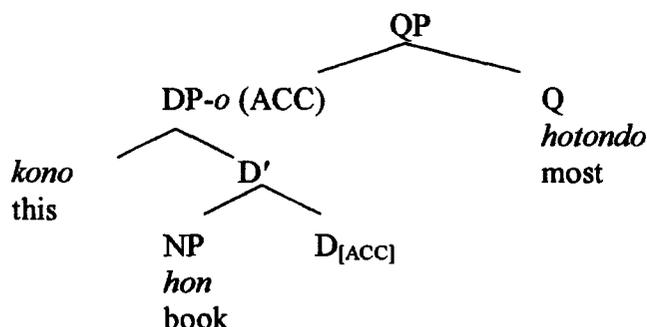
Having observed that Qs appear in entity partitives, a question arises as to the internal structure of the complement of Q that contains an NC as repeated below:

(15) John-ga   [ure-nokotta hon kyuu-satsu-o   hotondo] kaeshi-ta. (=(11))

     John-NOM unsold-left book nine-CL-ACC most   return-PAST

     'John quickly returned most of the nine books that were left unsold.'

One might argue that in (15) the complement DP containing an NC *kyuu-satsu* 'nine-CL' refers to a set of books from which a subset is chosen. However, having seen that *hotondo* 'most' can take an entity as its complement as in (13a), we are led to

the argument that in (15) the complement DP [*ure-nokotta hon kyuu-satsu-o*]

'unsold-left book nine-CL-ACC' denotes "a complex entity" (De Hoop 1997: 162, Link

1983, Lønning 1987). I thus conclude that the QP in (15) is an entity partitive

construction. Its schematised structure is given below:

(16)

```
                      QP
                   /     \
               DP-o(ACC)   Q
                /    \       hotondo
             NCP      D[ACC] most
            /    \
          NP     NC
        /   \    kyuu-satsu
  ure-nokotta hon  nine-CL
  unsold-left book
```
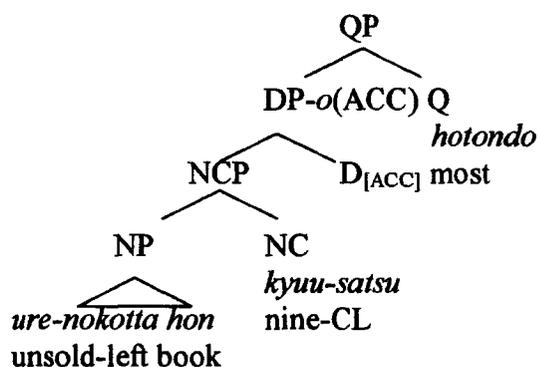
The claim that the complement DP [*ure-nokotta hon kyuu-satsu-o*] 'unsold-left

book nine-CL-ACC' denotes a complex entity is supported by evidence from English.

In English, a DP with a number feature such as *the linguists* can appear within an entity

partitive construction in (17):

(17) Half of the linguists

Recall that *half* is a quantifier that takes an entity within its complement as in (12a).

(17) thus suggests that the DP *the linguists* can denote a complex entity.[9]

---

[9] The DP *the linguists* can also appear within set partitives as in (i):

(i) One of the linguists

This suggests that DPs such as *the linguists* can denote either a complex entity or a set of entities.

Let us turn to the ungrammaticality of (10). We have seen in (13b) that an NC cannot take an entity as its complement. I suggested that NCs can appear only in set partitives. That is, the NC always takes a DP that can denote a set of entities as its complement. In the next section, I will consider what kind of DP can be set-denoting.

3.2.5.2 Set-denoting DPs

The proposed analysis for the contrast between set partitives and entity partitives in Japanese raises a question as to the nature of the complement of NC. Recall that the complement of NC must lack a number feature as is clear from (13b). Thus, there seem to be no items to host a number feature within the complement of NC. The question is, how does a DP have a set-denoting reading without an NC? I will argue that the interaction between NP as a kind-denoting item and D with a singularising function yields a set-denoting reading of the complement DP.

I have claimed in Chapter 2 that NP is a kind-denoting category, and when D takes an NP as its complement, the newly formed DP comes to refer to a single kind. Extending this idea, I claim that the denotation of the complement DP of NC varies from a single member to a whole set of individuals of the kind. In other words, the complement DP that lacks an NC does not show plurality. Instead, it can denote a whole range of individuals of the kind. Hence, it is the range that is interpreted as a set of individuals. Therefore, the complement of NC in partitive constructions denotes a whole range of individuals of the kind, and a part-whole interpretation is established between the NC and its complement DP in the course of theta-role assignment.

To sum up, I have proposed that partitive constructions are NCPs or QPs in Japanese headed by NC or Q, respectively. The complement of NC or Q is a DP, and it can be raised out of the partitive constructions for syntactic reasons. DP-raising out of the partitive constructions produces the well-known floating quantifier phenomenon. I have suggested that NCs and Qs are different in their complement-selectional property and that Qs select an entity-denoting DP, whereas NCs select a set-denoting DP as their complement.

3.2.6 Pesetsky's (1982) QP-hypothesis

3.2.6.1 Genitive of negation in Russian

My analysis of partitive constructions in Japanese is in accordance with Pesetsky's approach to partitive constructions and the so-called genitive of negation in Russian. In what follows, I outline his analysis and show that his analysis confirms my analysis of Japanese partitive constructions.

It is well-known that with preverbal sentential negation, certain object noun phrases in Russian may appear in the genitive case. As shown in (18) and (19), the object phrase appears either as accusative or as genitive.[10]

Russian (Pesetsky 1982: 40)

(18) a. Ja ně   polučal   pis'ma

      I   NEG received   letters(ACC pl)

      'I did not receive letters.'

---

[10] NEG = negation; pl = plural; sg = singular; fem = feminine; neut = neuter

b. Ja ně polučal pisem

I NEG received letters (GEN pl)

'I did not receive letters.'

(19) a. Ni odna gazeta ně byla polučena.

notone(fem NOM sg)newspaper NEG was received(fem sg)

'No newspaper was received.'

b. Ni odnaj gazety ně bylo polučeno

not one (fem GEN sg) newspaper NEG was received(neut sg)

'No newspaper was received.'

Pesetsky calls this construction the genitive of negation. He points out the following two facts concerning the genitive of negation. First, the appearance of a phrase in the genitive case is optional.[11] Second, when a genitive phrase alternates with a nominative subject as in (19), the appearance of the genitive variant correlates with the absence of overt subject agreement on the verb.[12] In (19b), the verb appears in the third person neuter singular form.

---

[11] I will come back to the issue of the optionality of the genitive case in Russian in 3.2.7.
[12] Pesetsky (1982:41) points out that in an unmarked word order, the genitive of negation follows the verb. Observe the word order contrast given below:

(i) Ni odna gazeta ně byla polučena
Not one newspaper NEG was received
(fem NOM sg) (fem sg)

(ii) Ně bylo polučeno ni odnoj gazety
NEG was received not one newspaper
(neut sg) (fem GEN sg)

This may suggest that the genitive of negation has a different internal structure from the internal structure of its nominative counterpart and remains in situ due to the lack of feature-checking at a higher position.

Pesetsky (1982:66) also points out that the interpretation of the genitive of negation is more restricted than that of its non-genitive counterpart.[13]

(20) a. Ně   pajavilis'   studenty

NEG   showed-up (pl)   students (masc NOM pl)

b. Ně   pojavilos'   studentov

NEG   showed-up(neut sg) students (masc GEN pl)

(20a) has only one interpretation, (21a).   (20b), on the other hand, has a logical representation either as (21a) or as (21b): i.e., it bears two possible interpretations. .

(21) a. ¬ the students showed up (cf. 'the students didn't show up.')

b. ¬ ∃x. x students (x showed up) (cf. 'no students showed up.')

Given these contrasts in scope of negation between the genitive of negation and the non-genitive, i.e., the nominative or accusative counterpart, Pesetsky suggests that the genitive of negation has a different internal structure from other nominative and accusative noun phrases.

3.2.6.2 An emtpy category within a genitive of negation

In certain negative environments in French, object noun phrases can take the form *de*-N as shown below (Kayne 1981:95):

---

[13]   Masc = masculine

(22) Jean n'a pas   trouvé   de   livres.

John (NEG) has not   found   (of) books.

'John has not found books.'

Kayne suggests that the *de*-N form be analysed as [NP [QP *e*] *de* N] and it is comparable to the noun phrase [*beaucoup de livres*] 'many (of) books', in which *beaucoup* 'many' fills the empty QP element position.[14]

Following his analysis, Pesetsky assumes that there is an empty numeral expression within a Russian genitive of negation and it forms an XP-level category together with the following genitive noun phrase. Pesetsky (1982:75) presents a case

---

[14] Kayne (1981: 95) notes that the *de-N* phrase does not appear in subject position as follows even in negative environments:

(i)   *De livres   n'ont   pas   été   trouvés   (par Jean).
         (of) books   (neg.) have not   been   found   (by Jean)

Assuming by the Empty Category Principle (ECP) that an empty category must be "properly governed" (Chomsky 1980) and that subject position is ungoverned, Kayne claims that (i) is ungrammatical since the empty QP contained within the subject noun phrase is not governed and thus it violates the ECP.

The QP-analysis developed in this chapter has implications for the French *de*-N construction.   It is interesting to note that the ungrammaticality of (i) is in accordance with the ungrammaticality of bare nouns in subject position in Italian (see also Cheng & Sybesma 1999 for Cantonese):

Italian (Longobardi 1994: 616)
(ii)   *Acqua   viene giù   dalle colline.
         water   comes   down from the hills

Longobardi claims that (ii) is ungrammatical since the empty determiner head contained within the bare noun *acqua* 'water' is not lexically governed in subject position.

Combining the QP-hypothesis formulated by Pesetsky (1982) and the lexical government requirement for an empty head discussed by Longobardi (1994), I would like to propose that the French *de-N* constructions contain an empty head, Q, and the whole phrase is a QP as illustrated below:

(iii)   [QP [Q Ø] [DP *de livres*]

The empty head Q is required to be lexically governed as the empty D of a bare noun in subject position is in Italian.   Thus, the *de*-N constructions appear only in lexically-governed position.   Needless to say, there are still many open questions as to the QP structure for the French *de-N* constructions in negative sentences, but I will leave the issues for future research.

where a genitive noun phrase follows a numeral expression as supporting evidence:

(23) Ja   polučil   [tri   priemnika]

    I   received   three radio (masc GEN sg)

    'I received three radios.'

This example indicates that a noun phrase has genitive case when it follows a numeral expression. He notes that a noun phrase containing a numeral expression as in (23) and a Russian genitive of negation share the properties (i) of appearing as the object of transitive verbs, (ii) of not appearing in object position where oblique case is assigned, and (iii) of undergoing QR at LF. These properties are enough to ensure that a genitive of negation and the object in (23) have the same internal structure.[15]

3.2.6.3 The QP structure and its empty head Q

Pesetsky proposes that in (23), the object is a QP headed by a numeral quantifier, Q, and the genitive noun phrase is the complement of Q as illustrated in (24):[16]

---

[15] It is clear from the following examples that genitive case is not assigned by V (Pesetsky 1982: 65).

(i) a. Ja   nĕ   pomogaju   nikakim   devuškam
       I   NEG help   no   girls (fem DAT pl)

    b. *Ja nĕ   pomogaju   nikakix   devušek
        I NEG   help   no   girls (fem GEN pl)

Pomogat' 'help' is a verb which requires its complement to be dative. Thus, in (ib) the genitive of negation cannot appear. Pesetsky argues that QP cannot bear oblique case, and thus the genitive of negation in (ib), as a QP, cannot receive dative case from the verb *pomogat'* 'help'.

[16] Pesetsky notes that the genitive noun can be the head of the construction, and he leaves its category as N. I assume that the N, as the complement of Q, should probably be either an NP or a DP, but leave it undetermined here.

(24)

```
        QP
       /\
      /  \
     Q    N
     tri   priemnika
     three radio (masc GEN sg)
```
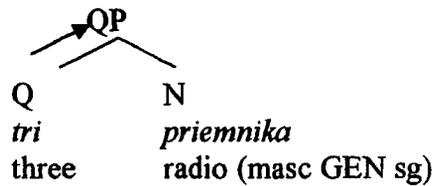
Given this, he suggests that a Russian genitive of negation is also a QP headed by an

empty Q, and the genitive noun phrase is a complement of the empty Q as in (25):

(25)

```
        QP
       /\
      /  \
     Q    N
     Ø    pisem
          letters (neut GEN pl)
```
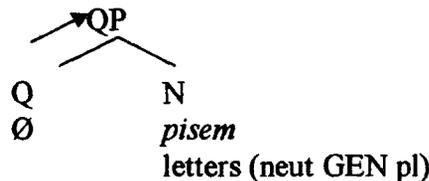
He calls this the "QP-hypothesis".[17, 18]

He suggests that since a Russian genitive of negation is a QP as in (25), it

undergoes Quantifier Raising (QR), which accounts for the difference in scope

interpretation between a genitive of negation and its non-genitive counterpart observed

---

[17] Pesetsky (1982) proposes that a particle *po* in Russian, which bears a distributive reading, can also head a QP and its complement has genitive case as illustrated below:

(i)   [Po jabloku]   upalo   s   každogo   děreva (Pesetsky 1982: 70)
        po   apple(neut DAT sg)   fell (neut sg) from each   tree
        'a (different) apple fell from each tree.'

It is clear from the following example that dative case of the *po*-phrase is not assigned by V.   Consider:

(ii)   *Ja   pomogal   [po devuške]   v den'
         I   helped   po girl (fem DAT sg) in day
        'I helped a girl a day.'

In (ii), the verb *pomogal* 'helped' is the verb which requires its complement to be dative, but the dative case-marked noun within the *po*-phrase does not suffice to meet the requirement.   Therefore, Pesetsky suggests that *po* is the head of QP and assigns dative case to its complement.   As an opposing view, see Franks (1994).

[18]   It must be noted that genitive phrases under negation are obligatorily indefinite (Pesetsky 1982: 65). This is explained by assuming that the empty Q head of the genitive of negation is the locus of indefiniteness.

in (20).

The so-called genitive partitives in Russian are also captured under Pesetsky's QP-hypothesis. A genitive partitive is taken by a verb *dobavit'* 'add' as below (Pesetsky 1982:202):

(26) Povar dobavil   saxaru   v   smes'.

cook added   sugar(masc GEN sg)   to   mixture

'The cook added some sugar to the mixture.'

Given that a genitive of negation is a QP headed by an empty Q and the noun phrase following Q has genitive case as in (25), Pesetsky proposes that the genitive partitive *saxaru* 'sugar (masc GEN sg)' in (26) is also a QP headed by an empty Q, and the genitive noun phrase is the complement of the empty Q. The structure is illustrated in (27):

(27)

QP

Q   N
Ø   *saxaru*
           sugar(masc GEN sg)
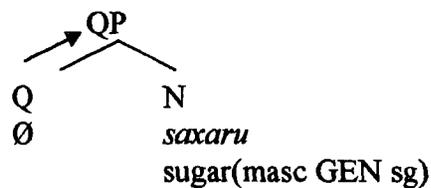
This structure suggests that the *partial* interpretation of a genitive partitive is rooted in the empty Q head. The empty Q assigns a theta-role to its complement, giving rise to a part-whole interpretation between Q and the genitive noun phrase. Hence, even though only the complement is phonetically realised, the empty Q is interpreted as the source of the *partial* interpretation of the genitive of negation and the genitive partitive.

We have seen that in both Japanese and Russian, Qs (and NCs in Japanese) can be the heads of QPs (and NCPs) as partitive constructions. Recall that we observed in Chapter 2 that Japanese NCs within partitive constructions show properties as heads in coordination and scope (Terada 1990). As pointed out by Pesetsky, Russian Qs show properties as heads with regard to agreement with verbs. Thus we seem to have good evidence that the QP analysis of Japanese NCP partitive constructions is on the right track.

One important difference between Japanese partitive constructions and Russian QPs is that the complement of the head in Japanese partitive constructions can be nominative or accusative whereas that of Russian genitive partitives are always genitive. One possible explanation to this difference might be to suggest that Russian Qs can check the genitive case within QP, while Japanese NCs lack such a feature-checking property, and their complement DP is raised out of the partitive constructions for feature-checking. Another possible explanation might be that the structure of Russian QPs is not parallel to that of Japanese partitive constructions and contains another empty head that has the genitive case to be checked. I will have to leave this issue for future research.

3.2.7 Is NC always the head? : The ambiguity of NCPs

Recall that agreement between a verb and a numeral expression in Russian is optional: as Pesetsky notes, it is the case that a verb does not always show plural agreement with its subject as repeated below:

(28) a. [Šest'   studentov]   prišlo.

   six   students(masc GEN pl) arrived(neut sg)

   'Six students arrived.'

   b. [Šest'   studentov]   prišli

   six   students(masc GEN pl) arrived (pl)

   'Six students arrived.'

In (28a), the verb appears in a neuter form and does not agree with the subject in number. In (28b), on the other hand, the subject and the verb agree in plurality. The above observation leads Pesetsky to claim that when the subject containing a numeral does not agree with the verb like (28a), the subject is a QP headed by Q, whereas when the subject agrees with the verb in number like (28b), the subject is an NP, which contains Q as a modificational expression. Schematically:[19]
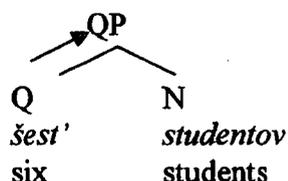
(29) a   b.
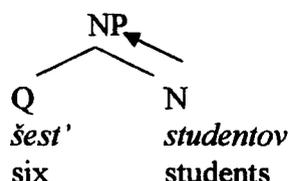
So for Pesetsky, (29a) does not agree with the verb in number, while (29b) does.

Let us turn to Japanese NCP partitive constructions. Recall, as pointed out by

---

[19]   The fact that QP and a verb do not show agreement parallels the observation that in negative examples, the verb always appears in the third person, neuter singular form, regardless of the person, gender or number of the genitive phrase.

Kitagawa & Kuroda (1992), Miyamoto (1996) and Ishii (1997), that Japanese NCP

partitive constructions are ambiguous when the case-marked DP is adjacent to the NC:

they can get either a partitive or non-partitive interpretation as repeated below:

(30) John-ga   isoide   [ure-nokotta hon-o   san-satsu] kaeshi-ta. (=(2))

      John-NOM quickly   unsold-left book-ACC three-CL   return-PAST

      'John quickly returned three of the books that were left unsold.' (Partitive)

      'John quickly returned three books that were left unsold. (Non-partitive)

As is clear from the translations, the NC is a semantic head of the object when it has a

partitive interpretation, whereas the NC is a modifier to indicate the number of

individuals when it has a non-partitive interpretation.   It is important to note that in the

latter interpretation, the object denotes a single set of three books.

As we saw in Chapter 2, the NC with a non-partitive interpretation may be raised

over the case-marked noun and appear as the bare pre-nominal NC.   On the

independent grounds, I claimed in Chapter 2 that the NC that is subject to raising to

pre-nominal position is an NCP, rather than a head NC, and thus it is adjoined to a

maximal projection such as VP (Terada 1990).   In this account, the schematised

structure of the NC is as follows:

(31)

```
                    NCP
                  /      \
        DP-o(ACC)          NCP
        /       \          san-satsu
  ure-nokotta hon          three-CL
  unsold-left book
```
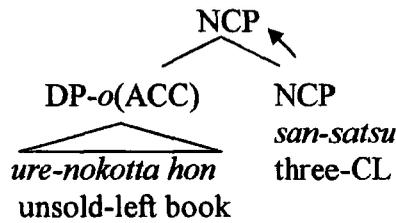
However, there is another possibility. With Pesetsky, one might propose that when an NC has a non-partitive interpretation within a seemingly NCP partitive construction, it is a modifier and adjoined to DP as illustrated below:

(32)

```
                    DP
                  /      \
        DP-o(ACC)          NCP
        /       \          san-satsu
  ure-nokotta hon          three-CL
  unsold-left book
```
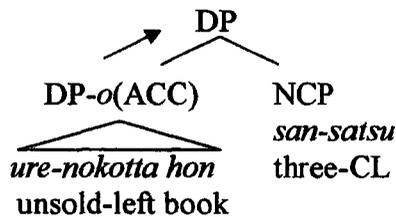
However, there is some supporting evidence for the structure in (31). Given that the non-partitive interpretation is an existential interpretation, it is reasonable that the category of the whole sequence with a non-partitive interpretation is an NCP as in (31) whose existential interpretation originates from the lower NCP. Further, given that adjuncts are generally adjoined to the left in Japanese, I suggest that the DP within (31) is adjoined to NCP. Therefore, it is concluded that (31) is the appropriate structure for the sequence of a case-marked noun and the post-case NC with a non-partitive interpretation.

The remaining question is about the definiteness of the DP within (31). I

claimed in section 3.2.5 that the complement DP of NC within the NCP with a partitive

interpretation is a definite or restricted DP and it is mapped to an entity or a set of

entities provided in context or elsewhere. However, it is clear from the non-partitive

interpretation of (30) that the DP in (31) cannot be definite or restricted. The question

is, why does the DP in (31) lack such a definite or restricted interpretation? If D were

always the locus of definiteness, the DP in (31) would be definite, contrary to fact. In

Chapter 5, I will claim that a Japanese D is either a definite D or an expletive D, and the

D in (31) is considered as the latter, which is not the locus of definiteness. Since (31)

contains an expletive D, the accusative DP simply names the kind of the counted

individuals.

In sum, I have presented a QP-analysis for Japanese partitive constructions. The

proposed analysis is reinforced by Pesetsky's QP-hypothesis for Russian genitive

partitives and genitives of negation.

In the following sections, I will show a variation of the proposed structure for

partitive constructions. I will present a case where Q takes a PP as its complement,

keeping its partitive interpretation.

3.3 Partitive and pseudo-partitive constructions in English and *of*-phrase extraposition

This section deals with English partitive and pseudo-partitive constructions based on the

QP-analysis of partitive constructions in Japanese and Russian provided in the previous

section. I will argue that English quantifiers can assign a theta-role to their

complement *of*-phrase. Further, the contrast between English partitive and

pseudo-partitive constructions in extraposition will be examined and explained under the proposed QP-analysis.

3.3.1 X-bar theoretical analyses of partitive and pseudo-partitive constructions

Examples of partitive constructions in English are given below:

(33) [Many of the men] were here.

(34) [A lot of the leftover turkey] had been eaten.

As noted earlier, it is generally agreed that the semantic nature of partitive constructions is that there are two groups included, and one group is chosen from the other definite or restricted set.   Under the traditional X-bar theoretic framework, Jackendoff (1977) and Selkirk (1977) develop the idea that such a semantic intuition about two sets is brought about from the syntactic structure of partitive constructions.   They argue that partitive constructions include two maximal projections of N (N''' in Jackendoff (1977); NP in Selkirk (1977)), each of which designates a set.

Jackendoff (1977) argues that an English partitive construction is headed by N; the head N is occupied by PRO with a "unit" interpretation and is followed by a noun phrase containing a determiner or a possessive as illustrated below:

127

(35)

```
              N'''
               |
              N''
             /    \
          Q'''      N'
          many     /  \
                 N  of  N'''
                 PRO    /  \
                      the men
```
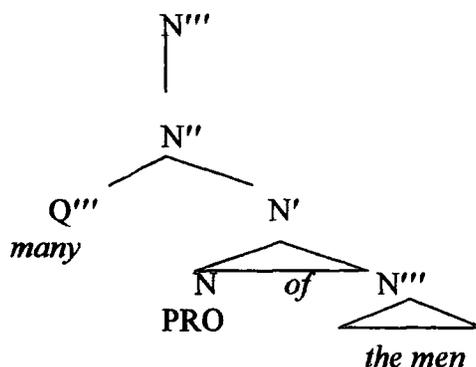
He suggests that *many* cannot be the head N because it cannot be modified by an adjective.

He notes that this structure is parallel to the following construction for another type of partitive construction *a group of the men*, in which the head N is realised as *group*:

(36)

```
              N'''
               |
              N''
             /    \
         Art'''     N'
           a       /  \
                 N  of  N'''
                group   /  \
                      the men
```
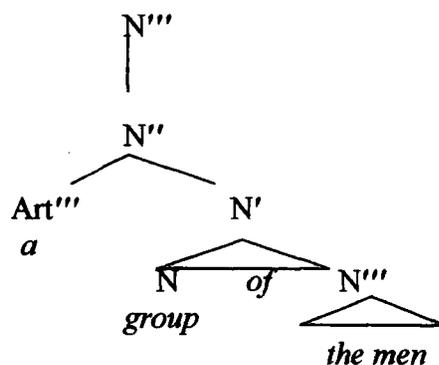
On the other hand, Selkirk (1977) assigns the following structure to a partitive construction such as *many of the men*:

(37)   Selkirk (1977)

```
                NP_i
                 |
                N"
              /  |  \
          QP    of    N'_i
         many          |
                       NP
                      /  \
                   Det     N"
                   the      |
                           N'
                            |
                            N
                           men
```
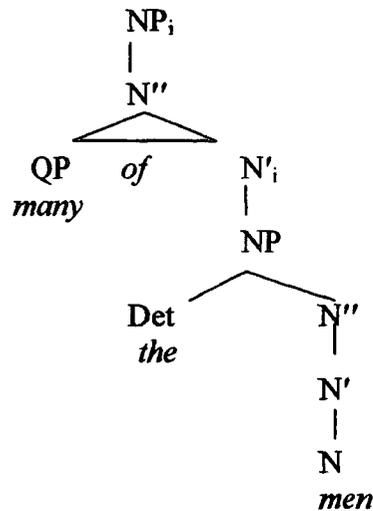
Note that in Selkirk's partitive structure, the head N is *men*.[20]   She further suggests that quantificational measure phrases such as *a lot* and *a number* are NPs within partitive constructions and indicate the amount of individuals.   They occupy the same position as the QP in (37).

Although the analyses by Selkirk and by Jackendoff are not consistent with regard to quantifiers and measure phrases, they agree that the definite noun phrase following *of* is a maximal projection and designates a set.

The following is an example of partitive-like constructions called "pseudo-partitive constructions", in which the noun phrase following *of* lacks a determiner:

(38)   A number of objections

---

[20]   Under Selkirk's analysis, a single head N can be preceded by two determiners or quantifiers since there are two possible positions for them.   Jackendoff's PRO-head analysis can avoid the anomaly of Selkirk's single head analysis.

Selkirk argues that pseudo-partitive constructions are distinct from partitive constructions in that the noun phrase following *of* in the former is not a maximal projection of N since it lacks a definite determiner or a possessive. She proposes the following structure for pseudo-partitive constructions:

(39)

```
            NP
            |
            N"
          ⟋ | ⟍
      NP     |    N'
  a number   of    |
                    N
               objections
```
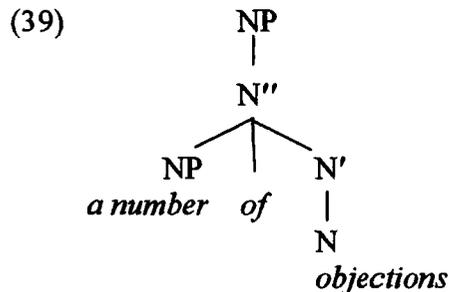
In this analysis, the following contrast in terms of extraposition between the partitive and the pseudo-partitive constructions can be explained:

(40) a. A lot of the leftover turkey had been eaten. (Partitive)

→ b. A lot had been eaten of the leftover turkey.

(41) a. A lot of leftover turkey had been eaten. (Pseudo-partitive)

→ b. *A lot had been eaten of leftover turkey.

Selkirk claims that the noun phrase following *of* within the partitive construction in (40a) is a maximal projection and thus is subject to extraposition as in (40b), while the one within the pseudo-partitive construction in (41a) is not a maximal projection and thus does not undergo extraposition as in (41b).

Selkirk raises supporting evidence for her analysis. In the following partitive

construction, a non-restrictive relative clause can apply to either *dozens* or *those*

daffodils:

(42) a. She bought him dozens of those daffodils, only two of which were faded.

b. She bought him dozens of daffodils, only two of which were faded.

In (42a), the two faded daffodils could either have been among the ones she bought, or

among the set designated by *those daffodils*. She suggests that the partitive

construction *dozens of those daffodils* contains two sets, both of which can be associated

with the relative clause in (42a). In (42b), on the other hand, two of the purchased

daffodils were faded. She suggests that the non-restrictive relative clause is associated

only with the set of purchased daffodils in (42b).

3.3.2 Semantic reanalysis of the Partitive Constraint

From the above observations of English partitive constructions, Jackendoff is led to

provide the following constraint:[21]

(43) Partitive Constraint (Jackendoff 1977:113)

In an *of*-N''' construction interpreted as a partitive, the N''' must have a

demonstrative or genitive specifier.

Jackendoff takes this rather observational constraint to be part of the semantic

component.

---

[21] *The* seems to be included in the "demonstratives" under Jackendoff's assumptions.

However, it is not difficult to find counterexamples to his constraint as given

below:

(44) Half of a cookie (De Hoop 1997)

(45) One of several students who arrived late (Ladusaw 1982)

(46) *One of both students

(44) and (45) show that *half* and *one* can have a partitive interpretation even though the

phrases following *of* are not associated with any determiner or demonstrative.   On the

other hand, (46) cannot be ruled out by Jackendoff's Partitive Constraint, even though it

is generally assumed that *both* is definite.

Semantic studies of partitive constructions have attempted to reformulate

Jackendoff's observational Partitive Constraint and have tried to obviate the need for it

by providing some semantic accounts for the (in)definiteness of noun phrases following

of.   In the following section, I will briefly outline the semantic reanalyses of

Jackendoff's Partitive Constraint and consider how the semantic properties of English

partitive constructions are syntactically realised.

3.3.2.1 Categories of determiners/quantifiers

Under the theory of Generalized Quantifiers that states that all noun phrases denote

families of sets, Barwise & Cooper (1981) argue that the noun phrase following *of*

within English partitive constructions must always denote a specific set that is a subset

of all the sets contained in the family of sets denoted by the NP.[22]   Under Barwise &

Cooper's view, determiners/quantifiers fall into two categories: those which are part of

noun phrases that can denote such a specific set, and those which are part of noun

phrases that cannot denote a set.   *The* within a noun phrase *the men* is categorised as

the former, and thus *the men* denotes a specific set.   Noun phrases such as *all men* and

every man are categorised as the latter, since these are defined even if there are no men

in the universe of discourse.

The set defined as a subset of all the sets in the denotation of a noun phrase is

called the "generator set" of the noun phrase.   Barwise & Cooper consider the *of the*

NP part within a partitive construction to refer to the generator set of the denotation of

the whole partitive construction.

Barwise & Cooper's analysis is partially successful in ruling out examples such as

*many of all men, but it seems their definition of definiteness cannot explain the

following contrast:

(47)   a. One of the two cats

        b. *One of both cats

Under Barwise & Cooper's view, *both cats* counts as non-empty and thus (47b) cannot

be ruled out.   This leads Ladusaw (1982) and Hoeksema (1984) to focus on the

semantics of plurality of the embedded noun phrases.   They explain the contrast

---

[22]   Barwise & Cooper's (1981) formal semantic definition of definite determiners is as follows:

(i)   A determiner D is definite if for every model M = <E, ‖ ‖ > and every A for which ‖ D ‖ (A) is
defined, there is a non-empty set B, so that ‖ D ‖ (A) is the sieve $\{X \subseteq E | B \subseteq X\}$. (Hence, ‖ D ‖ (A) is
what is usually called the principal filter generated by B.)   (Barwise & Cooper 1981: 183-184)

observed in (47) by focusing on a semantic difference between *the two cats* and *both*

cats. Assuming that the *of the NP* phrase in partitive constructions must denote a set,

Ladusaw (1982) and Hoeksema (1984) suggest that in *both cats*, *both* bears a

distributive reading and *both cats* cannot denote a set; therefore, it cannot be compatible

with partitive constructions.[23]

However, Barwise & Cooper (1981), Ladusaw (1982) and Hoeksema (1984)

cannot explain the grammaticality of the following example of a partitive construction,

in which the noun phrase following *of* is indefinite:

(48) Half of a pizza

In (48), *of a pizza* does not refer to a generator set or a set. Thus, (48) would be

wrongly ruled out in the theories by Barwise & Cooper, Ladusaw and Hoeksema.

.   The semantic studies I have outlined so far are mainly concerned with the

(in)definiteness or denotation of the embedded noun phrases. We have seen that it

does not suffice to consider the (in)definiteness of the noun phrase following *of*. In

---

[23] Indefinite determiners or quantifiers can appear in the *of*-phrases within partitive constructions as shown below (Ladusaw 1982):

(i)   That book could belong to one of three people.
(ii)   This is one of a number of counterexamples to the Partitive Constraint.
(iii)   John was one of several students who arrived late.

Ladusaw suggests that the above examples are grammatical when the speaker has a particular set of individuals in mind. However, as Abbott (1996) points out, it is not necessary to have a particular set of individuals in mind when we utter these examples. The following examples of the partitive construction containing quantifiers are acceptable (Abbott 1996:37):

(iv)   Every year only one of many applicants is admitted to the program.
(v)   Anybody who breaks more than one of any dishes they're given won't get anymore.

Many applicants in (iv) and *any dishes they're given* in (v) are neither definite nor specific, and thus, they are not accounted for as denoting a particular set of individuals. This suggests that noun phrases embedded under *of* do not have to have a contextually given reference.

what follows, I introduce De Hoop's (1997) more adequate semantic reanalysis of

partitive constructions which considers both embedded noun phrases following *of* and

quantifiers.

3.3.2.2 Set partitives and entity partitives in English

The following contrasts show that the definiteness of embedded noun phrases does not

always contribute to the grammaticality of partitive constructions (De Hoop 1997:

160):[24]

(49) a. Half of the water

      b. *One of the water

(50) a. Half of Jane and Jacky

      b. *One of Jane and Jacky

The grammaticality of (49a) can be accounted for under the Partitive Constraint, but the

ungrammaticality of (49b) cannot.   (50) is also problematic for the Partitive Constraint.

Jane and Jacky consists of two proper nouns, but it cannot appear after *of* as in (50b).[25]

---

[24] Hoeksema (1996) provides the following example to show that *Jane and Jacky* can denote a complex entity:

(i)   Only about half of Jane and Jacky was visible for the sniper.

(50b) contrasts the following grammatical example:

(ii)   One of the two students

De Hoop suggests that *Jane and Jacky* denote a complex entity as in (i), while *the two students* in (ii) denotes a set of entities, and that *one* takes only a set of entities as its complement.   Thus, the grammaticality of (ii) results.

[25] The judgements of (50a) and (50b) are by De Hoop (1997).   However, not all of my informants agree with her judgements.

The two observations show that Jackendoff's Partitive Constraint is not enough to rule out (49b) and (50b) and there seems to be some kind of restriction on the combination between the first quantifier/determiner and the embedded noun phrase after *of*.

De Hoop (1997) expands the range of observations into the first determiner/quantifier within partitive constructions. She argues that the nature of the first determiner (*half* and *one* in (49) and (50)) is relevant to the grammaticality of partitive constructions. As briefly introduced in section 3.2.5, she proposes to distinguish two types of quantificational determiners: the ones that take "entities" as their arguments and the ones that take "sets of entities" as arguments, and thus we obtain two types of partitives constructions, *entity partitives* and *set partitives*.[26] Under her analysis, *half* is the former, which takes an entity as its argument. Therefore, in (48), *a pizza*, as an entity, can be the argument of *half*. *One*, on the other hand, is the latter, which takes a set of entities as its argument. Thus it cannot take an entity such as *a pizza* as its argument. The question is: why can *Jane and Jacky* be an argument of *half* as an entity-denoting quantifier in (50a)? In accordance with Link (1983) and Lønning (1987), De Hoop assumes that *Jane and Jacky* can denote a complex entity, and suggests that it can be an argument of entity-taking quantifiers such as *half*. In (50b), *one* is a quantifier that takes a set of entities as its complement, and thus, *Jane and Jacky*, as a complex entity, cannot be the argument of *one*.[27]

---

[26] De Hoop notes that some quantifiers such as *some*, *all* and *most* can appear both in set partitives and entity partitives.

[27] It should be noted that the Dutch counterpart of the example (50a) is not acceptable as given below:

(i)   *De helft   of   meer van   scholieren   en   90%   van   studenten
        the half   or   more of   high school-students and   90%   of   college-students
        'Half or more of high school students and 90% of college students'

De Hoop (1996) suggests that it is a language-specific matter whether a quantifier appears either in an entity partitive or in a set partitive.

Having examined entity partitives and set partitives in English, De Hoop revises

Jackendoff's Partitive Constraint as a restriction on the semantic type of embedded noun

phrases within *of*-phrases:

(51) De Hoop's Partitive Constraint (De Hoop 1997:164)[28]

Only NPs that can denote entities are allowed in entity partitives;

only NPs that can denote sets of entities are allowed in set partitives.

In what follows, I will argue that English partitive constructions are QPs headed

by Qs.   Based on De Hoop's semantic reanalysis of the Partitive Constraint, I will

propose that English Qs, as heads, have a property to select either an entity-denoting or

set-denoting argument and that such a selectional restriction of Qs is derived from

theta-role assignment by Qs.

3.3.3 QP analysis of English partitive constructions

In this section, English partitive constructions are dealt with under the QP-analysis I

have proposed for Japanese NCP partitive constructions.   Since the English partitive

constructions contain *of*-phrases, it is necessary to amend the proposed QP-structure for

English partitive constructions.   I will argue that in English, partitive constructions are

QPs headed by Q, but that their complement is a PP.

3.3.3.1 The categorial status of various *of*s

The internal structure of Japanese NCP partitive constructions I have proposed in

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[28]   Since De Hoop's argument is based on the traditional NP-analysis, I assume that "NPs" in her
partitive constraint count as "DPs" in the DP-framework.

section 3.2.2 cannot be applied to English partitive constructions straightforwardly, since English partitive constructions contain *of*. Before tackling the internal structure of English partitive constructions, I discuss the categorial status of *of* and how it is incorporated into my QP-analysis of English partitive constructions.

In the analyses of English partitive constructions by Jackendoff (1977) and Selkirk (1977), *of* is inserted by a so-called *of*-insertion rule at S-structure (Chomsky 1970, 1981, 1986a, 1986b). Given a minimalist assumption that a lexical item consists of a bundle of features such as phonetic features and formal features in the lexicon (Chomsky 1993; 1995, Chapter 4), *of* should be considered as a lexical item, i.e., as a preposition (see also Grimshaw 1990). Further, the representational levels of D-Structure and S-structure are absent in the minimalist framework. Therefore, functional rules such as the *of*-insertion rule, which applies at S-structure, must be dispensed with. Thus, I assume that *of* is a preposition and selected from the lexicon into the numeration.

In Oga (2000b), I argue that there are two types of *of* in English: *of* as a functional preposition and *of* as a lexical preposition, on the basis of a contrast between two types of possessive construction: one headed by an inherently relational N and the other headed by a non-relational N. A relational N that refers to an inalienably possessed object (e.g. *arm*) can be followed by an *of-Possessor* phrase (e.g. *of John*), whereas a non-relational N can be followed by an *of-Possessor's* phrase (e.g., *of John's*) (Chomsky 1970, Barker 1998, Hawkins 1981). Consider:

(52) a. The arm of John

b. *That car of John

c. That car of John's

The contrast between (52a) and (52b) shows that an *of-Possessor* can follow a limited

range of nouns, i.e., relational Ns such as *arm*.

It has been argued that relational Ns have a theta-role assigning property (Tellier

1990, Kitahara 1993a).   Oga (2000b) claims that in (52a) the relational N *arm* takes an

of-Possessor as its complement and assigns a theta-role.   The actual theta-role of the

relational N is assigned to *Possessor* through *of*, since *of* lacks semantic content and

does not prevent its complement DP from receiving a theta-role from the head N

(Emonds 1985, 1991).   Only the Case feature of the complement DP is checked by *of*.

On the other hand, non-relational Ns such as *car* do not have a theta-role assigning

property, and thus in (52b) the phrase *of-Possessor* does not receive any theta-role from

the head N.   Instead, in (52c), the *of* within the phrase *of-Possessor's*, as a lexical

preposition, has its own theta-role to assign to its complement noun phrase and also

checks its Case feature.   The relevant structures are schematised below:

(53) A relational noun phrase:

(54) A non-relational noun phrase:

```
              DP
            /    \
          D        NP
         that      /  \
               N        PP
              car    /θ-role\
                   P ·············▸ DP
                   of   Case    John's
```
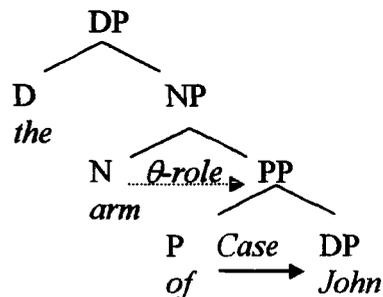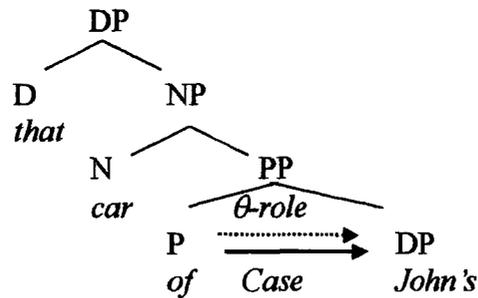
The *of* in derived noun phrases such as *a review of Mary's new book* counts as a functional preposition, since it lacks semantic content, and the theta-role of the derived noun is assigned to the complement of *of*.   On the other hand, the *of* in examples such as *a dress of blue silk* counts as a lexical preposition, since it has semantic content and can be paraphrased by an expression such as *consisting of.*

3.3.3.2 PP within English partitive constructions

Turning to the *of*-phrases following Qs within partitive constructions, I wish to argue that the *of*-phrases are PPs headed by a functional preposition *of.*   I propose, under my QP-analysis for Japanese NCP partitive constructions, that in English partitive constructions such as *much of the leftover turkey*, the Q *much* is the head and takes a PP *of the leftover turkey* as its complement.   I assume that whether the complement of Q is a DP (e.g. Japanese) or a PP (e.g. English) within partitive constructions is language-specific.   In English partitive constructions, Q assigns its theta-role to its complement PP, and thus it turns out that the Q and the DP embedded within the PP are in a part-whole relationship.   The DP embedded within PP may have its Case feature checked by P overtly in-situ or covertly.   The structure I propose for English partitive constructions is illustrated below:

(55)

```
              QP
         ┌─────┴─────┐
         Q   θ-role    PP
       much ·········▶ ┌──┴──┐
              P ──────────▶ DP
             of   Case    ┌──┴──┐
                      the leftover turkey
```
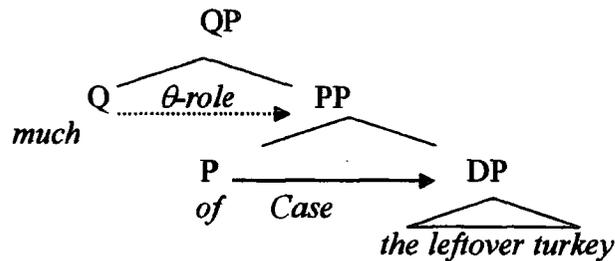
However, the following partitive constructions in English do not appear to fall under the proposed QP structure since there are no quantifiers contained.

(56) [A lot of the leftover turkey] had been eaten.

(57) [A handful of those questions concerning electromagnetism] were asked.

It is clear that both *a lot* and *a handful* have a partitive interpretation. One might assume that these partitive constructions have a different internal structure from (55), since each of *a lot* and *a handful* consists of an indefinite determiner and a noun and looks like an indefinite DP. However, the indefinite determiner does not appear to show the number of counted objects; *two lots of the leftover turkey* or *two handfuls of those questions* are excluded or awkward. Further, *a lot* and *a handful* can be used as a unit elsewhere as in (58) and (59):

(58) Thanks a lot for your help.

(59) That young lad is quite a handful.

These observations suggest that quantificational expressions such as *a lot* and *a handful* within English partitive constructions function as complex Qs and are consistent with other simple Qs such as *much*. They exist as Qs in the lexicon and enter into a numeration together with a theta-role assigning property. Thus, the partitive constructions in (56) and (57) are also assigned the same QP-structure as proposed earlier. Their structures are illustrated below:

(60)
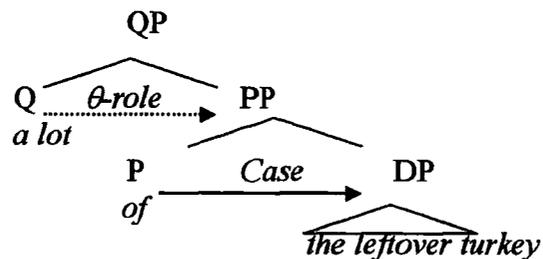
(61)
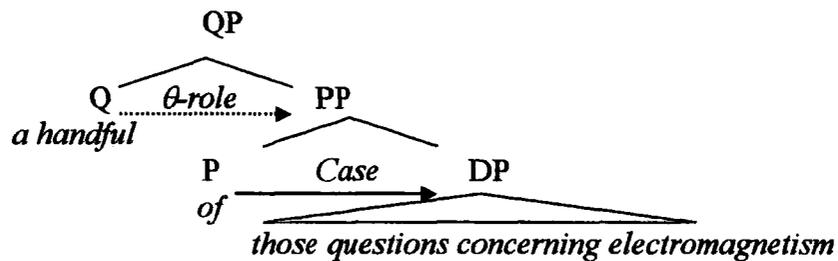
Recall here that English partitive constructions can be categorised either as entity partitives, headed by quantifiers that select entity-denoting expressions as their argument, or set partitives, headed by quantifiers that select set-denoting expressions as their argument. Given that, I suggest that the theta-role assigned by quantifiers within entity partitives is different to that within set partitives. In *many of the men*, for instance, *many* assigns its theta-role, say a "set" role, to its complement PP. Since the

DP *the men* embedded within the PP denotes a specific set, its theta-role and its own denotation match, and the partitive construction becomes grammatical. In an ungrammatical example such as **many of the water*, *many* assigns its theta-role anyway, but the DP *the water* within the PP does not denote a set, and thus its theta-role "set" assigned by *many* and its own denotation of an entity do not match, and the example becomes ungrammatical.

The question is, is there any syntactic distinction between set-denoting and entity-denoting DPs in English? De Hoop (1997:162) notes that a DP like *the linguists* with a number feature [plural] can denote a complex entity as well as a set of entities, since *half of the linguists* and *one of the linguists* are both well-formed. On the other hand, as shown in (49b), *the water*, which lacks a number feature, cannot appear within set partitives. This suggests that a DP consisting of a determiner and an abstract noun lacks a number feature and it can denote only an entity. It is thus reasonable to suggest that there is a syntactic distinction between set-denoting and entity-denoting DPs in terms of the existence of a number feature. Given that a number feature is in the Number (Num) head, I conclude that a set-denoting DP must contain Num.

3.3.4 Pseudo-partitive constructions under the QP-analysis

Let us now consider English pseudo-partitive constructions. The examples of pseudo-partitive constructions are given below:

(62) [A lot of leftover turkey] had been eaten.

(63) [A handful of questions concerning electromagnetism] were asked.

As noted in Selkirk (1977), pseudo-partitive constructions are different from partitive constructions in that in the former, the noun phrases following *of* lack a definite determiner, a demonstrative or a possessor phrase.

I would like to argue that the *of*-phrases following Qs within pseudo-partitive constructions are PPs headed by *of* as a lexical preposition. As pointed out by Jackendoff (1977) and Selkirk (1977), a pseudo-partitive construction denotes a single set. I suggest that it is Q that designates the single set within a pseudo-partitive construction, and the following *of*-phrase, which lacks a set/entity-denoting property, simply indicates a quality of the quantified object(s).[29] Based on Oga (2000b), I assume that the *of* in pseudo-partitive constructions, as a lexical preposition, assigns some kind of theta-role to its complement and also checks its Case feature. I suggest that the Qs within pseudo-partitive constructions constitute entire QPs and do not assign a theta-role to the following *of*-phrase.

It is interesting to note that the noun phrase *leftover turkey* in (62) is "bare" and not associated with any determiner or quantifier. It is plausible that this bare noun phrase is just an NP. I propose to relate this to the claim that only DPs can be arguments (Longobardi 1994, Szabolcsi 1994, Stowell 1989): since the bare noun embedded within a pseudo-partitive construction is an NP, it cannot be an argument and thus is not subject to theta-role assignment.

The structure of pseudo-partitive constructions I propose here is illustrated below:

---

[29]   The *of* within pseudo-partitive constructions is probably the same type as the one within an example such as *a shirt of blue silk*, since both *of*s are used to introduce a bare nominal expression that denotes a property of the object (i.e., *a shirt*) (Anderson 1983).

(64)
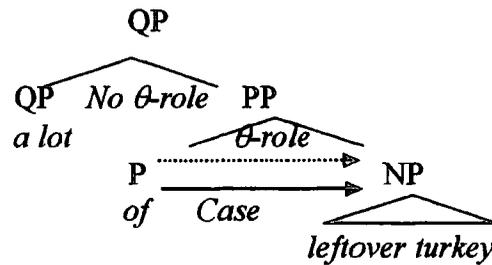
A remaining problem is that the structure in (64) cannot rule out the following examples:

(65) *Many of men

(66) *Much of money

A possible solution would be to suppose that only a few Qs such as *a lot* and *a number* can stand as QPs on their own in (64) and *many* and *much* are not such Qs. Another possible solution would be to suppose that complex quantifiers such as *a lot* and *a number* are not Qs but (part of) NPs in pseudo-partitive constructions. I will have to leave this issue for future research.

3.3.5 *Of*-phrase extraposition revisited

It has been observed that partitive and pseudo-partitive constructions show a clear contrast in *of*-phrase extraposition (Ross 1967, Jackendoff 1977, Selkirk 1977, Akmajian 1975, Guéron 1980, Guéron & May 1984). The *of*-phrase within a partitive construction can be extraposed, while the *of*-phrase within a pseudo-partitive construction cannot. The examples are repeated below:

(67) a. A lot of the leftover turkey had been eaten. (Partitive)

➡ b. A lot had been eaten of the leftover turkey.

(68) a. A lot of leftover turkey had been eaten. (Pseudo-partitive)

➡ b. *A lot had been eaten of leftover turkey.

(69) a. Only a handful of those questions concerning electromagnetism were asked.

(Partitive)

➡ b. Only a handful were asked of those questions concerning electromagnetism.

(70) a. Only a handful of questions concerning electromagnetism were asked.

(Pseudo-partitive)

➡ b. *Only a handful were asked of questions concerning electromagnetism.

Under the traditional X-bar scheme, Selkirk (1977) argues that the noun phrase following *of* within a partitive construction is an NP and is subject to extraposition, while the noun phrase following *of* in a pseudo-partitive construction is an N' and thus is not subject to extraposition (see also Jackendoff 1977).

In the previous section, I argued that *of* is a preposition in both partitive and pseudo-partitive constructions and it takes a complement. In the minimalist framework, all the bar-level categories are dispensed with, and thus, the complement of *of* should not be an intermediate bar-level nominal expression. Therefore, we cannot explain the contrast between partitive and pseudo-partitive constructions in extraposition in terms of the categorial status of *of*-phrases.

My theory of English partitive constructions developed above can explain the contrast between partitive and pseudo-partitive constructions with regard to *of*-phrase extraposition. I argue that the contrast in extraposition between partitive and pseudo-partitive constructions stems from the internal structure of each construction. I have proposed that in the partitive construction in (55) Q bears a theta-role assigning property and the complement *of*-phrase receives its theta-role from Q, while in the pseudo-partitive construction in (64), the *of*-phrase is not assigned any theta-role, and thus the Q and the *of*-phrase are not in a themantic relationship.[30]

Following Müller (1995), PP extraposition out of noun phrases is a syntactic movement and forms a syntactic chain. Since, categorically speaking, *of*-phrases within both partitive and pseudo-partitive constructions are PPs, they should all be subject to PP extraposition in syntax. The question then is, at which point is the *of*-phrase extraposition out of pseudo-partitive constructions ruled out? I will argue that it is at LF that *of*-phrase extraposition out of pseudo-partitive constructions is ruled out.

I claim that the contrast in extraposition between partitive and pseudo-partitive constructions in English is parallel to DP-raising out of NCP partitive constructions in Japanese. Following Ayano & Oga (2000), I propose that the *of*-phrase that undergoes extraposition out of the English partitive construction forms a syntactic chain and the

---

[30] Entity partitives and set partitives also show a contrast in *of*-phrase extraposition:

(i) A lot t_i had been eaten [of the leftover turkey]$_i$.

(ii) *Many t_i had been eaten [of the leftover cookies]$_i$.

In (i), the *of*-phrase is extraposed out of the entity partitive. In (ii), the *of*-phrase is extraposed out of the set partitive and shows degraded acceptability. Further examination may lead us to suggest that (ii) is ungrammatical due to the lack of theta-role assignment by Qs within set partitives.

chain can be interpreted at LF since the *of*-phrase is assigned a theta-role from Q in its

base-position.[31] On the other hand, the *of*-phrase within the pseudo-partitive

construction does not receive any theta-role from Q in its base-position. Suppose here

that the *of*-phrase within the pseudo-partitive construction does undergo extraposition in

syntax, since categorically speaking, both *of*-phrases within the partitive and

pseudo-partitive constructions are PPs and express no categorial difference. The

trace of the *of*-phrase left within the pseudo-partitive construction must be deleted at LF

since the *of*-phrase is not assigned any theta-role in its base-position, and thus its trace

lacks semantic content. Hence, the chain formed by PP extraposition out of the

pseudo-partitive construction becomes a single-membered chain, and the *of*-phrase

receives its interpretation in the surface position, i.e., sentence-final position. It is not

possible to interpret an isolated *of*-phrase, with no theta-role, in sentence-final position

at LF, since *of*-phrase is not locative and has no interpretation in isolation. The

---

[31] Kornfilt (1996: 120fn) points out that in Dutch, partitive phrases without overt heads undergo
extraposition as shown below:

(i)   a. Ali   heeft   van   de   melk   gedronken
         Ali   has   of   the   milk   drunk
         'Ali drank of the milk.'

         b. Ali   heeft   gedronken   van   de   melk.
         Ali   has   drunk   of   the   milk
         'Ali has drunk of the milk.'

However, when a partitive phrase appears together with the quantifier-like item, the whole phrase
does not undergo extraposition.

(ii)   a. Ali heeft drie   glazen   van de   melk   gedronken.
         Ali have three glasses   of the milk   drunk
         'Ali drank three glasses of the milk.'

         b. *Ali heeft   gedronken   drie glazen van de   melk.
         Ali has   drunk   three glasses of   the   milk

From the ungrammaticality of (iib), Kornfilt raises a possibility that the *van*-phrase undergoes PP
extraposition out of the partitive construction, leaving an empty element behind. If this is on the right
track, it should support my analysis of PP extraposition out of English partitive constructions.

sentence thus becomes ungrammatical.[32]   PP extrapositions out of the partitive and

the pseudo-partitive constructions are illustrated below:

(71)   [QP [Q A lot]   *t*PP] had been eaten [PP of the leftover turkey]. (Partitive)

(72)   [QP [QP A lot]   *t*PP] had been eaten [PP of leftover turkey]. (Pseudo-partitive)
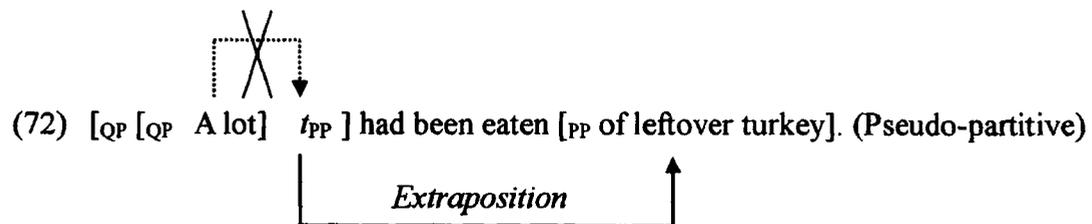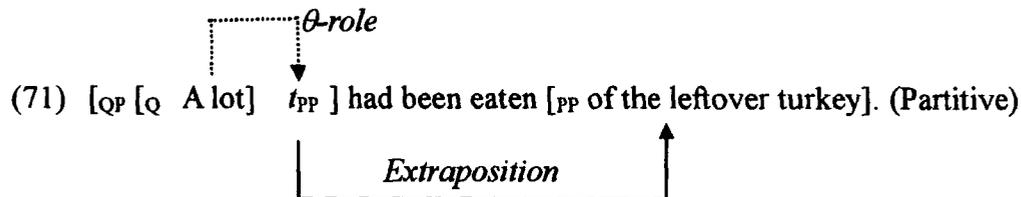
Thus far, I have argued that the contrast between partitive and pseudo-partitive

constructions in extraposition is rooted in the theta-role assignment by Q and the

argument status of PP.   This view is supported by the fact that the PP with a theme-role

undergoes extraposition as shown below (Selkirk 1977, Oga 2000b):

(73)   a. A review of Mary's new book will appear shortly.

➔   b. A review will appear shortly of Mary's new book.

---

32   If a PP which is not an argument of N is extraposed out of a noun phrase, the PP receives a different
reading in its surface position:

(i)   [A signpost to Newcastle] had been moved.
          (= The signpost to Newcastle is not where it used to be.)
(ii)   A signpost had been moved to Newcastle.
          (=The signpost is now placed in Newcastle.)

In (73a), the PP [*of Mary's new book*] receives its theme-role from the head N *review*.
Oga (2000b) argues that the chain created by the movement of the PP towards
sentence-final position can be interpreted as legitimate at LF since the PP is assigned a
theta-role in its base-position. Therefore, (73b) is grammatical. On the other hand, if
a noun phrase internal PP is not assigned any theta-role from the head N but still
extraposes, the result is unacceptable:

(74) a. A dress of blue silk was stolen yesterday.

➜ b. *A dress was stolen yesterday of blue silk.

The ungrammaticality of (74b) is explained in Oga (2000b) as follows. The head N
dress, as a non-relational noun, does not have a theta-role assigning property.
Therefore, the head N and the following PP *of blue silk* are not in a thematic relationship.
When the adjunct PP *of blue silk* undergoes extraposition, its trace does not have any
semantic content because it is not assigned any theta-role in its base position. Thus,
the trace is deleted at LF, and the chain turns into a single membered chain. Since it is
not possible to interpret the PP in its surface position, the sentence is unacceptable at LF.
The derivations of (73b) and (74b) are illustrated below:

θ-role

(75) [DP A [NP [N review] *t*PP]] will appear shortly [PP of Mary's new book]

Extraposition

(76) [DP A [NP [NP dress] tPP]] was stolen yesterday [PP of blue silk]
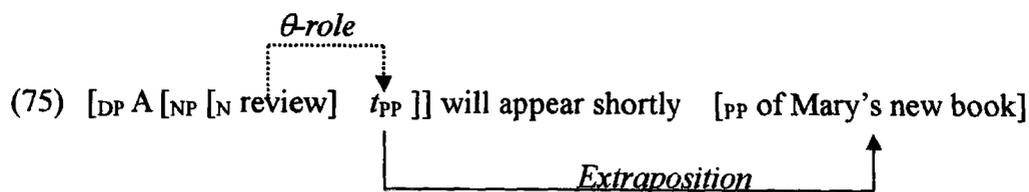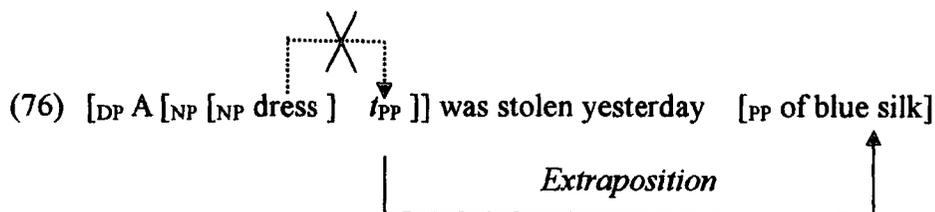
| Extraposition |

To sum up, I have shown that the contrast between partitive and pseudo-partitive constructions in English in extraposition reflects the syntactic difference between these two constructions proposed in the previous section. That is, a partitive construction in English is a QP headed by Q, and the head Q takes a PP headed by a functional preposition *of* as its complement. In a pseudo-partitive construction, on the other hand, Qs stand as QPs on their own and the following PP headed by a lexical preposition *of* appears as an adjunct to QP. The difference between the argument *of*-phrase and the adjunct *of*-phrase emerges as the contrast in extraposition of *of*-phrases out of partitive and pseudo-partitive constructions.

3.4 Finnish partitives

The term *partitive* has been used in three different ways in the literature. First, it is used as a name of a morphological case observed in languages such as Finnish and Latin. Second, it is used as a name of an inherent case assigned to an indefinite noun phrase under the Government and Binding (GB) framework (cf. Belletti 1988). Third, it is used to refer to a noun phrase with a partial interpretation (cf. De Hoop 1996). In previous sections, I have discussed the third case: noun phrases with a *partial* interpretation. This section is concerned with the other two cases, partitive as a morphologically realised case and as Belletti's inherent case. In what follows, I will examine the morphological realised partitive case in Finnish with reference to its

case-status, i.e., structural or inherent, and its relationship to indefiniteness. I will argue that partitive case is checked by prepositions in Finnish, and propose that a partitive object with a *partial* interpretation has the same QP-structure as English partitive constructions, in which the empty Q head assigns a theta-role to its complement PP. I will also claim that a partitive noun phrase without a partial interpretation in Finnish has the same QP structure as English pseudo-partitive constructions, in which PP does not receive any theta-role from the head Q.

3.4.1 Partitive case in Finnish: Is partitive inherent or structural?

It has been observed that Finnish has two cases for objects: accusative and partitive (Vainikka 1989). The sentence containing an accusative object denotes a completed action, whereas the one containing a partitive object denotes an incompleted action as shown below:[33]

(77) a. Jukka   söi   omenan.   (Vainikka 1989: 126)

      Jukka(NOM) ate   apple(ACC)

      'Jukka ate an apple.'

   b. Jukka   söi   omenaa.

      Jukka(NOM) ate   apple(PART)

      'Jukka was eating an apple.'

It has been debated whether the Finnish partitive case is inherent or structural (Belletti

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[33] PART = partitive

1988, Lasnik 1992, Vainikka 1989). In what follows, I briefly outline some previous works on partitive case.

3.4.1.1 Partitive as an inherent case (Belletti 1988)

Belletti (1988) provides an account for partitive case under the GB framework. Her analysis is based on the fact that in Finnish, noun phrases following intransitive verbs such as *be* and *come* have partitive case:

(78) Pöydällä   on   kirjoja.

   on the table is   book(PART)

   'There are some books on the table.'

(79) Helsingistä   tulee   kirjeitä.

   from Helsinki   comes   letter(PART)

   'There come some letters from Helsinki.'

It is important to note that the post-intransitive verb position is not for accusatives, and thus, partitive is not accounted for as a disguised form of accusative.

Given that unaccusative verbs do not assign accusative case to their complement, Belletti claims that unaccusative verbs assign the partitive case to their complement inherently at D-structure. She suggests that unaccusative verbs have a selective restriction that requires their partitive objects to be indefinite, and this gives rise to the Definiteness Effect observed in unaccusative sentences (Milsark 1974, 1977). Extending this analysis to English existentials, Belletti claims that in an English

existential construction (80), an indefinite NP *a man* receives partitive case from *is*,

inherently:

(80) There is a man in the garden.

Belletti (1988:9) further argues that passive verbs that lack the accusative case assigning

property become unaccusative verbs and assign partitive case to their complement in

such examples as follows:

(81) a. È   stato   messo   un   libro sul   tavolo.

        has been   put   a   book on the table

    'A book has been put on the table.'

b. *È   stato messo   il   libro sul tavolo.

    has   been put   the   book on the table

Notice that (81b) shows the Definiteness Effect.   Belletti claims that a passive verb, as

an unaccusative verb, requires its complement to be indefinite when it assigns partitive

case to its complement at D-structure.   She suggests that all verbs have an ability to

assign partitive case to their complement.   Thus, transitive verbs can assign either

accusative case or partitive case, but only the partitive case assigning property remains

in case of passivisation.

However, there is a case where the object of an unaccusative verb does not appear

to be assigned partitive case.   Consider the following Italian example:

(82) È   arrivato   Gianni.

      has   arrived   Gianni

      'Gianni arrived.'

In (82), *Gianni* is not an indefinite noun phrase and thus, (82) would be incorrectly ruled out under Belletti's analysis.   To explain such examples as (82), Belletti suggests that the assignment of partitive case is optional, and *Gianni* does not receive its case from the verb in (82).

3.4.1.2 Partitive as a structural case (Lasnik 1992)

Lasnik (1992) supports Belletti's (1988) argument that the complement of an unaccusative verb has partitive case, but he argues that partitive is a structural case, not an inherent case.   He notes that the semantic properties of partitive suggested by Belletti (1988) are not related to thematic roles.   Given Chomsky's (1986a) original idea that an inherent case is assigned in the course of theta-role assignment by a lexical head, it is not plausible that partitive case is an inherent case assigned by unaccusative Vs.   Lasnik also points out that Belletti's claim that partitive case is optionally assigned by verbs does not explain the following contrast:

(83) a. There is a man in the room.

      b. *There is the man in the room.

(83b) appears to be evidence that a definite noun phrase like *the man* is not compatible

with partitive case assigned by *be*. However, if we take the small clause analysis of Stowell (1981), *a man* in (83a) is the subject of a small clause: it is in a thematic relationship with the following PP *in the room*, not with the unaccusative V *is*, and thus, *a man* cannot receive an inherent partitive case from *is*. Lasnik also points out that the verb *be* lacks a theta-role to assign. Given that, he suggests that *be* (or its trace) structurally assigns partitive case to its adjacent argument.[34]

3.4.1.3 Partitive as a default case (Vainikka 1989)

According to Vainikka (1993), in Finnish, objects of verbs,[35] objects of prepositions,[36] elements that something is being compared to, and complements of quantifiers (including cardinal numerals) appear in partitive case (see also Vainikka & Maling 1996). Consider:

---

[34] Lasnik (1992) notes that other unaccusative verbs such as *arrive* may assign partitive case inherently in the following construction:

(i) There arrived a man.
[35] The partitive object implies that the action is not completed yet. As shown in (77a), objects of verbs appear in accusative case when completed action is implied. Vainikka (1993) claims that the feature <+COMPLETED> of a verb assigns accusative case to its complement. If a verb lacks the feature, it assigns partitive case as a structural default case.
[36] Vainikka (1993) points out that many of the prepositions which take partitive objects have a meaning of "lacking", the ones corresponding to *without*, *before* or *contrary to*. It is interesting to note that their semantically opposite counterparts appear as postpositions with a genitive complement.

(i) Maija tulee   Matin   ja   Mikon   kanssa
     Maija come-3sg   Matti (GEN) and   Mikko (GEN)   with
     'Maija is coming with Matti and Mikko.'

V+ObjPART

(84) Riitta   luki   kirjaa.

  Riitta (NOM)   read   book(PART)

  'Riitta was reading a/the book.'

P+ObjPART

(85) ilman/vailla   sateenvarjoa

  without   umbrella (PART)

  'without an umbrella'

Comparative Construction

(86) Riitta   on   Liisaa   lyhyempi.

  Riitta (NOM)   is   Liisa (PART)   shorter

  'Riitta is shorter than Liisa.'

Q+ComplementPART

(87) kaksi poikaa

  two   boy (PART)

  'two boys'

Recall that a partitive noun phrase can appear in a position where an accusative noun phrase is not available. The following example is ungrammatical since the noun phrase following a numeral must be partitive:

(88) *kaksi   pojan

      two   boy(ACC)

This leads Vainikka (1989, 1993) and Vainikka & Maling (1996) to claim that partitive

in Finnish is a structural default case for object position. Vainikka proposes four

possible positions for Finnish partitives as illustrated below:

(89)

```
              V'
          ____|____
         |         |
         V       NPPART
        luki      kirjaa
        read      book (PART)
```


(90)

```
              PP
          ____|____
         |         |
         P   ·    NPPART
       ilman     sateenvarjoa
       without   umbrella (PART)
```


(91)

```
                AP
            ____|____
           |         |
         Spec        A
           |        lyhy(t)-
          ?P         short
       ___|___
      |       |
      ?      NPPART
    -mpi     Liisaa
```

(92)

```
          QP
      ____/\____
     Q          NP_PART
   kaksi        krjaa
   two          book (PART)
```
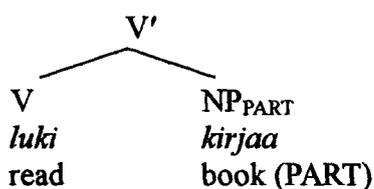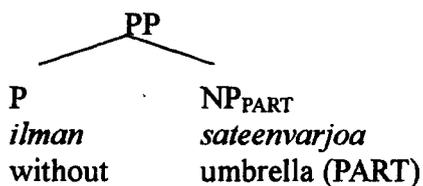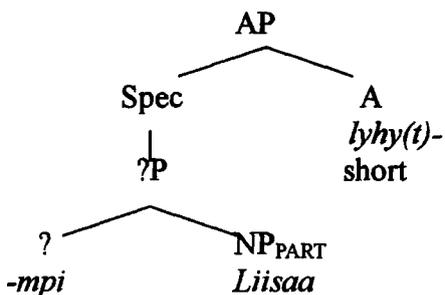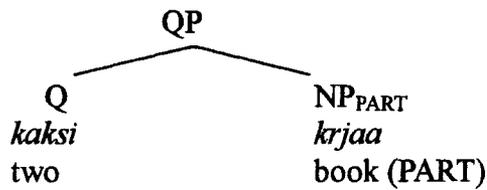
The distribution of partitive case across categories provided by Vainikka (1993) seems to show that partitive case is not an inherent case assigned by a certain lexical head but a structural one in accord with Lasnik's conclusion. However, as Schmitt (1996) notes, nominative case seems to be the representative of default case in Finnish (see Vainikka 1989, Milsark 1985). Therefore, it does not seem reasonable to have two morphologically different forms of a default case in a language. We are thus led to suppose that Finnish Partitive is not default but structural.

3.4.2 Finnish partitives under the QP-analysis

We have seen so far that the distribution of partitive case is across categories in Finnish and it is not associated with a particular semantic role. Following Lasnik (1992), I assume that Finnish partitive case is not an inherent case.

Let us now turn to the interpretation of Finnish partitives. As observed in (77), the sentence containing an accusative object denotes a completed action, whereas the one containing a partitive object denotes an imcompleted action in Finnish; i.e., the partitive object has a *partial* interpretation.[37] How partitive objects receive such a *partial* interpretation must be explained in a systematic way.

It is also important to note that partitive objects can be ambiguous. Chesterman

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[37] Vainikka (1989, 1993) suggests that the contrast in part/whole reading between accusative and partitive objects in Finnish reflects the sentential aspect of V not the partitive case itself.

(1991:133) points out that the sentence given below has three readings:

(93) Söimme   kakkua.

    ate-1 pl   cake(PART)

       a. 'We were eating a/the cake.'

       b. 'We ate (some) cake.'

       c. 'We were eating (some) cake.'

Chesterman notes that in the second and the third readings, the partitive phrases receive a *partial* interpretation: a certain amount of cake is affected by the eating activity. The question is, why can Finnish partitives be ambiguous? In what follows, I will provide a syntactic account for the *partial* interpretation of Finnish partitives and the optionality of the interpretation.

Kangasmaa-Minn (1984) notes that in Finnish, negation productively triggers partitive case in the object as in (94).

(94) En   lukenut   kirjaa   (Kangasmaa-Minn 1984: 86)

    I-did-not   read-PastPartcplAct   book(PART)

    'I was not reading the book.'   (a perfective irresultative process reading)

    'I did not read the book to the end.'   (an imperfective statement reading)

The distribution of partitive case in negation in Finnish appears to be the same as that of the genitive of negation in Russian and of the *de-N* form of direct objects in French.

Applying my analysis for English partitive constructions provided in Chapter 3, I

would like to argue that Finnish partitives are embedded within a QP-structure headed

by an empty Q. Hence, the partial interpretation in Finnish partitives thus originates

from the theta-role assignment within the QP-structure.

3.4.2.1 Partitive case checking by prepositions

Let us first consider how partitive case is checked in Finnish. Following Schmitt

(1996), I propose that the Finnish partitive is checked by prepositions. This is

supported by an example of a PP in (85) repeated below:

(95) *ilman*   *sateenvarjoa*

without   umbrella (PART)

I claim that in (95), the P *ilman* 'without' takes a DP complement *sateenvarjoa*

'umbrella' and checks its partitive case. The tree diagram shown below illustrates the

internal structure of the PP in (95):

(96) Finnish PP
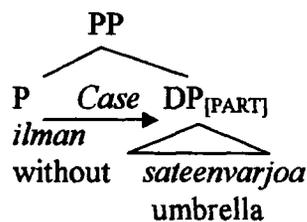
Given that Finnish P checks the partitive case of its complement DP, I propose that in

(77b), omenaa 'apple(PART)' is a DP in partitive case and its case is checked by the

empty P head as illustrated below:[38]

(97) Partitive case

PP

P _Case_ → DP[PART]
Ø

omenaa
apple(PART)
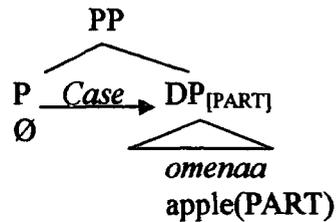
In Chapter 3, I have claimed that English partitive constructions are QPs whose head Q

assigns a theta-role to its complement PP and the Q and the DP embedded within the

complement PP are in a part-whole relationship. Applying my analysis of English

partitive constructions to Finnish, I argue that the PP illustrated in (97) is embedded

within a QP-structure headed by an empty Q. I propose that the empty head Q takes

the PP in (97) as its complement, and assigns a theta-role, and a part-whole relationship

is established.[39] The schematised structure of the Finnish partitive in (77b) is below:

---

[38] One might suggest that Finnish Q takes a partitive DP, not a PP, as its complement. However, this is undermined by the following example in which an overt Q is realised but the noun phrase lacks a partial interpretation:

(i)   On   kakusi poikaa.   (Sulkala & Karjalainen 1992: 97)
       be-(3sg)   two   boy (PART)
       'There are two boys.'

Kakusi poikaa 'two boy (PART)' receives only an existential reading and lacks a partial interpretation. Given that a partitive interpretation is derived from a QP-structure in which Q assigns its theta-role to its complement as I claimed in Chapter 3, I suggest the Num-Partitive sequence in (i) does not contain such a QP-structure and there is no thematic relationship established between the numeral and the partitive noun phrase.   This implies the partitive case appears regardless of the presence of Q in Finnish.

[39] Schmitt (1996) proposes that there is an empty quantificational determiner corresponding to *some*, which receives accusative case.   Her DP structure for partitive objects with a partial interpretation is as follows:

(i)   [DP *some*-ACC [PP P [DP milk (PART)]]]

She suggests that the whole DP undergoes raising to Spec of AgrO to have its accusative case checked.   I will leave open the technical issues of Case-checking partitive objects.

(98) Finnish partitives

```
                    QP
                  /    \
         Q ........θ-role....▸ PP
         Ø              /    \
                    P  Case ▸ DP
                    Ø         /\
                          omenaa
                        apple (PART)
```
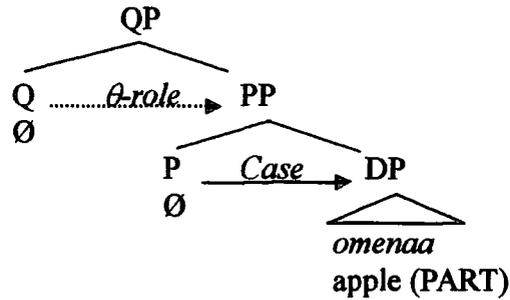
Notice that this structure is parallel to the structure of English partitive

constructions such as *much of the leftover turkey*, in which the head Q *much* takes a PP

of the leftover turkey as its complement.

The proposed QP structure in (98) for Finnish partitives is supported by the

following example, in which an overt quantifier-like item heads the whole phrase and

takes a partitive complement:

(99) osa vuotta

      part year(PART)

      'a part of the year'

Under the proposed analysis, (99) can be illustrated as follows:

(100)

```
                           QP
                  Q  ⸺⸺⸺⸺⸺⸺▶  PP
                 osa    θ-role      ╱╲
                 part            P  ⸺⸺▶  DP[PART]
                                 Ø   Case    vuotta
                                             year
```
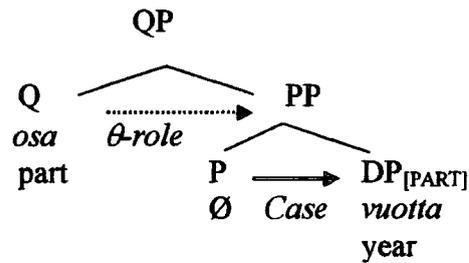
In sum, Finnish partitives with a partial interpretation are QPs, in which the empty head Q takes a PP complement and assigns a theta-role to it; the complement PP is headed by an empty P, and the P takes a DP and checks its partitive case. That is, Finnish partitives such as (1b) are QPs containing empty heads, Q and P.

However, there are cases in which partitives lack a partial interpretation as noted by Chesterman (1991) and Schmitt (1996). In what follows, I will provide an account for the non-partial interpretation of Finnish partitives.

3.4.2.2 A non-partial interpretation of Finnish partitives

Let us now consider the other reading of Finnish partitives, a non-partial, i.e., existential reading. I argue that partitive case, as a structural case, is assigned by P even when a Finnish partitive lacks a partial interpretation. Recall that a numeral-partitive sequence such as *kaksi poikaa* 'two boy (PART)' in (87) receives an existential reading. This suggests that numerals are the locus of indefiniteness.

I propose that the Finnish partitive without a partial interpretation has a QP structure parallel to English pseudo-partitive constructions such as *a lot of leftover turkey*. I claim that a PP, in which a DP in partitive case is embedded, follows a QP.

The empty QP does not assign a theta-role to the following PP. The schematised structure of (93) with no partial interpretation is given below:

(101)

```
              QP
           ╱     ╲
       QP   no θ-role   PP
       Ø
                    P   Case   DP
                    Ø  ──────▶  kakkua
                               cake (PART)
```

This leads me to suggest that the numeral-partitive sequence in (87) has the same structure as (101). An appropriate tree is given below:[40]

(102)

```
              QP
           ╱     ╲
       QP   no θ-role   PP
       kaksi
       two        P   Case   DP
                  Ø  ──────▶  poikaa
                             boy (PART)
```

One might argue that *kaksi* 'two' in (102) is an adjectival modifier and appears in the adjoined position to NP. However, in Finnish, adjectives within noun phrases show agreement in case and number with the head N as shown below (Sulkala & Karjalainen

---

[40] It should be noted that not all quantifiers bear a partial interpretation. For instance, as pointed out by Milsark, the NP *some linguists* is ambiguous between a partitive and existential reading (see also De Hoop 1996: 177):

(i)   Some linguists are in the pub.
        (a) Some of the linguists are in the pub.
        (b) There are some linguists in the pub.

This ambiguity might be relevant to the optionality of the theta-role assigning property of quantifiers. It may be that when the quantifier *some* bears a theta-role assigning property, (i) has a partitive reading (ia).

1992: 338):[41]

(103) Pienissä   taloissa   asuu   poljon   lapsia.

little-pl-INE   house-pl-INE   live-3sg   (much)   child-pl-PART

'There are lots of children in tiny houses.'

In (103), an adjective *pienissä* 'little-pl-INE' and a noun phrase *taloissa* 'house-pl-INE' show agreement.

Since numerals that co-occur with partitives do not show agreement, I conclude that they do not function as modifiers within the QP-structure proposed in (102).

In this section I discussed the non-partial interpretation of Finnish partitives. I proposed that partitives that lack a partial interpretation have the same internal structure as English pseudo-partitive constructions. Since there is no theta-role assignment within the constructions, no part-whole relationship is established between the QP and the PP, and thus a non-partial interpretation results.

In sum, I proposed two structures for Finnish partitives in this section. One is a QP whose empty head Q assigns a theta-role to its complement PP; the other is a QP in which a PP is adjoined to QP. I claimed that within PPs in both structures, P takes a DP as its complement and checks its partitive case. That is, partitive case is a structural case checked by P in Finnish.

Consequently, English partitive constructions are the overt counterparts of Finnish partitives with a partial interpretation, whereas English pseudo-partitive constructions

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[41]   INE = Inessive (Sulkala & Karjalainen 1992)

are the overt counterparts of Finnish partitives without a partial interpretation. In the

former, theta-role assignment takes place whereas in the latter it does not. Hence,

Finnish is another English-type language with regard to the internal structure of

partitive and pseudo-partitive constructions.

3.5 Conclusion

In the first part of this chapter, I examined Japanese NCP partitive constructions. The

first argument was that in Japanese, an NC takes a DP as its complement and they form

an NCP partitive construction, where a partitive interpretation of the NC is obtained as

the head NC assigns a theta-role to its complement DP. When the DP with a theta-role

is moved out of the NCP, the syntactic chain formed by DP-raising is interpreted as

legitimate since it is assigned a theta-role in its base position.

In the second part of this chapter, I examined English partitive and

pseudo-partitive constructions. Applying my analysis for Japanese NCP partitive

constructions to English partitive constructions, I suggested that English partitive

constructions are QPs, in which the head Q assigns a theta-role to its complement PP

headed by a functional preposition *of.* On the other hand, English pseudo-partitive

constructions are QPs, in which the head Qs lack a theta-role assigning property.

Of-phrases are PPs headed by a lexical preposition *of* and adjoined to QP, where no

thematic relation between Q and PP is established. Within both Japanese NCP

partitive constructions and English partitive constructions, the head NC and Q can have

a theta-role assigning property, but they are different in that the former take a DP as

their complement while the latter take a PP as their complement. That is, it is

language-specific whether the head takes a DP or a PP as its complement.

In the third part of this chapter, I examined Finnish partitives and their partitive

and non-partitive interpretations. I claimed that the Finnish partitives have two

structures, which are covert counterparts of English partitive and pseudo-partitive

constructions, respectively.

Chapter Four

Nominal Partitive Constructions

4.1 Introduction

In the previous chapter, I have discussed two types of partitive construction: (i) NCP partitive constructions whose complement is a DP (e.g. Japanese) and (ii) QP partitive constructions whose complement is a PP (e.g. English). This chapter concerns another type of partitive construction in which NCP partitive constructions are embedded within DP. I will show in this chapter that such partitive constructions are observed in Turkish and Japanese. I will argue that the NC head of the embedded NCP retains its theta-role assigning property.

This chapter is organised as follows. Section 4.2 will discuss Turkish ablative partitives which appear to show a close resemblance to Russian genitive partitives but whose distribution is different from that of their Russian counterparts. Section 4.3 concerns another type of partitive construction in Japanese called a "nominal partitive construction".

4.2 Ablative partitives in Turkish

4.2.1 Ablative partitives in object position

In this section, I will show that my QP-analysis for Japanese NCP partitive constructions presented in Chapter 3 can be partly applied to examples of so-called ablative partitive in Turkish given below:

(1)   Ali   süt-ten   iç-ti

      Ali   milk-ABL   drink-PAST[1]

      'Ali drank of the milk.'

In (1), the ablative partitive appears in object position and it has a partial interpretation (Kornfilt 1996, 1997).

In Chapter 3, we saw that NC or Q can have a partial interpretation within NCP or QP partitive constructions in the course of theta-role assignment by the head to its complement DP or PP.   Given that, I would like to propose that there is an empty head, corresponding to either NC or Q within Turkish ablative partitives, and it has a theta-role assigning property.

In what follows, I will demonstrate that the overt counterparts of the empty head do occur within noun phrases in Turkish, and they receive a partial interpretation.

4.2.2 Numeral expressions and ablative partitive case

It is important to note that ablative partitives can co-occur with a numeral in Turkish as shown below:[2]

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[1]   ABL = ablative partitive
[2]   The noun preceding the quantifier can also appear in the genitive case:

(i)   çocuk-lar-ın   iki-si (Kornfilt 1997: 236)
      child-pl -GEN   two -3sg
      'two of the children'

(ii) elma-lar-ın   iki-si
      apple-pl-GEN   two -3sg
      'two of the apples'

(2) çocuk-lar-dan   iki-si (Kornfilt 1997: 236)

child-pl-ABL   two-3sg

'two of the children'

(3) elma-lar-dan   iki-si

apple-pl-ABL   two-3sg

'two of the apples'

In general, Turkish is taken to be a head-final language.   Thus, in (2) and (3), the

numeral heads some kind of maximal projection.[3]

In addition, ablative partitives can precede a numeral classifier-like element such

as *iki kişi* 'two person' as below:[4]

(4) çocuk-lar-dan   iki   kişi (Kornfilt 1997: 237)

child-pl-ABL   two   person

'two of the children'

(5) elma-lar-dan   iki   tane

apple-pl-ABL   two   item

'two of the apples'

Notice here that (4) and (5) have the same readings as (2) and (3), respectively, despite

---

[3] Notice that Turkish ablative partitives parallel Russian genitive partitives in that both can co-occur with numerals (see section 3.2.6 in Chapter 3).

[4] Kornfilt (1996) claims that the ablative partitive in object position is embedded within DP containing a nominal *pro* head corresponding to a classifier-like element like *kişi* 'person'.

the presence of classifier-like items, *kişi* 'person' in (4) and *tane* 'item' in (5). It is

thus plausible to posit that the sequence of a numeral and a classifier in (4) and (5)

counts as a complex head, Numeral Classifier (NC), which is an equivalent of a

Japanese NC.

Kornfilt (1996) presents three pieces of evidence to show the constituent status of

the sequence of an ablative partitive and an NC. First, the sequence of an ablative

partitive and an NC undergoes clefting:

(6) a. Ahmet [past-dan iki dilim] ye-di.

Ahmet cake-ABL two slice eat-PAST

'Ahmet ate two slices of the cake.'

b. Ahmet-in ye-diğ-i, [pasta-dan iki dilim]-di.

Ahmet-GEN eat-participle-3sg [cake-ABL two slice]-PAST

'What Ahmet ate was two slices of the cake.'

Second, the ablative partitive cannot scramble past the NC:

(7) a. Ahmet [öğrenci-ler-den bu üç kişi-yi] beğen-iyor.

Ahmet student-pl-ABL this three person-ACC admire-PRES.PR.

'Ahmet admires these three of the students.'

b. *Ahmet [bu üç kişi-yi]ᵢ [öğrenci-ler-den tᵢ] beğen-iyor.

Ahmet this three person-ACC student-pl-ABL admire-PRES.PR.

Thirdly, the NC is not subject to scrambling:

(8)   a. Ahmet   [pasta-dan bu   iki   dilim]-i   ye-di.

Ahmet   cake-ABL   this   two   slice-ACC   eat-PAST

'Ahmet ate two slices of the cake.'

b. *Ahmet [pasta-dan t_i] ye-di   [bu   iki   dilim-i]$_i$.

Ahmet cake-ABL   eat-PAST   this   two   slice-ACC

These three observations suggest that the sequence of an ablative partitive and an NC is a constituent.

4.2.3 An empty category within an ablative partitive

Kornfilt (1996) notes that a Turkish ablative partitive appears "bare" without any accompanying quantifier as in (1), when it appears as a direct object of a transitive verb or a subject of an unaccusative verb.   She proposes, partly following Pesetsky (1982), that there is an empty category contained within Turkish ablative partitives.   However, she argues that the empty category is not Q, on the basis of differences between Turkish ablative partitives and Russian genitive partitives.   In what follows, I summarise some of the differences.

First, Turkish ablative partitives can co-occur with overt quantifiers very freely, whereas Russian genitive partitives cannot.   Second, the sequence of an ablative partitive and an NC can be associated with a case-marker as shown below:

(9)   [Öğrenci-ler-den iki   kişi]-yi   çok   beğen-di-m

student-pl-ABL two person-ACC   very admire-PAST-1sg

'I very much admired two of the students.'

Kornfilts suggests that the whole sequence of an ablative partitive and an NC is an

argument of the verb and therefore bears accusative case in (9).   This could not be

explained under Pesetsky's QP-hypothesis, since he claims that the head Q does not

bear any case.   She also notes that Turkish ablative partitives with overt quantifers do

not undergo QR.[5]   These properties of Turkish ablative partitives lead her to propose

that Turkish ablative partitives in object position are NPs or DPs and they are not

headed by an empty Q.

4.2.4 Turkish ablative partitives under the QP-analysis

Thus far, we have seen that although Turkish ablative partitives share many properties

with Russian genitive partitives, they are different in that Turkish ablative partitives

with overt quantifiers show some properties as NPs (or DPs).   Incorporating my QP

analysis for Japanese and English partitive constructions proposed in Chapter 3 with

Kornfilt's analysis, I claim that the sequence of an ablative partitive and an NC is a DP

that contains an NCP partitive construction.   Applying my analysis that the NC can be

---

[5]   This leads Kornfilt to propose that Turkish ablative partitives with quantifiers need case because they are NPs or DPs, and if a Turkish ablative partitive appears bare, there are two empty categories contained; an empty K-head of KP and a nominal *pro*-head of the NP embedded within KP as in (i).   It is the empty category in K that has to obey the ECP.   *Pro* has a constant value and always means "unspecified amount of".

(i)   [$_{KP}$ Ablative-NP$_i$ [$_{K'}$ [$_{NP}$ t_i [$_{N'}$ [$_N$ *pro*]]] [$_K$ *e*]]]

a head within noun phrases in Japanese, I suggest that in Turkish, the NC can head a

projection, NCP, and it takes a DP in ablative partitive case as its complement. The

object in (9) is illustrated below:

(10)

$$DP\text{-}yi \text{ (ACC)}$$

NCP $D_{[ACC]}$

$DP_{[ABL]}$ NC
öğrenci-ler-den   iki kişi
student-pl-ABL   two person
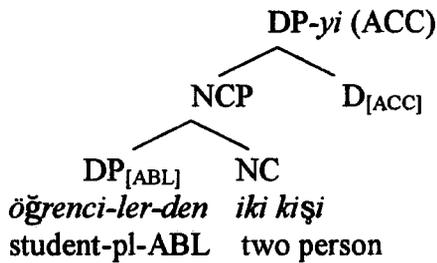
The most embedded complement DP in (10) denotes a restricted set of students, and the

NC refers to two students as a subset. The topmost D is the locus of a Case feature

[ACC] of the whole noun phrase.

Given that, the sequence of an NC and a case-marker is not a constituent, and thus,

the ungrammaticality of (7b) and (8b) results.

Bearing the proposed structure (10) in mind, let us turn back to the ablative

partitive in object position observed in (1). There are two possible approaches to

consider. One is the approach that holds to the structure proposed in (10); both the D

head and the NC head of the structure are empty and only the complement DP in

ablative case is realised overtly. The other is the approach that basically follows

Pesetsky's QP-hypothesis; the whole phrase is an NCP, whose NC head is empty and

which lacks the topmost D proposed in (10). Two possible structures for the Turkish

ablative partitive in (1) are illustrated below:

(11)

    a.

```
                    DP
                   /  \
              NCP       D
             /  \       Ø
      DP[ABL]    NC
      süt-ten    Ø
      milk-ABL
```

    b.

```
               NCP
              /   \
      DP[ABL]      NC
      süt-ten      Ø
      milk-ABL
```
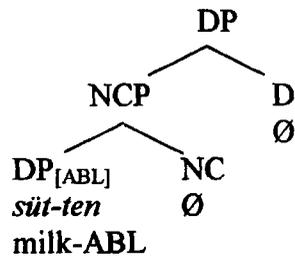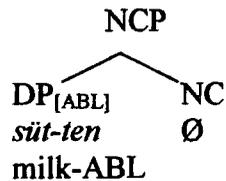
Kornfilt notes that bare Turkish ablative partitives are always non-specific and thus lack overt structural case, assuming that only specific noun phrases appear with overt structural case (Enç 1991). These observations may suggest that the ablative partitive in (1) has the structure in (11b) that lacks the topmost D as the locus of a Case feature. However, nothing in my proposals rules out the other possible structure in (11a). I will have to leave the full development of a theory of Turkish ablative partitives to future work.

Thus far, I have proposed that the sequence of an ablative partitive and an NC in Turkish is a DP, where an NCP is embedded, and that an ablative partitive in object position like (1) is a complement DP of the empty head NC of an NCP.

The above discussion leads me to suggest that the partitive interpretation of (empty) quantificational expressions across languages is derived from a unique structure, i.e., QP (or NCP in Japanese and Turkish), whether the QP or NCP structure appears on its own as Russian genitive partitives or it is embedded within DP as in Turkish ablative partitives.

4.3 Japanese nominal partitive constructions

There is another set of constructions in which an NC or a Q can receive a partitive interpretation in Japanese. In the following nominal expressions, the NC can have a partitive interpretation and be interpreted as the semantic head of a noun phrase (Kubo 1996).[6, 7]

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[6] Kawashima (1994: 43) assumes that Qs appear in nominal partitive constructions, whereas NCs do not. In this thesis, however, I agree with Kubo (1996) that NCs can appear within nominal partitive constructions.

[7] As pointed out by Kubo (1996), nominal partitive constructions such as (12) may lack a partitive interpretation and have the following interpretation:

(i)   Chikako has already listened to the five CDs, which she bought yesterday.

As clear from (i), the genitive phrase preceding the NC *go-mai* 'five-CL' functions as a non-restrictive modifier.

      Murasugi (1991) claims that non-restrictive relative clauses are adjoined to DP. Given that, I propose that the non-restrictive genitive phrase in (i) is adjoined to DP as illustrated below:

(ii)   [$_{DP}$ [$_{DP}$ kinou   kat-ta   shiidii-no] [$_{DP}$ [$_{NCP}$ go-mai] D]]
                   yesterday   buy-PAST   CD-GEN   five-CL

In (ii), *shiidii* 'CD' is the semantic head of the genitive modifier, and a relative clause [*kinou kat-ta*] 'yesterday buy-PAST' precedes *shiidii* 'CD'. Similar genitive modifiers are observed in such examples as follows:

(iii)   [siido-senshu-no futa-ri]-ga   kesshou-de   taisens-uru.
         seed-player-GEN two-CL-NOM   final-in   play-FUT
         'The two, who are the seeds, meet the final.'

(iii) shows that the NC *futa-ri* 'two-CL' is modified by a non-restrictive genitive modifier *siido-senshu-no* 'seed-player-GEN'. Note that (iii) implies that there are two seeds and the speaker knows each of the seeds; thus, *futa-ri* 'two-CL' has a definite interpretation in (iii). This is explained by the proposed structure, in which the genitive modifier is adjoined to a definite DP and the NCP is embedded under the definite DP.

(12) Chikako-wa   [kinou   kat-ta   shiidii-no go-mai]-o

Chikako-TOP   yesterday buy-PAST CD-GEN five-CL-ACC

sudeni   kii-ta.

already   listened

'Chikako has already listened to five of the CDs (compact disks) she bought yesterday.'

(13) Chikako-wa   [kinou   kat-ta   shiidii-no hotondo]-o

Chikako-TOP   yesterday buy-PAST CD-GEN most-ACC

sudeni   kii-ta.

already   listened

'Chikako has already listened to most of the CDs she bought yesterday.'

or 'Chikako has already listened to most of the CD she bought yesterday.'

In (12), the object noun phrase contains an NC, *go-mai* 'five-CL', as a semantic head of the object noun phrase, and is preceded by a genitive phrase *kinou kat-ta shiidii-no* 'yesterday buy-PAST CD-GEN'. As shown in its translation, the NC *go-mai* 'five-CL' designates the number of the CDs Chikako listened to, and the preceding genitive phrase *kinou kat-ta shiidii-no* 'yesterday buy-PAST CD-GEN' can designate a set of CDs Chikako bought yesterday. That is, the NC and the genitive phrase are in a "part-whole" relationship.

In (13), the object noun phrase contains a Q *hotondo* 'most' as a semantic head, and it is preceded by a genitive phrase. As shown in the translation, this example is ambiguous: Chikako listened to, say, nine out of the ten CDs she bought yesterday, or

nine out of the ten songs included in the CD she bought yesterday. Nevertheless, the Q and the genitive phrase are in a part-whole relationship in both translations in (13). I will call this type of partitive construction in (12) and (13) the "nominal partitive construction" for expository convenience, since the distribution of this type of partitive construction is as wide as that of other simple nouns.

I will argue that NCs and Qs have a theta-role assigning property even within nominal partitive constructions. Applying my analysis of the sequences of an ablative partitive and an NC in Turkish to Japanese nominal partitive constructions, I will suggest that a Japanese nominal partitive construction is a DP, within which an NCP or QP partitive construction is embedded.

4.3.1 Differences between NCP partitive and nominal partitive constructions

In what follows, I focus on partitive constructions that contain NCs for expository convenience.[8] Let us first compare nominal partitive constructions with the NCP partitive constructions discussed in Chapter 3. Both types of partitive constructions are similar in that the head NC can have a partitive interpretation, but when it comes to their syntactic properties, they show clear contrasts.

First, an adverb cannot intervene between the genitive phrase and the NC within nominal partitive constructions as in (14), but it can between the case-marked DP and the NC within NCP partitive constructions as in (15):

---

[8] All the NCs used in this subsection can be replaced with Qs.

Nominal partitive construction:

(14) Chikako-wa   [kinou   kat-ta   shiidii-no (*isoide)   go-mai]-o

      Chikako-TOP yesterday   buy-PAST CD-GEN (*quickly)   five-CL-ACC

      (isoide)   kii-ta.

      (quickly)   listen-PAST

      'Chikako quickly listened to five of the CD(s) she bought yesterday.'

NCP partitive construction:

(15) John-ga   ure-nokotta hon-o   isoide   san-satsu   kaeshi-ta.

      John-NOM unsold-left book-ACC quickly   three-CL   return-PAST

      'John quickly returned three of the books that were left unsold.'

This contrast suggests that the nominal partitive construction is a noun phrase and the genitive phrase stays within it. Hence, nothing can intervene between the genitive phrase and the NC.

Second, the NC within a nominal partitive construction is followed by a case-marker as in (12) and (13) but not within NCP partitive constructions as in (15). This indicates that nominal partitive constructions can bear a Case feature, whereas the NC within NCP partitive constructions must be "bare" and not be associated with any case-marker.

Assuming that a case-marker is a morphological realisation of a Case feature in D, I argue that nominal partitive constructions in (12) and (13) are DPs, and their head D has a Case feature, which is realised as the accusative case-marker both in (12) and in

(13).

Let us consider the internal structure of nominal partitive constructions as DPs. In Chapter 3, I have claimed that the partitive interpretation of the NC within NCP partitive constructions emerges as the head NC assigns a theta-role to its complement DP. I maintain that the partitive interpretation of the NC within a nominal partitive construction is also obtained through theta-role assignment by the NC. The NC assigns its theta-role to its complement DP, and thus, the NC and the DP are in a part-whole relationship. I propose that such an NCP partitive construction is embedded within a nominal partitive construction. The NCP is selected by the topmost D, and they form a nominal partitive construction as a DP. The schematised structure is given below:[9]

(16)

```
                    DP
        NCP  ――――――――――  D
    DP-GEN      NC
```
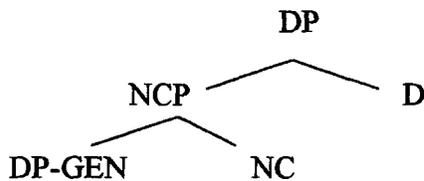
Notice that this structure parallels the internal structure of the sequence of an ablative partitive and an NC in Turkish in (10); the difference between them is that the Case feature of the embedded complement DP is ablative in Turkish and genitive in Japanese. I suggest that the sequence of an ablative partitive and an NC in Turkish and nominal partitive constructions in Japanese share the same internal structure and which case is realised in the embedded complement DP is language-particular.

---

[9] The same analysis is applied to a nominal partitive construction that contains a Q. The head NC in (16) can be replaced with the head Q.

4.3.2 Set partitives and entity partitives within nominal partitive constructions

Let us now consider the properties of the embedded complement DP within nominal

partitive constructions in much detail. First, consider (12) whose semantic head is an

NC. As shown below, if the complement DP contains an NC, the nominal partitive

construction becomes unacceptable:[10]

(17) *Chikako-wa [kinou   kat-ta   shiidii **nijuu-mai**-no   go-mai]-o

   Chikako-TOP yesterday buy-PAST CD   twenty-CL-GEN five-CL-ACC

   sudeni   kii-ta.

   already   listen-PAST

(Intended meaning) 'Chikako has already listened to five out of the twenty CDs she

bought yesterday.'

In Chapter 3, I have claimed that within Japanese NCP partitive constructions,

NCs take a set-denoting DP as their complement and that set-denoting DPs lack a

number feature (see section 3.2.5). I argue that (17) is ruled out for the same reason.

I suggest that the NC takes a set-denoting DP as its complement even within nominal

---

[10]   As pointed out by Kawashima (1994), if a nominal expression *uchi* 'among' appears between the
noun phrase and the genitive case-marker, the construction (17) becomes grammatical:

(i)   Chikako-wa [kinou   kat-ta   shiidii nijuu-mai-no-uchi-no   go-mai]-o
      Chikako-TOP yesterday   buy-PAST   CD   twenty-CL-GEN-among-GEN   five-CL-ACC
      sudeni   kii-ta.
      already   listen-PAST
      'Chikako listened to five of the twenty CDs she bought yesterday.'

I assume that *uchi* is used here as a postposition, although it is categorically a noun. Note that there are
several nominal expressions that are used as postpositions in Japanese, such as *mae* 'before', *ue* 'above',
and *naka* 'inside'.

partitive constructions as in (12). In (17), however, the complement containing the NC

nijuu-mai 'twenty-CL' is a DP that denotes a complex entity, and thus it cannot be the

complement of NC. Thus, ungrammaticality results. I thus propose the following

structure for (12), in which the complement of NC consists of D and NP:[11]

(18)

```
                                     DP-o (ACC)
                                    /\
                              NCP        D
                             /    \
                    DP-no (GEN)     NC
                    /    \          go-mai
                  NP       D        five-CL
                 /  \
   [Rel kinou    kat-ta]   NP
        yesterday buy-PAST  shiidii
                            CD
```
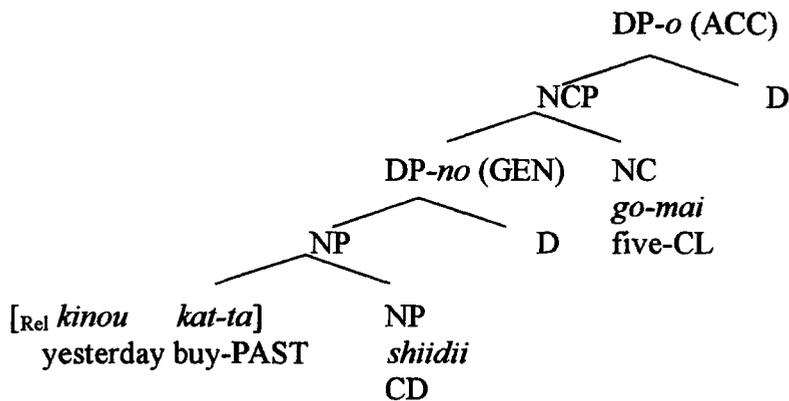
Let us turn to the nominal partitive construction (13) whose semantic head is Q.

(13) is ambiguous as in its translations. Thus, we expect there is one structure for each

interpretation.

We have observed in Chapter 3 that the Q *hotondo* 'most' can take an

entity-denoting DP as its complement within QP partitive constructions. Observe that

an entity-denoting DP *kono shiidii-no* 'this CD-GEN' can be a complement of Q within

a nominal partitive construction as shown below:

---

[11] Kubo (1996) proposes a similar DP structure for nominal partitive constructions, in which a NC heads an NP as a complement of D, and the genitive noun phrase is a complement of NC. Her analysis is different from mine in that the genitive case-marker –*no* is a postposition that is inserted at PF in the same way as the preposition *of* in English is within noun phrases in Kubo (1996). I simply assume here that the genitive case of the complement DP is checked within the whole DP without discussing the details.

(19) Chikako-wa   [kono shiidii-no   hotondo]-o   sudeni   kii-ta.

Chikako-TOP   this CD-GEN   most-ACC   already   listen-PAST

'Chikako has already listened to most of this CD.'

Kono shiidii 'this CD' refers to an entity and is interpreted as definite. Thus, maintaining my claim in section 3.2.5 in Chapter 3, I claim that *hotondo* 'most' takes an entity-denoting DP as its complement also within nominal partitive constructions.

I have suggested that in (17), the genitive phrase *kinou kat-ta CD nijuu-mai-no* 'yesterday buy-PAST CD twenty-CL-GEN' denotes a complex entity and thus it cannot be a complement of NC. We predict that the genitive phrase can be a complement of Q since Q can take an entity-denoting DP as its complement. This prediction is borne out: Q can take the genitive phrase as its complement as shown below:

(20) Chikako-wa   [kinou   kat-ta   CD   nijuu-mai-no   hotondo]-o

Chikako-TOP   yesterday   buy-PAST   CD   twenty-CL-GEN   most-ACC

sudeni   kii-ta.

already   listened

'Chikako has already listened to most of the twenty CDs she bought yesterday.'

It is clear in (20) that Q *hotondo* 'most' and its preceding phrase *kinou kat-ta CD nijuu-mai* 'yesterday buy-PAST CD twenty-CL' are in a part-whole relationship. The

accusative object in (20) has the following internal structure:[12]

(21)

```
                              DP-o (ACC)
                            /          \
                          QP            D
                        /    \
                DP-no (GEN)    Q
                  /    \       hotondo
                NCP     D      most
              /    \
           NP       NC
         /    \     nijuu-mai
[Rel kinou  kat-ta]  NP   twenty-CL
  yesterday buy-PAST shiidii
                     CD
```
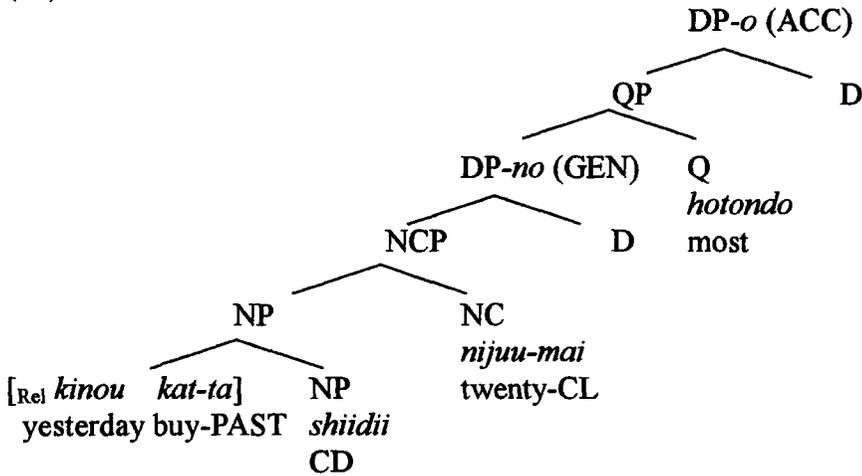
Turning to (19), the complement *kono shiidii* 'this CD' lacks an NC. I thus propose the following structure for (19):

(22)

```
                          DP-o(ACC)
                        /          \
                      QP            D
                    /    \
            DP-no(GEN)     Q
              /    \       hotondo
            NP      D      most
          /    \
       Kono shiidii
       This  CD
```
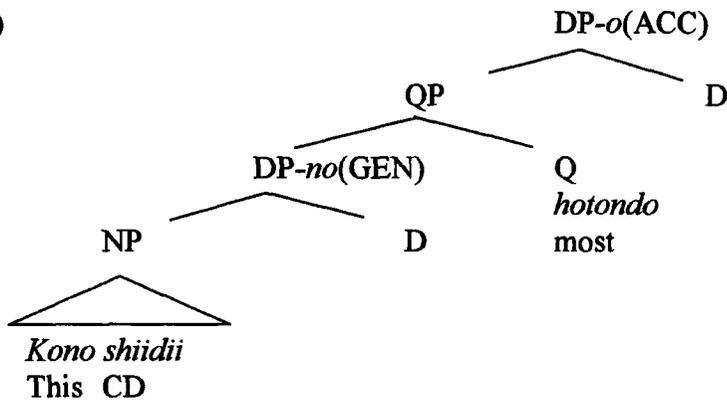
Thus far, I have proposed two types of structure, (21) and (22), for Japanese nominal partitive constructions containing a QP. Given that, I claim that the nominal partitive construction in (13), which is ambiguous, has either the structure in (21) that

---

[12] The noun phrase internal genitive subject *-no* might appear in a different position such as in Spec of DP. Since the issue of genitive case checking is beyond the scope of this chapter, I will not discuss the position of the noun phrase internal subject. As for the relative clause in (20), I assume with Murasugi (1991) that it is adjoined to NP since it is interpreted as restrictive.

contains an empty NC or the structure in (22) that lacks an NC. The two possible structures for (13) are below:

(23)

```
                                    DP-o (ACC)
                                   /        \
                                 QP          D
                                /   \
                    DP-no (GEN)      Q
                       /    \        hotondo
                    NCP      D       most
                   /    \
                 NP      NC
                /   \    Ø
   [Rel kinou kat-ta]    NP
   yesterday buy-PAST    shiidii
                         CD
```

(24)

```
                                    DP-o (ACC)
                                   /        \
                                 QP          D
                                /   \
                    DP-no (GEN)      Q
                       /    \        hotondo
                     NP      D       most
                    /   \
   [Rel kinou  kat-ta]   NP
   yesterday buy-PAST    shiidii
                         CD
```
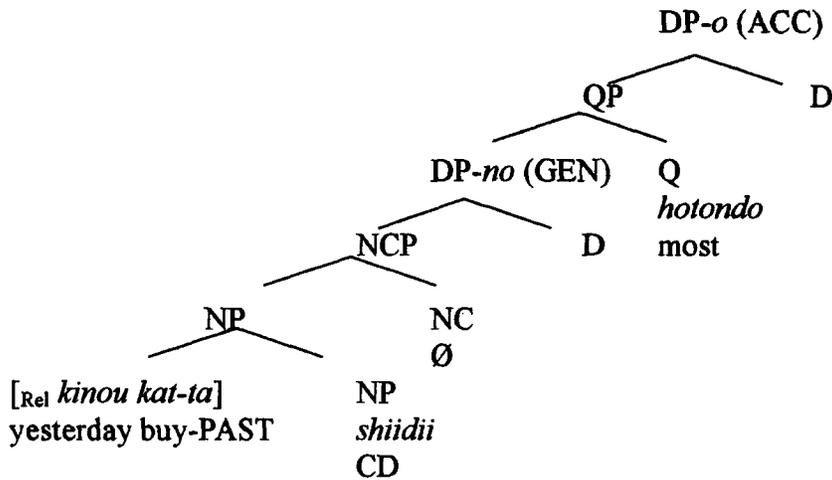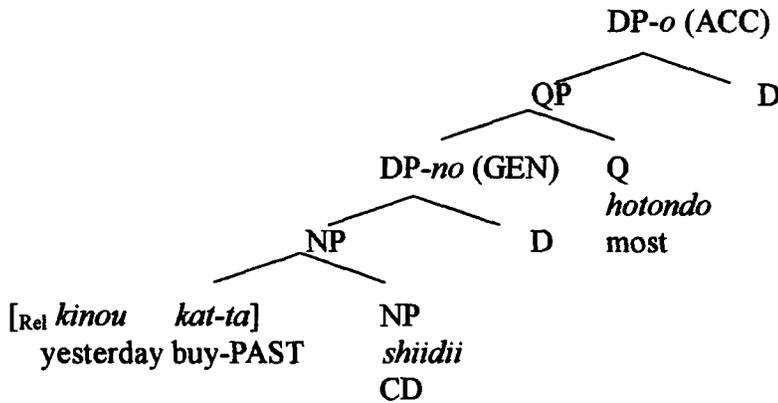
Which structure is taken is dependent on the mapping between the embedded DP and a contextually given entity. In (23), the embedded DP containing an NC is mapped to a contextually given complex entity. In (24), on the other hand, the embedded DP that lacks an NC is mapped to a contextually given simplex entity. Hence the two readings of the nominal partitive construction in (13) result.

4.3.3 A short note on relative clauses

I have claimed that the complement of NC is a set-denoting DP within NCP partitive constructions and nominal partitive constructions. In this section, I focus on the properties of DP as a complement of NC and its modifiers.

Qs and NCs show a contrast in the complexity of their complements within the nominal partitive construction. Compare (25) to (26):

(25) John-ga [hon-no   hotondo]-o kat-ta.

John-NOM book-GEN most-ACC buy-PAST

'John bought most of the books.'

(26) ?? John-ga   [hon-no   san-satsu]-o   kat-ta.

John-NOM   book-GEN three-CL-ACC   buy-PAST

(Expected reading) 'John bought three of the books.'

The contrast shows that the NC cannot take a simple genitive noun phrase as its complement, whereas Q can.

Recall, however, that if the DP with the genitive case-marker is modified by a relative clause as in (12) repeated in (27), the nominal partitive construction is more acceptable than (26):

(27) Chikako-wa [DP[NCP[DP[Rel kinou kat-ta] shiidii]-no go-mai]]-o (=(12))

Chikako-TOP yesterday bought CD-GEN five-CL-ACC

sudeni kii-ta.

already listened-PAST

'Chikako listened to five of the CDs she bought yesterday.'

The above fact indicates that it is necessary for the complement of NC to be modified by a relative clause in order to denote a set of entities.

English quantifiers show similar properties. It is well-known that explicit modification makes partitive constructions containing indefinite noun phrases within *of*-phrases more acceptable in English (Reed 1991, Abbott 1996, De Hoop 1997). Numerals such as *one* are analysed as quantifiers that appear within set partitives in De Hoop (1997). As is clear from the following contrast, it is the relative clause that makes the indefinite complement of *one* set-denoting:

(28) a. *one of several students

b. one of several students who arrived late

De Hoop (1997: 168) argues that (28a) is ill-formed, but (28b) becomes grammatical due to the presence of a modificational phrase such as a relative clause. She suggests that an indefinite noun phrase containing a quantifier such as *several* can appear within the *of*-phrase within a partitive construction when it can get a non-quantificational, collective reading and denote a set of entities by being restricted by modifiers as in (28b). On the other hand, (28a) is ungrammatical since the indefinite noun phrase

within the *of*-phrase is not restricted by any modifier and thus it denotes unrestricted

sets of entities.

As for the position where relative clauses are adjoined in Japanese and in English,

there is room for further investigation. I will not determine their exact position here.

Nevertheless, it seems safe to conclude that the nature of the set-denoting property of

DPs has to do more with the internal structure of DPs and the position of modificational

expressions than with the presence of a number specification.

4.3.4 Nominal partitive constructions as DPs: empirical evidence

In this section, I provide some empirical evidence to show that Japanese nominal

partitive constructions are DPs. I apply Terada's (1990) tests I used in Chapter 2.

We saw in Chapter 2 that a DP containing an NC or Q can (i) be associated both

with a case-marker or with a postposition, (ii) have a group reading and (iii) show no

weak crossover effects. We predict that nominal partitive constructions, as DPs, also

have these properties. This prediction is borne out. First, nominal partitive

constructions can take both a case-marker and a postposition as shown below:[13]

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[13] In (29), the complement of P bears a distributive reading. One possible approach would be to regard the DP as generally bearing both a distributive reading and a group reading, where only the distributive reading emerges in the course of the semantic interaction between Q and P.

Another possible approach would be to regard the QP as being raised out of the DP to Spec of CP, where the QP bears a distributive reading at LF. I leave this issue open here.

(29) Chikako-wa   [kinou   kat-ta   shiidii-no go-mai]-ni

Chikako-TOP   yesterday bought   CD-GEN five-CL-to

namae-o   kai-ta.

name-ACC write-PAST

'Chikako wrote her name on five of the CDs she bought yesterday.'

Second, nominal partitive constructions can co-occur with an adverb *isshoni* 'together', which requires a noun phrase to have a group reading.

(30) [Soko-ni   i-ta   gakusei-no   san-nin]-ga

    there-at be-PAST   student-GEN   three-CL-NOM

    ocha-o   isshoni   non-dei-ta.

    tea-ACC   together   drink-PROG-PAST

(lit.) 'Three of the students who were there were having tea together.'

The grammaticality of (30) confirms that the nominal partitive construction has a group-denoting reading.

Third, nominal partitive constructions do not show any crossover effect in the following context:

(31) Jibun$_i$-no   shikake-ta   wana-ga   kekkatekini

self-GEN   place-PAST   trap-NOM   consequently

[$_{DP}$ soko-ni i-ta   gakusei-no   san-nin-o]$_i$

there-at be-PAST   student-GEN   three-CL-ACC

otoshiireru koto-ni   nat-ta.

entrap   fact-to   become-PAST

(lit.) 'The trap that self placed consequently entrapped three of the students

who were there.'

(31) shows that the nominal partitive construction does not undergo QR and thus it does not show any weak crossover effect. This also supports my analysis that nominal partitive constructions are DPs.

To summarise, I have argued that Japanese nominal partitive constructions are DPs whose head D takes an NCP (or QP) partitive construction as its complement. I have claimed that the embedded head NC (or Q) has a theta-role assigning property and their complement is assigned a theta-role, which results in a part-whole interpretation between the NC and its complement. Applying my analysis for NCP and QP partitive constructions in Chapter 3, I have claimed that within nominal partitive constructions, NC and Q retain their complement selection restriction; i.e., the NC takes a set-denoting DP as its complement, while Q takes an entity-denoting DP as its complement.

4.4 Conclusion

In this chapter, I first discussed ablative partitives in object position and also the sequence of an ablative partitive and an NC in Turkish. I have argued that the

sequences of an ablative partitive and an NC are DPs in which the topmost head D takes

an NCP as its complement, and within the embedded NCP, the complement of NC

appears in ablative case. I suggested that a Turkish ablative partitive that appears in

object position is actually the complement of the empty head NC, where it receives a

theta-role from the empty NC, yielding a part-whole relationship between the empty NC

and its complement DP in ablative case. Next, I discussed another type of partitive

construction in Japanese called "nominal partitive constructions". I have argued that

Japanese nominal partitive constructions are DPs, within which an NC or a Q is the

head of an embedded NCP or QP partitive construction, and the head retains its inherent

property of theta-role assignment to its complement and thus a part-whole interpretation

is obtained.

Chapter Five

Bare Arguments in Japanese

5.1 Introduction

In previous chapters, I have argued that NCs and Qs can head projections within noun phrases in Japanese. However, NCs and Qs do not always appear within noun phrases. Noun phrases without NCs and Qs appear in argument position very often in Japanese. Noun phrases in Japanese are likely to look "bare", lacking overt NCs, Qs, and needless to say, overt determiners or determiner-like items. This chapter is devoted to those bare nominal arguments. Examples of such bare nominal arguments are below:

(1)   Gakusei-ga   hon-o   yon-da.

      student-NOM   book-ACC read-PAST

      (Lit.) 'Student read book.'

Both the subject *gakusei-ga* 'student-NOM' and the object *hon-o* 'book-ACC' do not contain an NC or Q, but the sentence is grammatical in Japanese. I call these arguments "bare arguments" in this chapter.

I will propose in this chapter that bare arguments are more than just NPs, and that they contain some empty heads. I will claim that D and NC can be empty heads within bare arguments. In this chapter, I limit myself to NC and D, and will not attempt to provide any account for Q, but I believe the account offered here for NC can be applied to Q. Four possible interpretations of bare arguments will be discussed: definite,

indefinite, kind-denoting and generic readings. I will argue that bare arguments have three possible internal structures, [NCP DP NC], [DP [NCP NP NC] D] and [DP NP D], in which NC and D are empty, and that Japanese has two types of D, a denotational D or an expletive D (Vergnaud & Zubizarreta 1992). I will offer an account of interpretative variation of bare arguments in terms of their internal structures and the type of D contained within the structures. I will argue that the interpretation of a bare argument depends on which internal structure the bare argument has and which type of D is contained within the structure. The interpretative variety of bare arguments I will discuss in this chapter is summarised below:

(2) Possible internal structures and the variety of interpretations of bare arguments

	Denotational D	Expletive D
[NCP DP NC]	Indefinite	Indefinite
[DP [NCP NP NC] D]	Definite	Indefinite
[DP NP D]	Generic	Kind-denoting

Before discussing the properties of bare arguments and their interpretations, I will briefly outline the properties of bare nouns, which are observed across languages and which lack overt determiners and numerals. As is well-known, bare nouns in Italian can appear in a post-verbal position with an indefinite interpretation as shown below:

(3) a. Viene   giù   acqua   dalle   colline.
         comes   down   water   from-the   hills

b. *Acqua viene giù   dalle   colline.

   water   comes down   from-the   hills

c. Ho preso acqua dalla   sorgente.

   I   took   water   from-the   spring

Longobardi (1994) argues that a bare mass noun such as *acqua* 'water' in (3a) has a DP structure whose head D is empty, taking a structure like [DP [D *e*] NP]. The empty D needs to be lexically-governed by an external governor, i.e., the preceding verb in (3a) and (3c). He suggests that the D position functions to turn a nominal expression into an argument.

As for other interpretations of bare nouns such as proper names and generics, he claims that they also appear as DPs whose empty head D takes an NP as its complement. The N undergoes raising to D in overt syntax or at LF. Consider:

(4)   a. **Gianni**   mi ha telefonato.

      Gianni   called me up

   b. **Il**   **Gianni**   mi ha telefonato.

      the Gianni   called me up

Longobardi suggests that the above alternation between the presence and the absence of the definite article with a proper name is explained by his DP structure headed by an empty D. In (4a), the proper name *Gianni* appears as N and it moves to fill in the

empty D position. He suggests that in (4a) the D position is filled by the proper noun

Gianni, where the D position does not have to be lexically-governed by an external

governor. In (4b), on the other hand, the D position is filled by the overt definite

article *il* 'the', and therefore the head N *Gianni* is not required to move to D.[1] (see

Ritter 1988 for N-to-D raising.)

The proposal of the existence of an empty D within bare nouns leads us to an

important question as to whether Japanese bare arguments have the same DP structure

headed by an empty D as bare nouns do in Italian. In this chapter, I will suggest there

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[1] Using the DP/NP dichotomy, Chierchia (1998) examines bare nominals observed across languages with regard to a semantic "Nominal Mapping Parameter" that states that the denotation of NPs vary across languages according to the interaction of feature specifications [±arg(ument)], that is, whether NPs can be arguments or not, and [±pred(icate)], that is, whether NPs can be predicates or not. In his view, Romance languages are [-arg, +pred], which indicates that no bare NPs can be arguments: this is in line with Longobardi. For Chierchia, Germanic and Slavic languages are [+arg, +pred], which indicates that bare NPs can be either arguments or predicates. English, for instance, has bare mass nouns (e.g., *gold*) and bare plurals (e.g., *dogs*), which can appear bare both in argument position and in predicate position as illustrated below:

(i)   Dogs are playing outside. (*Dogs* as an argument)

(ii)   Fido and Barky are dogs. (*Dogs* as a predicate)

Under his account, Chinese and Japanese are [+arg, -pred], which indicates that bare NPs can freely appear as arguments in any position. He suggests that all NPs are mass nouns in these languages and NPs can denote names of kinds and are therefore arguments.
    Cheng & Sybesma (1999) point out three crucial aspects of Chinese noun phrases that cannot be covered under Chierchia's view. First, indefinite bare nouns cannot appear in preverbal position in Chinese. Second, there is a count/mass distinction in Chinese, which counters Chierchia's claim that all Ns are mass nouns in Chinese. Third, Chinese bare nouns can be interpreted as both singular and plural, which is also problematic for Chirchia's analysis.
    Schmitt & Munn (1999) also note that Brazilian Portuguese, one of the Romance languages, is not covered in Chierchia's Nominal Mapping Parameter. They point out that a bare singular noun can appear in subject position, i.e., a lexically-ungoverned position in Brazilian Portuguese:

(iii)   **Criança**   brincava   na   rua
        Child   played   in-the street
        'Children played in the street.'

This is in sharp contrast with the other Romance languages which are of the type [-arg, +pred], in which NPs need D to become arguments. This is another counter example to Chierchia's Nominal Mapping Parameter. In this thesis, I examine Japanese bare arguments under the DP/NCP/NP dichotomy and will not take the Nominal Mapping parametric approach. See Takeda (1999) for an analysis of Japanese bare arguments under the Nominal Mapping Parameter.

are bare arguments in Japanese that have the DP structure proposed by Longobardi.

In Chapter 2 and 3, I have claimed that NCs can head a projection within noun phrases as the locus of a number feature. A question arises as to whether bare arguments have a number feature in Japanese. If bare arguments have a number feature, another question we have to pursue here is: can the NC appear as an intermediate empty head as an empty D does within bare nouns in Italian? In this chapter, I will show that this is also the case. In line with Cheng & Sybesma (1999) and Schmitt (1996), I will argue that Japanese bare arguments may contain an empty NC as well as an empty D.

The organisation of this chapter is as follows. In Section 5.2, I compare Japanese bare arguments to bare singulars in Balkan and Mainland Scandinavian languages observed by Kallulli (1999), and show that while bare singulars in Balkan and Mainland Scandinavian languages are NPs, Japanese bare arguments are more than just NPs. Section 5.3 discusses the whole range of interpretations of Japanese bare arguments in comparison with bare nouns in Mandarin and Cantonese (Cheng & Sybesma 1999), and show the various interpretations of bare arguments are brought about by the interaction between a [±denotational] feature of D and an empty head NC. In Section 5.4, I briefly discuss how empty heads within bare arguments are licensed in Japanese.

5.2 Bare singulars vs. Japanese bare arguments

Across languages, we see singular count nouns called "bare singulars" that lack a number specification and a determiner in argument position. Kallulli (1999) discusses these in Balkan and Mainland Scandinavian (henceforth, MS) languages. She argues

that bare singulars in these languages are NPs that lack a D-projection.

Assuming that her analysis is correct, I will compare bare singulars with Japanese bare arguments in this section to see if bare arguments have the same internal structure as bare singulars, i.e., the NP structure, or more than just NP. I will present two possible interpretations of bare arguments, a kind-denoting interpretation and an indefinite interpretation, and propose two structures for the interpretations. The two structures will be supported by an interpretative restriction on bare arguments and verbal aspect.

5.2.1 Syntactic properties of bare singulars in Balkan and MS Languages

Kallulli (1999) notes that in Albanian and Norwegian, both of which have a count/mass distinction in noun phrases, a count noun such as 'dress' can appear as a bare singular as in (5) and (6):

Albanian

(5)　An-a　　donte　　të　　blente　　fustan.

　　　the Ann　wanted　SUBJ　buy　　dress

　　　'Anna wanted to buy a dress.'

Norwegian

(6)　Anna ville　　kjøpe kjole.

　　　Ann wanted　　buy dress.

　　　'Anna wanted to buy a dress.'

Kallulli points out that the bare singulars *fustan* in (5) and *kjole* in (6) cannot refer to some particular dress or to some particular kind of dress; they receive only the non-specific property/kind-denoting interpretation as described in (7):

(7)   Some/any object which classifies as a dress; that is, any dress at all

Kallulli proposes that bare singulars are NPs lacking a D-projection and they function as predicates at LF. She provides the following two pieces of evidence to support her proposal. First, bare singulars in direct object position are not allowed if secondary predication applies to them as shown below:

Norwegian

(8)   a. Hun   kjøpte   bil.

          she   bought   car

        'She bought a car.'

      b. *Hun   kjøpte   bil   ny.

          she   bought   car   new

        'She bought a car new.'

      c. Hun   kjøpte   bil-en   ny.

          she   bought   car-the   new

        'She bought the car new.'

In (8a), the verb *kjøpte* 'bought' can take a bare singular *bil* 'car' as its object, but the bare singular cannot co-occur with its secondary predicate as in (8b). The sentence becomes grammatical if the object is not bare as in (8c), where the object associated with an overt determiner is considered as a DP. She states the following constraint on predication:

(9) Constraint on Predication (Kallulli 1999:112)

A predicate can only apply to an argument.

Given this constraint, bare singulars in Balkan and MS languages must be non-arguments since no secondary predicates can apply to them.

Another piece of evidence presented by Kallulli is that bare singulars cannot appear as subjects of small clauses:

Norwegian

(10) Det   kommer   *(en) mann på   vei-en.

*there   comes   *(a) man on   road-the

'There comes a man on the road.'

Kallulli suggests that the relation between 'a man' and 'on the road' in (10) is that of predication (cf. Williams 1980), and thus, the ban on bare singulars as subjects of small clauses follows from the constraint on predication given in (9).

Thus far, I have outlined Kallulli's observations of bare singulars. Having

observed that both Balkan and MS languages have a count/mass distinction, it is

reasonable to assume under NumP framework that bare singulars in these languages

lack a head Num since they apparently lack a number interpretation. Following

Kallulli's analysis, I take bare singulars in Balkan and MS languages to be bare NPs;

they lack both D and Num.

5.2.2 Differences between bare singulars and Japanese bare arguments

Let us now compare these bare singulars in Balkan and MS languages with bare

arguments in Japanese. Consider:

Japanese

(11) Kanojo-ga kuruma-o kat-ta.

     she-NOM car-ACC buy-PAST

     (Lit.) 'She bought car.'

It is important to note that the bare argument *kuruma-o* 'car-ACC' is ambiguous (see

Muromatsu 1998: 93fn). It denotes either:[2]

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[2] Given an appropriate context, a bare argument may even be interpreted as definite. In this section, I
focus on the indefinite interpretation, which is the most natural reading. Under the following
circumstance, the bare argument can be interpreted as definite:

Context: Taro went bankrupt and tried to sell his property such as his car, his house and his watch, among
others, to his friends. Hanako, as a friend of his, helped him out by buying his car. If someone asked
me who bought what from Taro, I would answer:

(i)   Hanako-ga   (?*Taro-no/ ??kare-no)   kuruma-o   kaimashi-ta.
        Hanako-NOM   Taro-GEN/he-GEN   car-ACC   buy-POLITE-PAST
        'Hanako bought the car.'

I will argue in section 5.3 that the interpretations of bare arguments in Japanese rely on the type of D,
namely either a denotational D or an expletive D.

201

(12) a. Some/any object which classifies as a car, that is, any car at all, or

b. A (certain) car/cars

Recall that bare singulars in Albanian and Norwegian have only one interpretation corresponding to (12a), namely a kind-denoting interpretation. A difference between bare arguments in Japanese and bare singulars in Balkan and MS languages is that the former can have another type of interpretation as described in (12b), an indefinite interpretation.

Next, a Japanese bare argument can be followed by a secondary predicate as shown below:

(13) Kanojo-ga kuruma-o chuukode kat-ta.

she-NOM car-ACC used buy-PAST.

'She bought a car/cars used.'

Notice from the translation that when a secondary predicate is applied to a bare argument object as in (13), the ambiguity of the bare argument disappears: the bare argument lacks a kind-denoting interpretation. This suggests that a secondary predicate can apply to a bare argument when it has an indefinite interpretation, along the lines suggested in Kallulli (1999).

Thirdly, Japanese bare arguments can appear as subjects of small clauses:

(14) Taro-ga   [hon-o   muzukashiku]   kanji-ta.

      Taro-NOM book-ACC difficult   consider-PAST

      'Taro considered a book/books difficult (to read).'

In (14), the bare subject *hon-o* 'book-ACC' within the small clause can receive an indefinite interpretation. What is important here is that the bare argument again lacks a kind-denoting interpretation.

Thus far, I have sketched the properties of bare arguments in Japanese in comparison with bare singulars observed in Balkan and MS languages. I have shown that Japanese bare arguments can have both a kind-denoting interpretation and an indefinite interpretation, but that when a bare argument appears as the subject of a secondary predicate or a small clause, it lacks a kind-denoting interpretation. This contrasts with bare singulars in Balkan and MS languages in that bare singulars bear only a kind-denoting interpretation and never appear as subjects of predicates.[3]

5.2.3 Three possible structures for Japanese bare arguments: The Proposal

I would like to argue that the ambiguity of bare arguments in Japanese shown above is structural, and that bare arguments have more than one possible internal structure. Assuming that NC is the locus of indefiniteness, I propose that a bare argument contains an empty NC when it has an indefinite interpretation, while a bare argument lacks an empty head NC when it has a kind-denoting interpretation.

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[3] It is likely that bare arguments as subjects of small clauses can have a definite interpretation. I will claim in section 5.3 that the feature of definiteness is in D.

Let us consider the internal structures of bare arguments. It is important to note that bare arguments are often associated with case-markers. In Chapter 2, I have argued that a case-marker is a morphological realisation of a Case feature in D. The fact that bare arguments are associated with case-markers suggests that bare arguments are best analysed as containing a DP-layer at some level.

5.2.3.1 Bare arguments with an indefinite interpretation

Let us consider the structure of a bare argument with an indefinite interpretation first. As mentioned above, a bare argument associated with a case-marker contains a DP-layer at some level, where a Case feature in D is realised as a case-marker. Assuming that NC in Japanese is the locus of indefiniteness (see Cheng & Sybesma (1999) for the indefiniteness of Num in Chinese), I claim that the indefiniteness of bare arguments is in the head NC within noun phrases. A question that arises is: which position does the NC occupy? In Chapter 2, I have discussed three types of NC: the pre-case NC, the genitivised pre-nominal NC, the post-case NC and bare pre-nominal NC. I propose that the empty NC must head a projection within bare arguments so that it can be syntactically licensed. Since the genitivised pre-nominal NC functions as a modifier, the empty form of the genitivised pre-nominal NC is not syntactically licensed. The bare pre-nominal NC is also excluded since it originates from the post-case NC. Thus, bare arguments with an indefinite interpretation contain either the empty form of the pre-case NC or that of the post-case NC. Schematically:

(15)

a.   DP
       /\
   NCP   D
  /\
NP   NC
      Ø

b.   NCP
      /\
   DP   NC
  /‾‾\   Ø

I have argued in section 2.2 in Chapter 2 that the sequence of a bare noun and the pre-case NC in (15a) has a group reading while the sequence of a case-marked noun and the post-case NC in (15b) has a distributive reading. We thus predict that indefinite bare arguments can have either a group reading or a distributive reading. I will show by applying the same diagnosis I used in Chapter 2 that indefinite bare arguments can have either of the two readings.

Recall that the verb *kazoeru* 'count' requires its object to refer to a group of individuals, and we saw in Chapter 2 that the sequence of a bare noun and the pre-case NC with a group reading can appear as its object as repeated below:

(16) Takashi-wa   kootei-de [seito   gojuu-nin-o]   kazoe-ta.

Takashi-TOP   ground-in student   fifty-CL-ACC   count-PAST

'Takashi counted fifty students in the school ground.'

The following example shows the verb *kazoeru* can take a bare object:

(17) Takashi-wa   kootei-de seito-o   kazoe-ta.

Taro-NOM   ground-in student-ACC   count-PAST

(Lit.) 'Taro counted student.'

205

The fact that the bare object can co-occur with the verb *kazoeru* 'count' suggests that bare arguments can have a group reading and they can have the structure for the sequence of a bare noun and the pre-case NC shown in (15a).

Let us next see if a bare argument can have a distributive reading. In the following example, the sequence of a case-marked noun and the post-case NC has a distributive reading:[4]

(18) Arashi-de   ki-kara   [ringo-ga   hachi-ko] ochi-ta.

rainstorm-in   tree-from   apple-NOM   eight-CL   fall-PAST

'Eight apples fell from the tree in a rainstorm.'

The subject *ringo-ga* 'apple-CL' accompanied by an NC *hachi-ko* 'eight-CL' receives a distributive interpretation such as "an apple fell at a time from the tree in a rainstorm, and eight apples fell in total." The same distributive reading can be obtained even when the nominative subject is not accompanied by an overt NC as below:

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[4] Unaccusative verbs such as *ochiru* 'fall' are likely to take an object with a distributive reading. If the object in (18) is replaced by the sequence of a bare noun and the pre-case NC with a group reading, the sentence refers to a very odd situation:

(i) #Arashi-de   ki-kara   [ringo hachiko-ga] ochi-ta.
     rainstorm-in tree-from   apple eight-NOM   fall-PAST

A possible interpretation of *ringo hachi-ko* 'apple eight-CL' in (i) would be that a group of eight apples, which were strung together in the tree, fell at once in a rainstorm. The bare argument in (19) lacks such an odd group interpretation. Therefore, I suggest that the bare object in (19) is best analysed as the sequence of a case-marked noun and the empty post-case NC.

(19) Arashi-de   ki-kara   ringo-ga   ochi-ta.

rainstorm-in   tree-from apple-NOM   fall-PAST

(Lit.) 'Apple fell from the tree.'

This suggests that the bare argument *ringo-ga* 'apple-NOM' has the structure shown in (15b) with a distributive reading.

Summarising, I have proposed two possible structures (15a) and (15b) for bare arguments with an indefinite interpretation. This is supported by the fact that an indefinite bare argument can have either a group reading or a distributive reading.

5.2.3.2 Bare arguments with a kind-denoting interpretation

Let us turn to bare arguments with a kind-denoting interpretation. Given that the (empty) NC is the locus of indefiniteness, I propose that a bare argument with a kind-denoting interpretation lacks the head NC. Therefore, a bare argument with a kind-denoting interpretation is accounted for as a DP whose head D takes an NP as its complement. Schematically:

(20)   DP
         ╱╲
    NP   D

Recall here that bare arguments in Japanese with a kind-denoting interpretation share some properties with bare singulars observed in Balkan and MS languages: both are unable to function as subjects of secondary predicates and small clauses. Kallulli (1999) suggests that bare singulars are just NPs which lack a D-projection. Under my analysis, however, bare arguments in Japanese, which are often associated with a

case-marker, have a D-projection at some level. The question is: what explains the similarities between bare singulars in Balkan and MS languages as just NPs on the one hand and bare arguments with a kind-interpretation in Japanese as DPs on the other? In what follows, I will argue that there is a parametric variation as to whether a kind-denoting argument can be an NP or a DP.

5.2.3.3 A definite D and a non-definite D

Let us consider the similarities between bare arguments with a kind-denoting interpretation in Japanese and bare singulars in Balkan and MS languages. I claimed in the previous section that a bare argument with a kind-denoting interpretation is a DP headed by D in Japanese. Recall that Kallulli (1999) claims that bare singulars in Balkan and MS languages are predicate NPs that lack a D-projection. The question is, how do a bare argument in Japanese and a bare singular in Balkan and MS languages show some syntactic similarities, despite the structural differences, i.e. the former as DPs and the latter as NPs?

I would like to argue that there is a typological difference with regard to the property of the (empty) head D of a DP structure between Japanese on the one hand and Balkan and MS languages on the other. I propose that Japanese has two types of D, a definite D and a non-definite D, and the head D of a bare argument with a kind-denoting interpretation is the latter, which lacks a definite property and is "transparent" (Vergnaud & Zubizarreta 1992). Therefore, the kind-denoting property of the NP embedded under the transparent D yields the kind-denoting interpretation of the whole DP. By contrast, Balkan and MS languages do not have such a non-definite D: that is,

the head D of a DP in these languages is always the locus of definiteness. Therefore, bare singulars, which are not definite, are just NPs and their kind-denoting property follows straightforwardly. I thus conclude that a kind-denoting interpretation arises from a DP structure headed by a non-definite D in Japanese and from bare NPs that lack a D-projection in Balkan and MS languages.[5]

The above discussion leads me to suggest that bare arguments with a kind-denoting interpretation in Japanese and bare singulars in Balkan and MS languages cannot be the subjects of secondary predicates or small clauses, regardless of their categorial difference, i.e., DP or NP. Therefore, they are not ruled out by such a structural condition as the Constraint on Predication formulated by Kallulli (1999) provided in (9).[6]

The restriction may suggest that kind-denoting expressions cannot be subjects of

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[5] Kallulli (1999: 146) notes that Albanian bare plurals are always interpreted as existential, which is in sharp contrast with English counterparts that are interpreted either as existential or as generic:

Albanian
(i) a. Beni   bleu   **libra.**   (Existential)
        Ben   bought   books.
        'Ben bought books.'

     b. **Libra-t**   janë   të shtrenjtë   (Generic)
        books-the   are   expensive
        'Books are expensive.'

English
(ii) a. Ben bought **books.**   (Existential)
     b. **Books** are expensive.   (Generic)

She claims that the bare plural in (ia) is an NP that lacks a D-projection. As she notes, a generic noun phrase requires the definite determiner: thus it is best analysed as a DP. She thus suggests that the bare plural with a generic interpretation in (iib) is also a DP with a morphologically empty D. This is in line with Vergnaud & Zubizarreta (1992), who claim that the definite determiner of a generic noun phrase is a denotational, i.e. definite determiner. This is also consistent with my typological analysis above that Balkan languages have a definite D but lacks a transparent expletive D. Vergnaud & Zubizarreta suggest that English is a language whose D is always denotational. Thus, English, Balkan and MS languages fall under the same category in terms of the property of D.

[6] I will show in Chapter 6 that a predicate nominal observed in copular constructions in Japanese is never associated with a case-marker and suggest that predicate nominals are just NPs, and they must be distinguished from kind-denoting bare arguments.

secondary predicates or of small clauses in general, regardless of their internal structures. That is, whether a bare nominal expression can be a subject of a secondary predicate or of a small clause is dependent on its interpretation, a kind-denoting interpretation or a referential interpretation. Further cross-linguistic research is necessary to determine whether or not this is the correct approach. I leave this issue as an open question.

In sum, I have proposed that Japanese bare arguments contain a D-projection at some level. Bare arguments may also contain the empty head NC as the locus of indefiniteness; otherwise, they lack the empty head NC and a kind-denoting interpretation is brought about. In the next section, I will deepen my analysis of Japanese bare arguments by providing empirical evidence with regard to the interaction between bare arguments and aspectual properties of verbal predicates.

5.2.4 Bare arguments and Aspect

I have proposed that a bare argument with an indefinite interpretation contains either the empty pre-case NC or the empty post-case NC as shown in (15), while a bare argument with a kind-denoting interpretation lacks an empty NC as shown in (20).

In this section, I will present cases where Japanese bare arguments are disambiguated by the application of durative and terminative adverbials. I show that a bare argument that lacks an empty head NC can co-occur with a durative adverbial since it is not quantified, while a bare argument that contains an empty head NC can co-occur with a terminative adverbial since it is quantified by the empty NC.

It is well-known that durative adverbials such as *for three hours* can appear either

within sentences describing activities that continue for an indefinite duration or within stative sentences, while terminative adverbials such as *in three hours* can appear with sentences which describe events continuing during a limited duration of time (Vendler 1967, Dowty 1979, Tenny 1987, Verkuyl 1993, Schmitt 1996). For example, when the object of a sentence refers to a limited number of individuals, the sentence can contain a terminative adverbial such as *in an hour*, but not a durative adverbial such as *for an hour*:

(21) a. John ate three sandwiches in an hour.

       b. #John ate three sandwiches for an hour.

This shows that an overt numeral implies a terminative reading and can co-occur with a terminative adverbial.

    The same diagnosis can be applied to Japanese. When an NC is overtly realised within an object, it can co-occur only with a terminative adverbial such as *san-jikan-de* 'in three hours' but not with a durative adverbial such as *san-jikan* 'for three hours' as shown below:

Pre-case NC

(22) a. San-jikan-de Taro-ga [hon go-satsu-o] yon-da.

         three-hour-in Taro-NOM book five-CL-ACC read-PAST

      'Taro read five books in three hours.'

b. #San-jikan   Taro-ga   [hon go-satsu-o]   yon-da.

    three-hour   Taro-NOM book five-CL-ACC   read-PAST

    'Taro read five books for three hours.'

Post-case NC

(23) a. San-jikan-de   Taro-ga   [hon-o   go-satsu]   yon-da.

        three-hour-in   Taro-NOM book-ACC five-CL   read-PAST

        'Taro read five books in three hours.'

    b. #San-jikan   Taro-ga   [hon-o   go-satsu]   yon-da.

        three-hour   Taro-NOM book-ACC five-CL   read-PAST

        'Taro read five books for three hours.'

This shows that when a quantity is specified by an overt NC, the sentence bears only a terminative reading and can co-occur with a terminative adverbial. It is thus reasonable to suggest that an overt NC has a terminative reading.[7]

We are now in a position to clarify the properties of bare arguments as to whether the event containing a bare argument is durative or terminative. I claim that when an

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[7] In English, when a bare plural object co-occurs with a terminative adverbial, the sentence becomes odd:

(i)   a. Judith ate sandwiches for an hour.
        b. #Judith ate sandwiches in an hour.

It seems clear that a bare plural such as *sandwiches* in (i) contains Num to which the head N is raised to get its plural feature checked. (ib) shows that the existence of the head Num is not enough for the bare plural object to receive a terminative reading. Following Schmitt (1996), the head Num within a bare plural in English is "unspecified" and cannot have a terminative reading. That is, the head Num in English does not imply a terminative reading.

empty head NC is contained within a bare argument, it implies a terminative reading and the bare argument can co-occur with a terminative adverbial. I also claim that when a kind-denoting bare argument appears as the object of an accomplishment Verb (Vendler 1967, Dowty 1979), the durative reading will arise and so it can co-occur with a durative adverbial.

Let us consider a bare argument, which is ambiguous between a kind-denoting and an indefinite interpretation:

(24) Taro-ga   hon-o   yon-da.

Taro-NOM book-ACC read-PAST

a. Taro read some/any object which classifies as a book, that is, any book at all

b. Taro read a book/books

The sentence (24) is disambiguated when it is modified either by a durative adverbial or by a terminative adverbial as below:

Durative adverbial + bare object

(25) San-jikan   Taro-ga   hon-o   yon-da.

three-hour Taro-NOM book-ACC read-PAST

(Lit.) 'Taro read book for three hours.'

(='Taro engaged in a book-reading event for three hours.')

Terminative adverbial + bare object

(26) San-jikan-de   Taro-ga   hon-o   yon-da.

     three-hour-in   Taro-NOM book-ACC read-PAST

     'Taro read a book/a limited number of books in three hours.'

In (25), the bare argument simply refers to the kind of object in the event. In (26), on the other hand, the adverbial *san-jikan-de* 'three-hour-in' limits the length of the book-reading activity, and the bare argument implies the presence of a limited number of books, even though no NC is overtly realised. This observation shows that the terminative interpretation of bare arguments stems from an empty head NC, while bare arguments with a kind-denoting interpretation lack such an empty head NC.[8]

To sum up, I have claimed that bare arguments in Japanese have a D-projection and they may also contain an empty head NC. Since an empty head NC is the locus of a number feature and it has a terminative reading, bare arguments containing an empty head NC can co-occur with a terminative adverbial while bare arguments that lack an empty head NC can co-occur with a durative adverbial.

---

[8] In English, a plural noun phrase that heads a relative clause can have a durative reading as given below:

(i)   Chomsky wrote [the books that revolutionized the field] for years. (Schmitt 1996: 195)

Schmitt (1996) argues that the determiner *the* and the following plural nouns *books* do not form a constituent (cf. Kayne 1994). She suggests that the plural noun phrase *books* is a NumP and it can have the durative reading since its quantity is not specified by an overt numeral. If it is specified by an overt numeral as given below, the sentence does not hold the durative reading any longer:

(ii)   #Chomsky wrote [the two books that revolutionized the field] for years. (Schmitt 1996:196)

Given this, one might argue that the durative reading of bare arguments in Japanese is also made possible by the lack of the overt specification of an NC, not by the lack of the head NC itself. I suggest, however, that English has a distinct number specification system in that the head count noun bears a number feature, and it has to be licensed by N-to-Num raising presumably for some morphological reason.

5.3 The internal structures of bare arguments

In this section, I extend my analysis of Japanese bare arguments in terms of their distribution and interpretations. In particular, I will focus on the fact that bare arguments can have a definite interpretation, a generic interpretation other than an indefinite interpretation and a kind-denoting interpretation as discussed in the previous section.

Bare arguments can have more than one interpretation just as bare nouns in Mandarin and Cantonese do (Huang 1987, Cheng & Sybesma 1999). Various contrasts between them, however, suggest that the structures of Japanese bare arguments are different from those of Chinese bare nouns. In what follows, I compare the syntactic properties of Japanese bare arguments to those of Mandarin and Cantonese bare nouns, and discuss several distinctions between them.

5.3.1 The distribution of Chinese bare nouns

In what follows, I outline Cheng & Sybesma's (1999) influential study of the interpretations and distribution of bare nouns in Mandarin and Cantonese, which my study draws heavily upon.

In Mandarin, bare nouns in object position can be interpreted as indefinite (27), definite (28), or as generic (29):[9]

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[9] SFP =sentence-final particle

Mandarin (Cheng & Sybesma 1999: 510)

(27) Hufei mai **shu** qu le.   (Indefinite)

      Hufei buy **book** go SFP

      'Hufei went to buy a book/books.'

(28) Hufei he-wan-le   **tang**.   (Definite)

      Hufei drink-finish-LE soup

      'Hufei finished the soup.'

(29) Wo xihuan   **gou**.   (Generic)

      I   like   dog

      'I like dogs.'

In Cantonese, bare nouns in object position can be interpreted as indefinite (30) or as generic (32), but not as definite (31).   In order to be a definite object, the bare noun must be associated with a classifier in Cantonese as indicated in (31).

Cantonese (Cheng & Sybesma 1999: 510-511)

(30) Wufei   heoi maai **syu**.   (Indefinite)

      Wufei   go   buy book

      'Wufei went to buy a book/books.'

(31) Wufei   jam-jyun   *(wun) **tong**   la.   (Definite)

      Wufei   drink-finish CL   soup   SFP

      'Wufei finished drinking the soup.'

(32) Ngo zungji   **gau**.   (Generic)

      I   like   dog

      'I like dogs.'

The fact that bare nouns in object position can receive an indefinite interpretation parallels the distribution of bare nouns in Italian as shown in (3a).

Moreover, in Mandarin, bare nouns in subject position can receive a definite interpretation as in (33) and (34), and a generic interpretation as in (35).

Mandarin

(33) **Gou** yao guo malu.   (Definite)

      dog want cross road

      'The dog wants to cross the road.' not 'A dog wants to cross the road.'

(34) **Gou** jintian   tebie tinghua.   (Definite)

      dog today   very obedient

      'The dog/dogs was/were very obedient today.'

(35) **Gou** ai   chi   rou.   (Generic)

dog love eat   meat

'Dogs love to eat meat.'

In Cantonese, bare nouns in subject position receive only a generic interpretation (38):

Cantonese

(36) ***Gau**   soeng   gwo maalou.   (*Indefinite)

dog   want   cross road

'A dog wants to cross road.'

(37) ***Gau** gamjat   dakbit   tengwaa.   (*Definite)

dog today   special   obedient

'The dog is specially obedient today.'

(38) **Gau** zungji   sek juk.   (Generic)

dog like   eat   meat

'Dogs love to eat meat.'

The fact that no bare nouns with an indefinite interpretation appear in subject position in both Mandarin and Cantonese seems to parallel the non-existence of bare nouns in subject position in Italian as shown in (3b).

Definite arguments in Cantonese are expressed by a combination of a classifier and a noun (henceforth [Cl + N]) as shown below[10]:

(39) Zek   gau   gamjat   dakbit   tengwaa.

CL   dog   today   special   obedient

'The dog is specially obedient today.'

They argue against the view that these [Cl + N] sequences are cases of phonological reduction of the numeral *yi* 'one', since [*yi* + Cl + N] has only an indefinite interpretation whereas [Cl + N] is not limited in this way. In the following contexts where an indefinite noun phrase can appear, [*yi* + Cl + N] is acceptable but [Cl + N] is not:

(40) Wo   chi-wan-le   *(yi)-kuai   binggan.

I   eat-finish-LE   one-CL   cookie

'I finished a cookie.'

---

[10]   Cheng & Sybesma (1999: 511) note that [Cl + N] phrases as in (39) can only be singular.   In order to indicate plurality, a special classifier, *di*, is used, as shown below:

(i)   Di   ce   zo-zyu   go   ceot-hau.
      CL   car   block-CONT   CL   exit
      'The cars are blocking the exit.'

(ii)   Di   leotsi jiu   hou   lek   sin dak.
       CL   lawyer need   very   smart   only-okay
       'The lawyers had been better be smart.'
                    (Cheng & Sybesma 1999: 521)

They argue, citing Doetjes (1996), that *di* picks out multiple instances from the domain of the noun, and the classifiers in Chinese have a function of connecting nouns with number morphology.   This may reveal that number is (sometimes) obligatorily expressed in Chinese.

(41) Wo   ba   *(yi)-wan   tang   he-wan-le.

I   BA   one-CL   soup   drink-finish-LE

'I finished a bowl of soup.'

Cheng & Sybesma summarise the interpretative possibilities of bare nouns in Mandarin and Cantonese as follows:

(42)

	Indef	Def	Gen
Bare nouns	M/C	M	M/C
[Cl + N]	M/C	C	*
Num + Cl +N	M/C	*	

They propose that classifiers can head a projection, Cl, which is equivalent to a definite article, as the locus of a deictic function like D.   Hence, the definite [Cl + N] phrases in (31) and (39) are ClPs where the head Cl takes an NP as its complement. Schematically:

(43) Definite [Cl + N] in Mandarin and Cantonese

```
            ClP
      _____/\
   Cl          NP
                |
                N
```
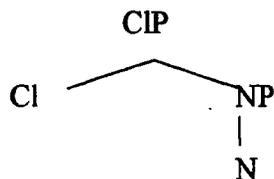

Turning to bare nouns in Mandarin, recall that bare nouns in Mandarin can bear a definite interpretation as in (28).   Cheng & Sybesma suggest that Mandarin definite

bare nouns also take the structure (43), where the head N undergoes head-raising to Cl (Longobardi 1994). In other words, definite bare nouns in Mandarin are ClPs containing an empty Cl as the locus of definiteness.

Let us turn to an indefinite interpretation of bare nouns in Mandarin and Cantonese shown in (27) and (30). Having seen that an overt numeral in a noun phrase consistently leads to an indefinite interpretation in Mandarin and Cantonese, they propose the following structure (44) for indefinite noun phrases in Mandarin and Cantonese:

(44)

```
              Numeral P
             /         \
      Numeral           ClP
                       /    \
                   Cl        NP
                             |
                             N
```
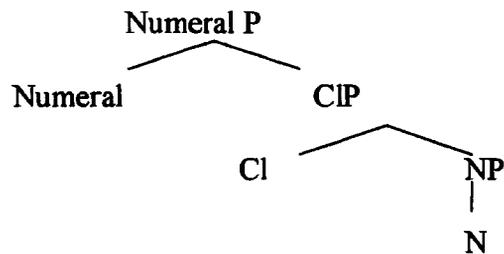
They suggest that an indefinite bare noun has the structure (44), in which the head Numeral and the head Cl are left empty.

Interestingly, it is the case that [Cl + N] phrases in Cantonese receive an indefinite interpretation as shown below (Cheng & Sybesma 1999:511):

Cantonese

(45) Ngo soeng   maai **bun syu** (lei   taai).   (Indefinite)

    I   want   buy   CL   book (come read)

    'I want to buy a book (to read).'

If Cl obligatorily had a deictic function, we could not explain why the [Cl + N] phrase in (45) has an indefinite interpretation.

Maintaining that the head Numeral is the locus of indefiniteness, they suggest that an indefinite [Cl + N] phrase in Cantonese like (45) is not just a ClP, but that it has the internal structure given in (44) where the head Numeral is empty.

In Mandarin, [Cl + N] phrases have only the indefinite interpretation, as shown below:

Mandarin

(46) Wo   xiang   mai **ben shu**.   (Indefinite)

     I   would-like buy   CL   book

     'I would like to buy a book.'

Still maintaining that the indefinite interpretation of nominals in Chinese is linked to the head Numeral, they claim that the [Cl + N] phrase in (46) has the structure (44) where the head Numeral is left empty. They conclude that Mandarin has a language-specific property that the head Cl must co-occur with the head Numeral, whether or not the head Numeral is realised phonologically. Put differently, the presence of the head Cl in Mandarin forces the (empty) head Numeral to appear. Note that Cantonese does not have such a restriction and the Cantonese Cl can stand on its own without the head Numeral. In this case, [Cl + N] phrases are interpreted as definite as shown in (31) and (39).

As for the bare nouns with a generic interpretation in (29), (32), (35) and (38), they argue that a ClP containing an empty Cl can have a generic interpretation. In Cantonese, [plural Cl + N] phrases can receive a generic interpretation, and so they suggest that the plural classifier *di* has a property to pick out a whole kind.

5.3.2 The differences between Chinese bare nouns and Japanese bare arguments

In Japanese, the distribution and interpretations of bare arguments are rather flexible. As discussed in section 5.2.3, bare arguments can have an indefinite interpretation and a kind-denoting interpretation. Further, bare arguments can have a definite interpretation and a generic interpretation. I am now in a position to present the whole range of interpretations of bare arguments.

As shown below, Japanese bare arguments can appear in object position, where they are lexically governed (Longobardi 1994). The interpretation of bare arguments in object position varies: they can be interpreted as kind-denoting or indefinite (47), definite (48), or generic (49):[11]

(47) Taro-ga   [hon-o]   kai-ni   it-ta.

  Taro-NOM book-ACC buy-to   go-PAST

  'Taro went to be engaged in a book-buying event,' (Kind-denoting) or

  'Taro went to buy a (certain) book/books' (Indefinite)

---

[11]   In this chapter, without detailed discussion, I use "generic" for subjects in sentences that state generalisations or regularities.

(48) Context: Taro started having [a bowl of soup]$_i$. Five minutes later,

Taro-ga   [suupu-o]$_i$ nomi-owat-ta.   (Definite)

Taro-NOM soup-ACC drink-finish-PAST

'Taro finished the soup.'

(49) Watashi-wa   [inu-ga]   suki-da.   (Generic)

     I-TOP   dog-NOM fond-COP[12]

     'I like dogs.'

Bare arguments can also appear in subject position, where they are not lexically-governed in the view of Longobardi. Note the following use:[13]

(50) Context: I take [a dog]$_i$ and two ferrets for a walk everyday. One day,

[Inu-ga]$_i$ michi-o   watari-tagat-ta.   (Definite)

dog-NOM road-ACC   cross-want-PAST

'The dog wanted to cross the road.'

---

[12] COP = copula

[13] Even if the nominative case-marker –*ga* in (50) and (51) is replaced with the so-called topic marker –*wa*, the subject *inu* 'dog' retains its definite interpretation.

(51) Context: There are [a noisy dog/dogs]ᵢ, two monkeys and three parrots in this

animal hospital tonight. They were so noisy last night. However,

Kyou   [inu-ga]ᵢ   totemo   otonashi-katta.   (Definite)

today   dog-NOM very   obedience-PAST

The dog/dogs was/were very obedient today.'

(52) [Inu-ga]   niku-o   taberu-no-ga   suki-(na wake).[14]   (Generic)

dog-NOM   meat-ACC eat-NML-NOM   fond-(COP reason) [15]

(The reason why) Dogs love to eat meat.'

5.3.3 The internal structures of NC-containing arguments

5.3.3.1 The variety of interpretations of NC-containing arguments

Let us compare the above variety of interpretations of bare arguments to those of

NC-containing arguments. When an overt NC is realised, the arguments lack a

kind-denoting interpretation and a generic interpretation. Only an indefinite and a

definite interpretation are possible for the arguments as shown below:

---

[14] *Wake* 'reason' is added to avoid a list reading such as 'Dogs love to eat meat, cats love to eat fish, pandas love to eat bamboo,...). I assume that the list reading is due to the property of the nominative case-marker *-ga*, rather than the interpretation of bare arguments. Note that *inu* 'dog' retains its generic interpretation whether it receives a list reading or not.

[15] NML = Nominaliser. See Murasugi (1991) and Takeda (1999) for discussion of the status of *-no*.

Post-case NC

(53)   Taro-ga   [hon-o   ni-satsu]   kai-ni it-ta.   (Indefinite)

Taro-NOM book-ACC two-CL   buy-to go-PAST

'Taro went to buy two books'

(54)   Taro-ga   [suupu-o   ni-hai]   nomi-owat-ta.   (Indefinite)

Taro-NOM soup-ACC two-CL   drink-finish-PAST

'Taro finished two cups of soup.'

(55)   [Inu-ga   ni-hiki]   michi-o   watari-tagat-ta.   (Indefinite)

dog-NOM two-CL   road-ACC cross-want-PAST

'Two dogs wanted to cross the road.'

(56)   Context: There are [two dogs]$_i$, two monkeys and three parrots in this animal

hospital tonight.   They were so noisy last night.   However:

      #Kyou   [inu-ga   ni-hiki]   totemo   otonashi-katta.

      today   dog-NOM two-CL   very   quiet-PAST

(57)   [Inu-ga   ni-hiki] niku-o   taberu-no-ga   suki(-na wake). (Indefinite)

dog-NOM two-CL meat-ACC eat-NML-NOM fond(-COP reason)

'(The reason why) two dogs like to eat meat.'

Notice here that when an NC appears in the sequence of a case-marked noun and the

post-case NC, the whole sequence always receives an indefinite interpretation. Nothing seems to prevent the NC from being the locus of indefiniteness and projecting its indefinite feature to the whole sequence.

Let us turn to the sequence of a bare noun and the pre-case NC. It is important to note that as shown in (59), (60), (61) and (62), the sequence of a bare noun and the pre-case NC can have a definite interpretation, despite the presence of NC.

Pre-case NC

(58) Taro-ga   [hon ni-satsu-o]   kai-ni it-ta.   (Indefinite)

     Taro-NOM   book two-CL-ACC   buy-to go-PAST

     'Taro went to buy two books.' *not* 'Taro went to engage in a book-buying event.'

(59) Context: Taro and I ordered garlic bread, [two cups of soup]$_i$ and a pizza to share. But, while I was buying drinks at the bar:

        Taro-ga   [suupu   ni-hai-o]$_i$ nomi-owat-ta.   (Definite)

        Taro-NOM soup   two-CL-ACC   drink-finish-PAST

        'Taro finished the two cups of soup.'

(60) Context: I take [two dogs]$_i$ and three ferrets for a walk everyday, and one day:

        [Inu ni-hiki-ga]$_i$ michi-o   watari-tagat-ta.   (Definite)

        dog two-CL-NOM   road-ACC cross-want-PAST

        'The two dogs wanted to cross the road.'

(61) Context: There are [two dogs]$_i$, two monkeys and three parrots in this animal
hospital tonight. They were so noisy last night. However:

Kyou [inu ni-hiki-ga]$_i$ totemo   otonashi-katta.   (Definite)

today dog two-CL-NOM   very   obedience-PAST

'The two dogs were very obedient today.'

(62) Context: There are [two dogs]$_i$ in this animal hospital tonight. They never eat
fish. I don't know:

[Inu ni-hiki-ga]$_i$ niku-o   taberu-no-ga   suki-(na wake).(Definite/*Generic)

dog two-CL-NOM meat-ACC eat-NML-NOM fond(-COP reason)

'(The reason why) the two dogs like to eat meat.'

Note that the presence of NC does not always give rise to an indefinite
interpretation in Japanese: (59), (60), (61) and (62) show that the arguments containing
an NC can receive a definite interpretation. This is in sharp contrast to the examples of
Chinese noun phrases that contain a numeral and are interpreted as indefinite as shown
in (40) and (41).

The interpretative possibilities for Japanese bare arguments, the sequence of a
bare noun and the pre-case NC and the sequence of a case-marked noun and the
post-case NC are summarised below:

(63)

	Indef	Def	Kind-denoting	Gen
Bare arguments	+	+	+	+
Bare noun + pre-case NC	+	+	-	-
Case-marked noun + Post-case NC	+	-	-	-

What is crucial here is that the sequence of a bare noun and the pre-case NC can be definite, whereas the sequence of a case-marked noun and the post-case NC is always interpreted as indefinite.

5.3.3.2 The indefiniteness of the sequence of a case-marked noun and the post-case NC

Let us consider the indefiniteness of the sequence of a case-marked noun and the post-case NC. In Chapter 2, I claimed that the sequence of a case-marked noun and the post-case NC is an NCP. I claim that within the NCP, the indefinite feature of the head NC projects and the whole NCP becomes indefinite as illustrated below:

(64) Post-case NC

NCP (Indefinite)
DP   NC[indef]
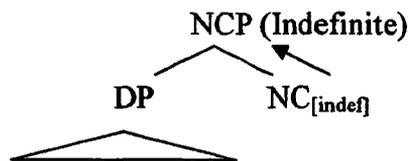
As for the reduced acceptability of (56), I suggest that the predicate *otonashika-tta* 'obedient-PAST' has a property of requiring its subject to be definite, and thus does not

match with the sequence of a case-marked noun and the post-case NC with an indefinite interpretation.

5.3.3.3 The locus of definiteness and the ambiguity of the sequence of a bare noun and the pre-case NC

Let us turn to the sequence of a bare noun and the pre-case NC. In this section, I consider how the sequence of a bare noun and the pre-case NC can be ambiguous, definite or indefinite. I will argue that Japanese has two types of Ds, a denotational D and an expletive D, which are covert counterparts of two types of French determiners (Vergnaud & Zubizarreta 1992), respectively, and that the sequence of a bare noun and the pre-case NC can be a DP headed by an empty denotational D, which prevents the embedded head NC from projecting its indefinite feature to the topmost head.

Let us consider the locus of definiteness in Chinese and Japanese. As shown in (39), Chinese classifiers may appear without any numeral and [Cl + N] can be interpreted as definite. Cheng & Sybesma argue that the head Cl is the locus of definiteness in Chinese and thus [Cl + N] in (39) is a ClP headed by Cl and interpreted as definite. They suggest that when the ClP appears as the complement to the head Numeral as shown in (44), the head Numeral has the effect of undoing the definiteness of the embedded ClP.

Although Japanese and Chinese are alike in having a classifier-system, and both lack definite articles corresponding to *the* in English, they differ in the following points. The first and the most important difference between Japanese and Chinese noun phrases is that Japanese lacks [Cl + N] sequences. In Japanese, classifiers must co-occur with numerals (e.g., *hon* *(*san*)-*satsu* 'book (three)-CL'). Second, arguments containing an

NC in Japanese can be interpreted as definite without a demonstrative or a quantifier as in (60), which is repeated below.

Pre-case NC

(65) Context: I take [two dogs]$_i$ and three ferrets for a walk everyday, and one day:

[Inu ni-hiki-ga]$_i$ michi-o   watari-tagat-ta. (= (60))   (Definite)[16]

dog two-CL-NOM   road-ACC cross-want-PAST

'The two dogs wanted to cross the road.'

This suggests that Japanese classifiers cannot be a head as the locus of definiteness, unlike Chinese classifiers.

The question that arises here is: what is the locus of definiteness in Japanese and what makes it possible for the sequence of a bare noun and the pre-case NC to be interpreted as definite?

In Chapter 2, I proposed that the sequence of a bare noun and the pre-case NC is a DP whose topmost head is D and the intermediate head is NC and NP is the most embedded category.   Schematically:

(66)

```
              DP
            /    \
         NCP       D
        /   \
      NP     NC
```

---
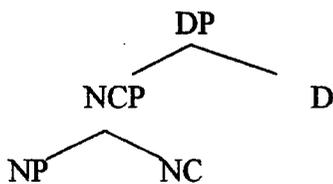
[16]   Kakegawa (2000) argues that the sequence of a bare noun and the pre-case NC is always interpreted as definite.   However, this is too strong a generalisation.   As observed in (58), the sequence of a bare noun and the pre-case NC can receive an indefinite interpretation.

I propose that the topmost empty head D in (66) can be the locus of definiteness and the sequence of a bare noun and the pre-case NC can be interpreted as definite when the empty D has a definite feature. It is therefore reasonable to conclude that the empty head D in (66) counts like *the* in *the three students* in English.[17]

Recall, however, that the sequence of a bare noun and the pre-case NC can be interpreted also as indefinite, as repeated below:

Pre-case NC

(67) Taro-ga   [hon ni-satsu-o]   kai-ni it-ta.   (=(58))   (Indefinite)

     Taro-NOM   book two-CL-ACC   buy-to go-PAST

     'Taro went to buy two books.'

If the head D within the sequence of a bare noun and the pre-case NC were always the locus of definiteness, we would not be able to explain the indefinite interpretation of the sequence of a bare noun and the pre-case NC in (67).

This leads us to hypothesise that there exist two types of D in Japanese: one which is the locus of definiteness, and the other which is not.

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[17] According to Cheng & Sybesma (1999: 539), Mandarin does not have any equivalent of an English expression like *the three students*, which is definite even though it contains a numeral. 'The three students' is expressed in Mandarin either by adding a demonstrative as in (ia), or by adding a universal quantifier *dou* 'all' as in (ib)

(i)   a. Na   san-ge   xuesheng   lai-le.
          that three-CL   student   come-LE
         'Those three students came.'

     b. San-ge   xuesheng   dou   lai-le.
         three-CL   student   all   come-LE
        'All three students came.'

As they note, however, (ia) and (ib) are not strictly equivalent to *the three students* in English.

This hypothesis is supported by a language that has overt counterparts of these two types of D. I will demonstrate in what follows how French is such a language, having two types of overt determiners.

5.3.3.4 French determiners

Vergnaud & Zubizarreta (1992) argue that there are two types of determiners in French: a denotational determiner and an expletive determiner. A denotational determiner is to denote an individual or a set of individuals. An expletive determiner, on the other hand, lacks a denotational function, and thus a DP headed by an expletive determiner denotes a type only. Consider the following example and its two interpretations:

(68) Les baleines sont en train de disparaître. (Vergnaud & Zubizarreta 1992: 635)

the whales are becoming extinct

a. The set of subspecies of "whales" (white whales, California grey whales, Greenland whales, etc.) are becoming extinct.

b. The species "whales" are becoming extinct.

They argue that when (68) bears the interpretation (68a), the determiner *les* is for denoting the "subspecies", while when (68) bears the interpretation (68b), the determiner *les* is for denoting the "species". This ambiguity of the subject *les baleines* 'the whales' shows that the determiner in the interpretation (68a) functions to classify a species into a subspecies, while the determiner in the interpretation (68b) lacks such a subspecies-denoting function, and thus, the whole kind "whales" is denoted. Given this, they conclude that in French, an expletive determiner lacks denotational content

and is transparent for a grammatical relation such as predication and binding.

The English definite determiner, on the other hand, does not show such an ambiguity regarding the subspecies and species interpretations. The following example (69) shows that a DP headed by an English definite determiner has only the "subspecies" interpretation, contrary to the French example in (68):

(69) The whales are becoming extinct.

(69) has a single interpretation that a set of subspecies of "whales" such as white whales and grey whales is becoming extinct. Hence, Vergnaud & Zubizarreta claim that the definite determiner in English functions only as a denotational determiner. They conclude that the above contrast between French and English results from the following parameter:

(70) The definite determiner may function as an expletive from the point of view of denotation in French but not in English. (Vergnaud & Zubizarreta 1992: 635)

5.3.3.5 Japanese Ds: a denotational D and an expletive D

Let us now return to Japanese D. If the parameter (70) of Vergnaud & Zubizarreta is universal, it is interesting to consider which language type Japanese is categorised as.

In the previous section, we have seen that the sequence of a bare noun and the pre-case NC can be interpreted either as definite or as indefinite, and I have hypothesised that Japanese D can be the locus of definiteness, but not all the time.

Having seen some empirical evidence for two types of determiners in French, I would like to propose that D is either denotational or expletive in Japanese.[18] I claim that Japanese Ds are covert counterparts of French determiners; namely, D functions either as a denotational D or an expletive D in Japanese. When the denotational D heads a DP, the DP is interpreted as definite. When the expletive D heads a DP, on the other hand, it lacks a denotational function, and thus, the kind or group denoted by the embedded category, NP or NCP, is retained.[19]

5.3.3.6 A definite interpretation of the sequence of a bare noun and the pre-case NC

I am now in a position to show how the denotational/expletive Ds and their complements interact with each other to yield the various interpretations of (bare) arguments in Japanese.

Let us consider the ambiguity of the sequence of a bare noun and the pre-case NC. I have provided a DP structure for the sequence as shown in (66), where the topmost head D takes an NCP as its complement and the intermediate head NC takes an NP as its complement. The question is: how are both of the definite and indefinite interpretations obtained from the proposed structure? Given that D is either denotational or expletive in Japanese, the ambiguity of the sequence of a bare noun and the pre-case NC is explained as follows. When an NCP is the complement of a denotational D, the whole DP is always interpreted as definite, whereas when an NCP is

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[18] The "deictic" Cl in Chinese proposed by Cheng & Sybesma (1999) may correspond to a Japanese denotational D.

[19] I have proposed in Chapter 2 that Japanese empty Ds have a singularising function. A question arises as to how the singularising function is related to the denotational/expletive distinction of Japanese Ds. I maintain that a denotational D and an expletive D share the singularising function: D's singularising function is applied to the complement and clarifies a kind or a group denoted by the complement, regardless of the types of D.

the complement of an expletive D, the D is transparent, and thus the number/indefinite feature in NC is retained and the whole DP is interpreted as indefinite. The two structures are illustrated below:

(71) Sequence of a bare noun and the pre-case NC with a definite interpretation

```
          DP (definite)
         /\
       NCP    D [denotational]
      /\
    NP    NC[indef]
```
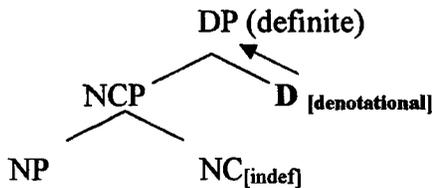
(72) Sequence of a bare noun and the pre-case NC with an indefinite interpretation

```
          DP (Indefinite)
         /\
       NCP    D[expletive]
      /\
    NP    NC[indef]
```
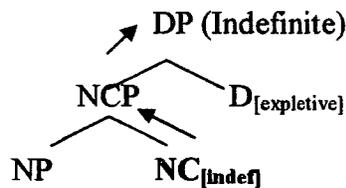
This covers the interpretative possibilities of the sequence of a bare noun and the pre-case NC for which I have proposed two possible internal structures. In the next section, I return to bare arguments and their interpretative possibilities. I follow Cheng & Sybesma (1999) and Schmitt (1996) in assuming that Japanese bare arguments are more than just NPs. I will claim that a bare argument in Japanese is a DP or an NCP.

5.3.4 The interaction of three heads within bare arguments: N, NC and D

As summarised in (63), Japanese bare arguments can have four possible interpretations: indefinite, definite, kind-denoting and generic interpretations. In what follows, I will show how the interaction of the three heads, i.e., N, NC and D and the properties of each head yields these four interpretations.

5.3.4.1 Definite/indefinite bare arguments

Let us consider the definite/indefinite interpretations of Japanese bare arguments. The language's bare arguments can be interpreted as indefinite and as definite as repeated below:

(73) Taro-ga   [hon-o]   kai-ni   it-ta.   (=(47)) (Indefinite)

        Taro-NOM book-ACC buy-to   go-PAST

        'Taro went to buy a certain book/books'

(74) Context: Taro started having [a bowl of soup]$_i$. Five minutes later,

        Taro-ga   [suupu-o]$_i$ nomi-owat-ta.   (= (48)) (Definite)

        Taro-NOM soup-ACC drink-finish-PAST

        'Taro finished the soup.'

In the previous section, we have seen that the sequence of a case-marked noun and the post-case NC is always indefinite, and I claimed that it is an NCP headed by NC as in (64). We have also seen that the sequence of a bare noun and the pre-case NC is ambiguous, i.e., definite or indefinite. I claimed that Japanese has two types of D, a denotational D and an expletive D, both of which are covert counterparts of denotational and expletive determiners in French, respectively. The ambiguity of the sequence of a bare noun and the pre-case NC is thus dependent on which type of D is chosen as illustrated in (71) and (72).

Under this account, I propose that indefinite/definite bare arguments have the internal structure of either the sequence of a case-marked noun and the post-case NC or the sequence of a bare noun and the pre-case NC. A bare argument is interpreted as definite when it is the sequence of a bare noun and the pre-case NC containing an empty NC and the denotational head D. An indefinite bare argument, on the other hand, has two structural sources: either the sequence of a bare noun and the pre-case NC containing an empty NC and an expletive D, or the sequence of a case-marked noun and the post-case NC containing an empty NC as its topmost head. Schematically:

(75)   Bare arguments with a definite interpretation
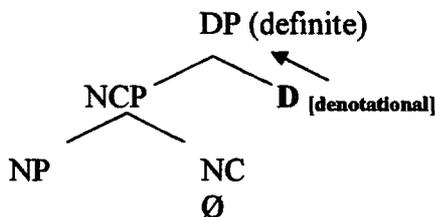
(76)   Bare arguments with an indefinite interpretation
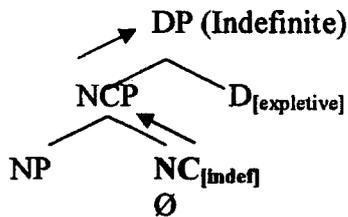
a.   b.
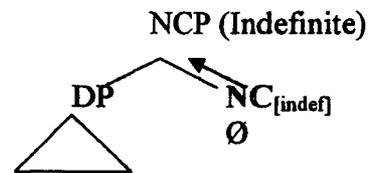
Thus far, I have argued that bare arguments with a definite or an indefinite interpretation contain an empty NC and a D, and the interaction between these two heads within noun phases give rise to the definite/indefinite interpretations.

5.3.4.2 Non-referential bare arguments: kind-denoting and generic bare arguments

Bare arguments also have a kind-denoting interpretation and a generic interpretation. I have briefly considered bare arguments with a kind-denoting interpretation in section 5.2.3.2. The example is repeated below:

(77) Taro-ga   [hon-o]   kai-ni   it-ta.

Taro-NOM book-ACC buy-to   go-PAST

'Taro went to engage in a book-buying event.'

Assuming that the head NC is the locus of indefiniteness and inherently has a terminative interpretation, I have claimed that a bare argument that lacks indefiniteness has a DP structure that lacks NC. The proposed structure (20) for kind-denoting bare arguments is repeated below:

(78) (=(20))

I have also shown that a bare argument with a kind-denoting reading can co-occur with a durative adverbial as repeated below:

Durative adverbial

(79) San-jikan Taro-ga . hon-o   yon-da.   (= (25))

three-hour Taro-NOM book-ACC read-PAST

(Lit.) 'Taro read book for three hours.'

(='Taro engaged in a book-reading event for three hours.')

Under the account provided in the previous section that Japanese has a denotational D and an expletive D, we are now in the position to reconsider the property of the head D within (78). Which type of D, either a denotational D or an expletive D, do kind-denoting bare arguments have?

I claim that a kind-denoting bare argument is headed by an expletive D and the kind denoted by the complement NP yields the kind-denoting interpretation of the bare argument. The structure is illustrated below:

(80) Bare arguments with a kind-denoting interpretation
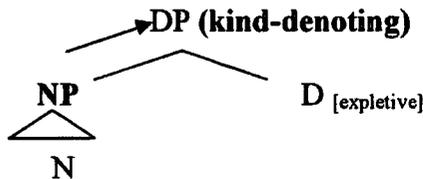
The singularising function of the expletive D is to identify the kind denoted to by NP and to exclude other possible kinds; thus, the whole DP is interpreted as a kind-denoting, non-referential expression. The expletive D does not prevent the kind-denoting NP from projecting its kind-denoting property to the topmost DP.

A residual issue is whether a denotational D can take an NP as its complement in Japanese. Vergnaud & Zubizarreta (1992) claim that the subject *the panda* in the following example contains a denotational determiner, not an expletive one:

(81) **The panda** will become extinct soon.

Carlson (1977) argues that *to be common, to be fast disappearing* and *to become extinct* are predicates that require their subjects to denote a kind or a type, since the sentences seem to express some sort of generalisations, abstracting away from particular events.

Thus it is assumed that the subject *the panda* in (81) is a generic expression, which is another type of kind-denoting expression.[20] While kind-denoting bare arguments simply refer to the kind of object engaged in the event, generic noun phrases are likely to appear as subjects of sentences that express regularities which transcend particular facts as in (81) (Krifka et al. (1995)).

Vergnaud & Zubizarreta (1992:643) argue that when a generic expression consists of a denotational determiner and a singular noun phrase as in (81), it gives rise to the interpretation of a "prototype", which may be treated as a subdomain of tokens. Maintaining that an English determiner *the* is denotational, they argue that the prototype subject directly denotes a token and indirectly denotes a type via a prototypical interpretation. That is, *the panda* in (81) shows a prototype token of the species

---

[20] Krifka et al. (1995) point out that the singular kind-denoting DP in question is different from a plural kind-referring DP in that the former cannot be restricted by a relative clause as shown below:

(i)   a. The lions that have toothaches are particularly dangerous.
       b. ? The lion that has toothaches is particularly dangerous.
                        (Krifka et al. 1995: 93)

However, this contrast does not seem to show the difference between a singular generic DP and a plural generic DP, since a similar contrast between the plural and the singular is observed in the following examples: as observed by Vergnaud (1985) and Schmitt (1996), the plural DP followed by a relative clause can receive a durative reading, while the singular DP followed by a relative clause cannot:

(ii)   a. Chomsky wrote the books that revolutionalised the field {for years / in 2 years}.
       b. Chomsky wrote the book that revolutionalised the field {#for years/ in 6 days}.
                        (Schmitt 1996: 189)

If the plural DP is not followed by a relative clause, it does not receive a durative reading:

(iii) a. Chomsky wrote the books {#for years/ in 6 days}.
       b. Chomsky wrote the book {#for years/ in 2 years}.

Schmitt (1996) argues that the determiner associated with a plural noun *books* in (iia) is "transparent" in that the object in (iia) can behave like a bare plural for the purposes of calculating aspect (cf. Kayne 1994). Given this, it might be that the definite determiner in (ia) is also "transparent" and the subject behaves like a bare plural with a kind-denoting interpretation, while the determiner in (ii) is not "transparent" and thus cannot behave like a kind-denoting expression. Perhaps then there are also two Ds in English: a definite determiner and an expletive determiner. I leave the issue open for future research.

"panda", and a type is indirectly denoted by such a prototype token. The schematised

structure for *the panda* in (81) is below:

(82)

Let us return to Japanese. The question is, are there any DP corresponding to

(82), whose head is a denotational D that takes an NP as its complement in Japanese?

Following Longobardi (1994) and Vergnaud & Zubizarreta's (1992) accounts, I argue

that Japanese generic subjects and proper nouns are DPs headed by a denotational D.

Consider first proper nouns in Japanese. In (83), a proper noun *Taro* refers to a

definite individual. As shown in (84), on the other hand, Japanese proper nouns can be

modified by a genitivised pre-nominal NC where the whole phrase is interpreted as

indefinite:

(83) **Taro-ga**   wain-o   nond-eiru.   (Definite)

   Taro-NOM   wine-ACC drink-ing

   'Taro is drinking wine.'

(84) Hanako-wa   **futa-ri-no**   **Taro-o**   yon-da.   (Indefinite)

   Hanako-TOP   two-CL-GEN   Taro-ACC invite-PAST

   'Hanako invited two Taros.'

The indefinite object *futa-ri-no Taro-o* 'two-CL-GEN Taro-ACC' in (84) suggests that a

proper noun is base-generated as an N and can be modified by a genitivised pre-nominal

NC *futa-ri-no* 'two-CL-GEN'. Given this, I claim that the definite proper noun

subject *Taro* in (83) is also base-generated as an N, and the NP becomes a complement

of the denotational D, giving rise to a definite interpretation.

The next question is whether a bare argument with a generic interpretation shown

below has the same DP structure headed by a denotational D:

(85) **Panda-ga** zetsumetsusi-tsutsu-aru.

Panda-NOM extinct-ing-be

'The panda is becoming extinct.'

In (85), the common noun subject *panda-ga* 'panda-NOM' is considered to be a unique

genus known to us. This suggests that generic subjects like *panda-ga* in (85) are DPs

headed by a denotational D. The structure of generic bare arguments is thus as

illustrated below:

(86) Bare arguments with a generic interpretation

```
            DP (Definite)
          _____
        /            \
      NP              D [denotational]
      |
      N
      Panda
      Panda
```
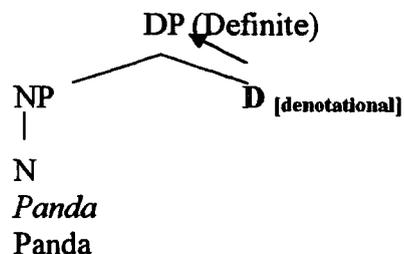
To summarise, bare arguments have three possible internal structures, [NCP DP

NC] for the sequence of a case-marked noun and the post-case NC, [DP [NCP NP NC] D] for the sequence of a bare noun and the pre-case NC and [DP NP D] for kind-denoting noun phrases. The four interpretative possibilities of bare arguments are mapped to these structures, depending on the presence of NC and the type of Ds, denotational or expletive. The consequences of my analysis are summarised below:

(87) Possible internal structures and the variety of interpretations of bare arguments

	Denotational D	Expletive D
[NCP DP NC]	Indefinite	Indefinite
[DP [NCP NP NC] D]	Definite	Indefinite
[DP NP D]	Generic	Kind-denoting

5.4 N-raising

Before closing this chapter, I discuss how empty heads in Japanese are licensed within noun phrases.

Longobardi (1994) suggests that empty Ds are licensed either by lexical-government or by N-to-D raising (see also Chierchia 1998). Having observed that definite bare nouns in Mandarin can appear in a preverbal position, Cheng & Sybesma (1999) suggest, following Longobardi (1994) and Chierchia (1998), that definite bare nouns in Mandarin are ClPs headed by an empty Cl, and that N moves to Cl in a non-lexically-governed position, i.e., subject position, yielding a definite interpretation. They note that N-to-Cl raising is needed for the definite interpretation of bare nouns.

This account of N-to-D/Cl raising does not seem to apply to Japanese bare

arguments proposed in this chapter. Having observed that Japanese bare arguments can be indefinite even in subject position, i.e., a lexically-ungoverned position, I have proposed that Japanese has two types of D, a denotational D and an expletive D, and thus whether a DP is interpreted as definite or not depends on which type of D is chosen. Therefore, my view is that a definite interpretation of an argument in Japanese is not due to N-to-D raising.

Still assuming that empty Ds must be licensed (Rizzi 1986, Longobardi 1994), I propose that empty Ds in Japanese are licensed by morphologically motivated N-raising, whether they are denotational or expletive; namely, N-raising takes place within both denotational DPs and expletive DPs.

The universal N-raising analysis proposed here is similar to overt N-raising data in Hebrew. Siloni (1997: 33) shows that N-raising occurs in Hebrew, whether the DP is definite or indefinite. Consider:

Hebrew

(88) a.   [DP [D ha-bayit$_i$] [NP ha-yafe [NP t_i]]]

the-house   the-beautiful

'the beautiful house'

b. [DP [D bayiti][NP yafe [NP t_i]]]

house   beautiful

'a beautiful house'

In (88a), the head N *bayit* 'house' is base-generated as the head N and undergoes N-

raising. In (88b), the head N *bayit* 'house' also undergoes N-raising and the whole DP receives an indefinite interpretation. It is clear from (88b) that N-raising within an indefinite noun phrase is not motivated by a definiteness feature. N-raising in Hebrew is thus presumably the case of morphologically motivated movement. Given this, I claim that not only a denotational D but also an expletive D is licensed by N-raising in Japanese in order for the empty D position to be morphologically licensed.

A question arises as to how an empty D is licensed when an NC appears as an intermediate head between D and N. I assume with Ritter (1991, 1992) and Schmitt (1996) that when an NC appears as an intermediate head, N first adjoins to NC, forming a complex head [$_{NC}$ N + NC], and then the complex head adjoins to D (cf. Baker 1988).

5.5 Conclusion

The theory developed in this chapter has shown that the various interpretations of bare arguments in Japanese are obtained by the interaction between heads and the distribution of features (e.g., definiteness) in heads. I have claimed that Japanese bare arguments are more than just NP, i.e., DP or NCP containing an empty D and/or an empty NC. I have proposed that Japanese D is either denotational or expletive, and that the type of D is directly related to the interpretation of a DP. I have also claimed that Japanese bare arguments may contain an empty NC as the locus of indefiniteness, and that the indefiniteness is retained when the empty NC is the topmost head or it is embedded within a DP headed by an expletive D. When a bare argument lacks indefiniteness, it is a DP whose empty head D takes an NP as its complement. The bare argument receives either a kind-denoting interpretation or a generic interpretation, depending on the type of the topmost head D.

Chapter Six

Predicate Nominals in Copular Constructions

6.1 Introduction

The previous chapter offered an account of bare arguments in Japanese. In particular, I posited that bare arguments are DPs or NCPs containing the empty D and/or the empty NC. In this chapter, I will discuss another type of bare nominal that appears in predicate position within copular constructions.

This chapter is organised as follows. In section 6.2, I sketch the syntactic properties of Japanese bare predicate nominals, compared to bare arguments, and suggest that Japanese predicate nominals are just NPs and that they appear within the stative VP-shell structure. In section 6.3, I offer an account for predicate nominals in other languages. I will attempt to show that a wide range of data involving predicate nominals across languages are accounted for by considering the existence and distribution of features in lexical and functional heads within predicate nominals.

6.2 Predicate nominals in Japanese

6.2.1 Predicate nominals in Japanese copular constructions

A nominal expression can appear together with *-da*, which is often considered as a copula in the literature, and follows its subject as below:

(1) Taro-wa **gakusei**-da.

Taro-TOP student-COP

'Taro is a student.'

(2) Kore-wa **IBM-no shin-seihin**-da.

this-TOP IBM-GEN new-product-COP

'This is a new product of IBM.'

I call these nominal expression followed by the copula *-da* "predicate nominals" in this chapter.

6.2.2 Predicate nominals as bare NPs

In the theory developed by Longobardi (1994), among others, that DPs are referential while NPs are predicates, the prediction is that Japanese predicate nominals are just NPs.

As is clear from (1) and (2), Japanese predicate nominals are associated with the copula, not with case-markers. On the assumption that a case-marker associated with a noun phrase is a phonological realisation of a Case feature in D in Japanese, I will argue that predicate nominals are NPs that lack a D-projection. In what follows, I will show some empirical evidence to support my argument.

6.2.2.1 Properties of predicate nominals

In this section, I show the properties of Japanese predicate nominals, comparing them to argument noun phrases.

Firstly, Japanese predicate nominals cannot be associated with any case-marker, as shown below:

(3)   Taro-wa   gakusei (*-ga/ *-o)-da.

Taro-TOP student -NOM/-ACC-COP

'Taro is a student.'

(4)   Kore-wa   IBM-no   shin-seihin (*-ga/*-o)-da.

this-TOP   IBM-GEN   new-product -NOM/-ACC-COP

'This is a new product of IBM.'

In Chapter 2, I have claimed that noun phrases associated with case-markers in Japanese are DPs.   Thus, predicate nominals, which lack case-markers, are not clear instances of DPs.   Further, as predicates, these nominal expressions do not refer to any individual: they only show a property of the subject.   In light of Longobardi's theory, this suggests that predicate nominals in Japanese lack D.

Secondly, as Muromatsu (1998) points out, predicate nominals in Japanese cannot contain an NC in such examples as follows:

(5)   a. Taro   to   Hanako-wa (*futa-ri-no)   gakusei-da.

Taro   and   Hanako-TOP two-CL-GEN   student-COP

'Taro and Hanako are two students.'

b. Taro   to   Hanako-wa   gakusei   (*futa-ri)-da.

Taro   and   Hanako-TOP   student   two-CL -COP

'Taro and Hanako are two students.'

(6)   a. Kore-wa (*ichi-dai-no)   IBM-no   shin-seihin-da.

this-TOP one-CL-GEN   IBM-GEN   new-product-COP

'This is a new product of IBM.'

b. Kore-wa   IBM-no   shin-seihin   (*ichi-dai)-da.

this-TOP   IBM-GEN   new-product   one-CL-COP

'This is a new product of IBM.'

This contrasts with predicate nominals in English, which shows number agreement with subjects as below:

(7)   John and Mary are doctors/*doctor.

Munn & Schmitt (1999) argue that English predicate nominals in copular constructions contain a head Num, assuming that the indefinite article is the spell-out of a singular Num.[1]   The question arises as to whether Japanese predicate nominals

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[1]   Emonds (1985, Ch.6), in a rather complete discussion of predicate nominals in English, observes that predicate nominals cannot take numerals/quantifiers.   More precisely, Emonds (2000, Ch. 8) shows that while *be* sometimes allows quantifiers, other linking verbs such as *become* and *stay* never do:

(i)   John and Mary became (*two) students.
(ii)   John and Mary stayed (*two) students.

This may suggest that English predicate nominals lack a Num-projection.   If so, it is cross-linguistic support of my analysis that Japanese predicate nominals lack an NC-projection.

contain an empty head NC.

Given that predicate nominals do not require a [+interpretable] number feature (Munn & Schmitt 1999), and further, that overt NCs are not allowed within predicate nominals as shown in the examples (5) and (6), I suggest that Japanese predicate nominals do not contain a head NC. This also supports the account that Japanese predicate nominals are just NPs.

Further, Williams (1983) points out that in English a wh-phrase that appears as a predicate nominal undergoes wh-movement as shown below since it is a maximal projection:[2]

(8)   a. John considers [Bill [Bob's friend]].   (Williams 1983: 297)

      b. What does John consider [Bill [*t*]]?

Likewise, a predicate nominal within a copular construction in Japanese can be replaced with a wh-phrase *nan(i)* 'what' as given below:

(9)   a. Taro-wa   gakusei-da.

         Taro-TOP   student-COP

         'Taro is a student.'

---

[2]   Emonds (1985:269fn) presents the following example to show that a predicate nominal can appear as a focus constituent in pseudo-cleft constructions:

(i)   What he has always been is a teacher.

This also shows that the predicate nominal, as a maximal projection, can be questioned by means of *what* (See also Emonds 1976, Ch4).

b. Taro-wa   nan-da?

Taro-TOP   what-COP

'What is Taro?'

This shows that the predicate nominal in (9a) is a maximal projection, rather than a bar-level category or a head, and thus it can be replaced with a wh-word as in (9b). In Oga (2000a), I suggested that Japanese wh-words such as *nan(i)* 'what' are base-generated as an N, on the basis of the fact that a Japanese wh-word can be modified by an adjective (e.g. *akai nani* 'red what'). Maintaining that adjectives are adjoined to NP, I suggest that the wh-phrase in (9b) is not a DP but an NP as a maximal projection.

Next, as pointed out by Takano (1992), a lexical particle *-mo* 'also' or *-shika* 'only', which generally overwrite case-markers, never co-occur with predicate nominals. Consider:

(10) a. Taro-ga   gakusei-da.

      Taro-NOM   student-COP

    'Taro is a student.'

    b. Hanako-mo   gakusei-da.

      Hanako-also   student-COP

    'Hanako is a student, too.'

c. *Taro-ga   sensei-mo-da.

Taro-NOM   teacher-also-COP

'Taro is also a teacher.'

In (10b) the nominative case-marker is replaced with the particle *–mo* 'also'. By contrast, the particle cannot follow the predicate nominal as shown in (10c). This indicates that the categorial status of the predicate nominal is different from arguments.

Thirdly, predicate nominals can be modified by adjectives as shown below:

(11) Taro-wa   [yoi   gakusei]-da.

Taro-TOP   good student-COP

'Taro is a good student.'

Given that an AP adjoins to NP in Japanese (Murasugi 1991), this example suggests that the adjective can be adjoined to the predicate nominal as an NP.

In sum, predicate nominals are clearly different from arguments in some syntactic aspects: in fact, they are smaller projections than arguments, i.e. just NPs. In the next section, I will present an articulated structure for copular constructions containing a predicate nominal.

6.2.2.2 The structure of copular constructions

Applying Williams's theory of Predication, I argue that an NP is interpreted as a predicate in its base-position when it is in a c-command relationship with a DP, and the NP and the DP form a maximal projection, XP, interpreted as a proposition (Williams

1980). I propose the structure (12), leaving the categorial status of the maximal projection, XP, open:[3]

(12)

```
                    XP
              ┌──────┴──────┐
        DP[Case]            NP
        Taro-ga            gakusei
        Taro-NOM           student
```
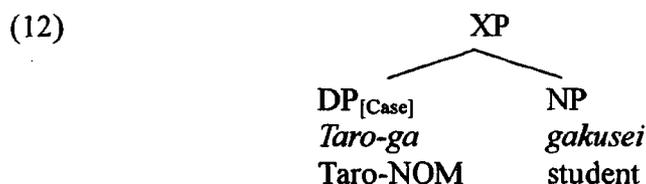
Japanese predicate nominals in copular constructions are followed by the copula *-da* or its participle form.[4] I propose that the copula *-da* is a verbal head and takes the whole XP as its complement. Since copular constructions are stative, I further propose that the copular constructions have the following VP-shell structure, in which the VP headed by the copula *-da* is a complement of a stative light verb *s* (Ura 1996, Takezawa

---

[3] I apply the Predication Theory (Williams 1980) only to the copular constructions containing predicate nominals, since the copular constructions in question are different from the other types of predication containing VP or AP, in that the former do not show honorific agreement in Japanese. As shown in (i) and (ii) VP and AP show honorific agreement, whereas as shown in (iii) predicate nominals do not (POLITE = a morpheme of politeness):

(i)   Yamada-sensei-ga   o-yasashii.
       Yamada-professor-NOM   honorific-kind
       'Professor Yamada is very kind.'

(ii)   Yamada-sensei-ga   o-kaeri-ninat-ta.
       Yamada-professor-NOM   honorific-leave-POLITE-PAST
       'Professor Yamada left.'

(iii)   Yamada-sensei-ga   (*go/*o-) iinchou-da.
       Yamada-professor-NOM   honorific-chairman-COP
       'Professor Yamada is a chairman.'

When it is necessary to use some honorific form in a situation, the copula is followed by a verb *iras-sharu* 'be-honorific' which is a honorific form of a stative verb *iru* 'be, exist':

(iv)   Yamada-sensei-ga   iinchou-de   iras-sharu.
       Yamada-Professor-NOM   chairman-COP   be-honorific
       'Professor Yamada is a chairman.'

This shows that subject-predicate nominal relationship is different from subject-Adjective and subject-Verb relationships in terms of honorific agreement.

[4] I will assume that the copula *-da* has two participial forms, *-de* and *-ni*, later in this section and in section 6.2.2.3.

1999):

(13)

```
              sP
            /    \
          VP      s
         /  \
        XP   V
       /  \  -da
  DP[Case] NP  COP
  Taro-ga  gakusei
  Taro-NOM student
```
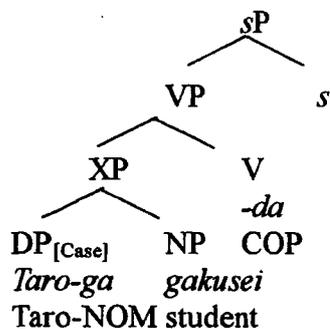
This structure is supported by the fact that the copula *-da* can often be replaced by a complex verbal expression *-de-aru* '-COP-be' as shown below:

(14) a. Taro-wa   gakusei-da.

      Taro-TOP   student-COP

'Taro is a student.'

      b. Taro-wa   gakusei-**de-aru**.

      Taro-TOP   student-COP-be

'Taro is a student.'

It is important to note that the verb *aru* can appear as an existential verb on its own as below:

(15) Tsukue-no ue-ni   ronbun-ga   aru.

      desk-GEN top-on   article-NOM   be

      'There is an article/are articles on the desk.'

Aru within *-de-aru* in (14b) and *aru* as a single verb in (15) share a verbal property. As in the following conjugation patterns, *-de-aru* follows the same pattern as *aru* as a single verb:

(16)

	-de-aru	aru
- Past	-de-aru	aru
+ Past	-de-atta	atta
Participle	-de-ari	ari

A difference between *aru* within *-de-aru* in (14b) and *aru* as a single verb in (15) is that only the latter has a semantic selection restriction: it co-occurs only with an inanimate nominative noun phrase. (15) is grammatical since *ronbun* 'article' is inanimate, and thus can co-occur with *aru* as a single verb. If the nominative noun phrase refers to an animate object such as *neko* 'cat', another stative verb *iru* is used instead of *aru*, as given below:

(17) Tsukue-no   ue-ni   neko-ga   iru/*aru.

      desk-GEN   top-on   cat-NOM   be

      'There is a cat/are cats on the desk.'

Aru in *-de-aru* in (14b) does not have such a semantic selection restriction: *-de-aru* can co-occur with both animate and inanimate subjects as in (18) and (19):

(18) Taro-wa   **gakusei-de-aru.**

   Taro-TOP   student-COP-be

   'Taro is a student.'

(19) Kore-wa   **IBM-no**   **shin-seihin-de-aru.**
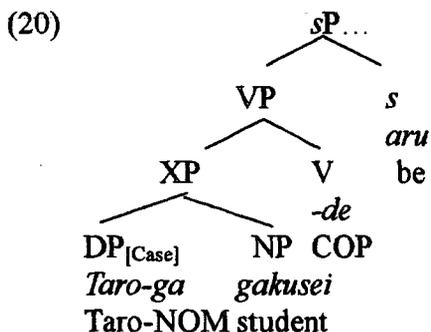
   this-TOP   IBM-GEN   new-product-COP-be

   'This is a new product of IBM.'

In (18), the subject *Taro* is animate, whereas in (19) the subject *kore* 'this' is a demonstrative that refers to something inanimate. These examples suggest that *aru* within *-de-aru* lacks the argument-selecting property of a lexical verb. I argue that that *aru* in *-de-aru* is a morphological realisation of the stative light verb *s* in the structure proposed in (13).[5] Hence, the *-de-aru* construction has the following structure, which is parallel to (13):

---

[5] Kubo (1992) assigns very different structures to the *-da* sentence and the *-de-aru* sentence, respectively.   She proposes that the copula *-da* is base-generated in I and optionally moves to C where it is paired with a nominative subject with an exhaustive reading in Spec of CP.   She further argues that the *-de-aru* sentence has a structure in which *aru* is a verb that takes a PP headed by *-de* as a postposition, and then the verb *aru* is raised to I.   In this thesis, however, I suggest both *-da* and *-de-aru* have a common structural basis since they share the same interpretation.

(20)

```
                        sP...
                     /      \
                 VP            s
               /    \          aru
            XP        V        be
          /    \      -de
   DP[Case]    NP  COP
   Taro-ga     gakusei
   Taro-NOM    student
```

In what follows, I will present evidence to support this type of analysis of copular constructions containing a predicate nominal.

It is interesting to note that as shown in (21), the *-mo* particle 'also' seen earlier can follow the *-de* form of the copula, and the stative light verb *-aru* follows the particle:

(21) Taro-wa   gakusei-de-mo-aru.

Taro-TOP   student-COP-also-be

'Taro is also a student.'

We also see that the *-mo* particle can be associated with the first verb of a complex verbal predicate as illustrated below:[6]

(22) a. Hanako-wa   Taro-ni   denwashi-te   mi-ta.

Hanako-TOP   Taro-to   call-PRT   attempt-PAST

'Hanako attempted to call Taro.'

---

[6] PRT = participle

258

b. Hanako-wa   Taro-o   tazune-te-mo   mi-ta.

  Hanako-TOP   Taro-ACC visit-PRT-also   attempt-PAST

  'Hanako also attempted to visit Taro.'

In (22a), "to call Taro" is what Hanako attempted; the first verb *denwashi-te* 'call-PRT' is in a participle form *-te*, and is followed by the second verb *mi-ta* 'attempt-PAST' forming a complex predicate.   In (22b), the particle *-mo* appears between the first verb *tazune-te* 'visit-PAT' and the second verb *mi-ta* 'attempt-PAST', where the particle *-mo* is to emphasise another thing that Hanako attempted, i.e. "to visit Taro".   This suggests that in (21), *-de* is a participial form of the embedded V and it can be associated with the particle *-mo*, and it is followed by the upper stative head *s* realised as *-aru*.   That is, each of *-de* and *-aru* is realised as a head, namely as V and *s*, respectively.

6.2.2.3 A note on the relation between a verb *naru* 'become' and a predicate nominal

In the previous section, I have proposed that Japanese predicate nominals are bare NPs and they are embedded within the stative VP-shell structure (13).   In this section, I will extend my analysis to other predicate nominals observed in a different circumstance.

In language systems such as Slavic languages, predicate nominals following a verb equivalent to *become* are often in an oblique case.   In this section, I consider if a verb *naru*, as an equivalent of *become*, can take a predicate nominal and how it is realised in Japanese.

The predicate nominal following *naru* 'become' is associated with a particle-like morpheme *-ni* as shown below:[7]

(23) Taro-ga　　　　isha-ni　　　nat-ta.

　　　Taro-NOM　　　doctor-NI　　become-PAST

　　　'Taro became a doctor.'

The categorial status of *-ni* in Japanese has attracted much attention in the literature.　It has been categorised either as a postposition equivalent to 'to' in English, or as the dative case-marker (cf. Kuroda 1965, Inoue 1976, Miyagawa 1989).　Further, Sadakane & Koizumi (1995) claim that a participle form of the copula *-da* can be realised as *-ni* and it is attached to a "predicate" of some sort.　As a special case of the latter, I will argue that the *-ni* followed by *nat-ta* 'become-PAST' in (23) is a participle form of the copula *-da*.　We find empirical evidence as follows.

Miyagawa (1987) notes that there are two types of adjectives in Japanese, Adjectives (e.g. *omoshiroi* 'interesting', *kanashii* 'sad') and Adjectival Nouns (AN) (e.g. *kiree* 'pretty', *rippa* 'distinguished') and the latter can be associated with (the attributive form *-na* of) the copula *-da* (e.g. *kiree-na* or *kiree-da* 'pretty-COP', *rippa-na* or *rippa-da* 'distinguished-COP').

(24) a. Ano　　　hito-ga　　　　kiree-da.

　　　　 that　　　person-NOM　　pretty-COP

　　　 'That person is pretty.'

---

[7]　NI = *-ni* particle

b. [Kiree-na   hito]-ga   ki-ta.

   pretty-COP   person-NOM   come-PAST

'A pretty person came.'

Sadakane & Koizumi discuss cases where an AN associated with *-ni* can be a resultative predicate as in (25a), entailing that (25b) holds, as a result of the event expressed by (25a):

(25) a. Mika-wa   [heya-o   *kiree-ni*]   katazuke-ta.

        Mika-TOP   room-ACC clean-NI   tidy up-PAST

         'Mika tidied up her room beautifully.'

b. Heya-ga   *kiree-da.*

    room-NOM   clean-COP

    'The/her room is clean.'

The parallelism between (25a) and (25b) suggests that *-ni* in (25a) is another form of the copula *-da.*

Given that ANs and predicate nominals share properties of nouns, I suggest that the *-ni* associated with the predicate nominal *isha* 'doctor' in (23) is a form of the copula *-da* and the following verb *nat-ta* 'become-PAST' occupies a verbal head above the copula, namely the stative light verb head *s* proposed in (13). The schematised base structure of (23) is given below:

(26)

```
                    sP...
                  /      \
              VP           s
             /   \        nat-ta
          XP       V      become-PAST
         /   \     -ni
    DP[Case]  NP  COP
    Taro-ga   isha
    Taro-NOM  doctor
```
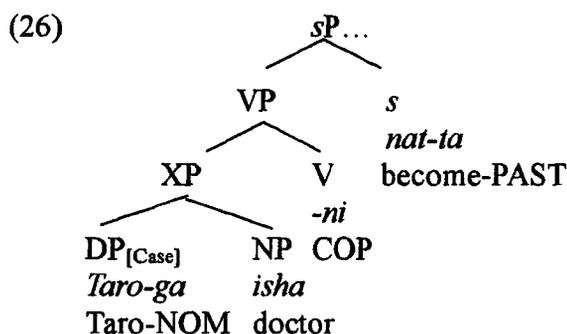
This analysis implies that the *ni*-phrase that co-occurs with the verb *naru* 'become' is neither a PP nor the dative case-marked noun phrase.

In view of the properties of predicate nominals, I conclude that Japanese predicate nominals are NPs, lacking D and NC, and that they are embedded within a stative VP-shell structure in (13) when they appear within copular constructions.

6.3 The variation of predicate nominals across languages

In the theory developed by Stowell (1989, 1991) and Longobardi (1994) among others, NPs are considered as predicates while DPs are considered as referential. Munn & Schmitt (1999) note that predicate positions constitute a natural site where interpretable number may not be required, since the interpretable number feature would be present on the subject of the predication. This predicts that predicate nominals in copular constructions are bare NPs that lack both Num and D.

This prediction is borne out in Japanese as we saw in the previous section 6.2: Japanese predicate nominals are bare NPs and do not co-occur with any NC or any case-marker as a realisation of a Case feature in D.

262

In Romance and Germanic, on the other hand, the distribution of predicate nominals is not consistent: they may appear with an indefinite article or a plural morpheme, but sometimes they may appear "bare", lacking a number specification under limited conditions. In what follows, I will present three possible structures for predicate nominals across languages, focusing on the presence or lack of Num and D within predicate nominals.

6.3.1 Bare predicate nominals in Romance and Germanic

In Romance, some predicate nominals can appear without an indefinite article in post-copula position as shown below (see Longobardi 1994, Munn & Schmitt 1999):

(27) a. Jean est médecin.   (French)

b. Juan es médico.   (Spanish)

c. Gianni è medico.   (Italian)

d. O João é médico.   (Brazilian Portuguese)

(Lit.) 'John is doctor.'

In Germanic languages, predicate nominals without an indefinite article also exist. In Swedish and German, a class of nouns consisting of, roughly speaking, social titles (e.g., *president*) and professions (e.g., *doctor*), can appear without an indefinite article in post-copula position (Stowell 1991: 50, Holmberg 1993: 131):

Swedish

(28) Per är (?en) pilot.

    Per is an pilot

    'Per is a pilot.'

German

(29) Hans ist (ein) Zahnarzt.

    Hans is a dentist

    'Hans is a dentist.'

In English, all predicate nominals in post-copula position must have a number specification such as an indefinite determiner or a plural morpheme in N, but a small number of predicate nominals such as *president* can appear without an indefinite article in predicate position within Small Clauses (SC) as shown below:

(30) We elected John **president of the class**.

(31) The queen appointed her lover **treasurer of the realm**.

One might simply claim that predicate nominals in Romance and Germanic observed through (27)-(31) are also bare NPs, lacking such functional categories.

Note, however, the distribution of bare predicate nominals through (27)-(31) is restricted and not all nouns can be bare in predicate position in Romance and Germanic. In Italian, for instance, a noun such as *medico* 'doctor', which can be a bare predicate nominal as in (27c), must be associated with an indefinite determiner when it is

modified by an adjective as shown below:

Italian (Longobardi 1994: 620)

(32) Ritengo   Mario *(un)   bravo medico.

I believe   Mario   (a)   good   doctor.

'I believe Mario a good doctor.'

In German, if a predicate nominal is a noun such as *Idiot* 'idiot', the indefinite determiner must co-occur with the noun.   Compare (29) to the following example (33):

German (Stowell 1991: 50)

(33) Er   ist   *(ein)   Idiot.

he   is   an   idiot

'He is an idiot.'

Given that predicate nominals appear in post-copula position where interpretable number is not required, I argue that the number specification and determiners appearing with predicate nominals are syntactically motivated.   In what follows, I will outline Munn & Schmitt's (1999) syntactic analysis of the contrast between Germanic and Romance predicate nominals and raise some problems with their analysis.   I will then provide an alternative account for the variation of predicate nominals across languages.

6.3.2 A fused head analysis by Munn & Schmitt (1999)

Munn & Schmitt (1999) discuss the contrast between Romance and English predicate

nominals with regard to a number feature. Consider the following contrast between French and English predicate nominals:

(34)   Jean est médecin.   (French) (=(27a))

(35)   John is *(a) doctor.   (English)

Assuming that a [+interpretable] number feature is generally present on the subject, and that it may not be required in predicate position, Munn & Schmitt argue that English predicate nominals are parametrically set to contain a head Num while Romance predicate nominals do not. The question is why this is so.
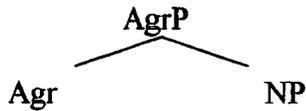
They argue that the parametric difference stems from the existence/lack of the head Agr within noun phrases. Bobaljik (1995) proposes a "Free Agr Parameter" that states that languages vary in terms of whether Agr(eement) is projected as itself or as a single fused head together with T. Applying his parameter to noun phrases, they claim that Romance predicate nominals are AgrPs in which Agr can stand by itself, taking an NP as its complement, while English predicate nominals are not AgrPs but Agr/NumPs headed by a fused head Agr/Num.[8] The articulated structures they propose are illustrated below:
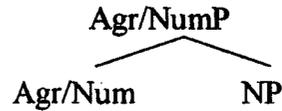
---

[8] It is important to note that Munn & Schmitt assume that NPs must always have some functional structure so that they are syntactically licensed; in Romance, an NP is licensed by a head Agr, while in English, an NP is licensed by a head Num under their analysis. In this chapter, I present cases where bare NPs can appear as predicates not licensed by any functional category.

(36) Predicate nominals

a. Romance   b. English

```
        AgrP                              Agr/NumP
       /    \                            /       \
    Agr      NP                     Agr/Num       NP
```

Num, as a distinct head, can be missing from nominals in Romance, and thus Romance predicate nominals, as AgrPs, resulting in the lack of number specification in post-copula position. In English, on the other hand, Num must appear wherever Agr is required to occur since it is fused with Agr. Hence, predicate nominals in English must co-occur with an indefinite article as a realisation of the fused head Agr/Num.

As supporting evidence for their analysis, they point out the fact that bare singulars appear more freely in some constructions such as the part-whole *of/with* constructions given below:

Spanish

(37) Compré   perros   de   **rabo largo**.

    '(I) bought   dogs   of   long tail'

(37) shows that the *part* phrase *rabo largo* 'long tail' is singular and does not agree with the head noun *perros* 'dogs' in number. As shown in (38), on the other hand, such bare singulars are not allowed in English.

English

(38)   I bought a dog with *(a) long tail.

Assuming that the *part* phrases preceded by 'of' or 'with' in Romance as in (37) are modifiers and considered as predicates, they suggest that the grammaticality of bare singular in (37) supports their argument that Romance predicate nominals lack a head Num while English predicate nominals contain a fused head Num/Agr and thus a number specification is obligatorily realised.

However, these examples do not seem to count as direct supporting evidence for their analysis. It is well-known that *part* nouns have peculiar properties across languages. As pointed out by Vergnaud & Zubizarreta (1992), for instance, if an N in Romance refers to an integral part of each individual and it is referred to by the subject, the N can be associated with a singular definite determiner, which is called an "expletive determiner" in Vergnaud & Zubizarreta's analysis. Consider:

French

(39) Les   enfants   ont levé   **la   main**.

    The   children   raised   **the   hand**.

Here, the direct object *la main* 'the hand' can receive a distributive interpretation such as 'each of the children raised his or her hand'. Notice that the object *la main* 'the hand' does not contain a number feature.

Returning to (37), notice that *rabo largo* 'long tail' within the object *perros de rabo largo* 'dogs of long tail' also refers to integral, inalienable part nouns, and the object has a distributive reading such as 'dogs each of which has a long tail'. This

parallels the inalienable part noun observed in (39). We are thus led to suppose that the lack of a number feature is peculiar to nominals headed by integral, inalienable part nouns in Romance, not to predicate nominals in general. Thus, the example of a bare singular in (37) does not suffice to support Munn & Schmitt's analysis.

It is also not very clear what kind of syntactic role the head Agr bears. They seem to assume that the head Agr is the locus of a gender feature, but this contrasts with Ritter's (1991, 1992, 1995) claim that gender specification is in the head N. It is also unclear what the Agr, fused with Num, is responsible for in languages, including English, that lack gender agreement.[9]

Another problem with Munn & Schmitt's analysis is that their analysis of a Free Agr Parameter would wrongly predict that all predicate nominals in Romance can appear bare, contrary to fact.[10] Notice that the class of predicate nominals that may not require an indefinite article is rather restricted both in Romance and in Germanic as shown through (27)-(31): most of them refer to social titles or professions.

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[9] In Chapter 4 of Chomsky (1995), it is proposed that Agr be dispensed with within the Minimalist framework, since Agr lacks semantic content and has no effect at LF. Thus, it lacks a theoretical motivation to postulate Agr as a universal functional head within noun phrases.

[10] Munn & Schmitt point out that bare singulars are allowed also in *reprise-commentaire* in French and *as*-phrases in Spanish:

Reprise-commentaire
(i)   a. Pierre a apporté sa table de camping, **table de camping** qui a servi pour le picnic. (French)
        'Pierre brought his camping table, camping table that served for the picnic.'

        b. *Pierre brought his camping table, camping table that served for the picnic.   (English)

As-construction
(ii)   a. Nadie podrá usarnos/usarlo como **testigo**.   (Spanish)
          'Nobody will be able to use us/him as witness.'

          b. *Nobody will be able to use us/him as witness.   (English)

One might claim that they are bare predicate NPs lacking Num. I will not provide a detailed analysis for them and leave them for future research.

In sum, Munn & Schmitt's analysis of the parametric variation in terms the optionality of a number feature in predicate nominals across language is at first quite attractive in that it is based on the lack of the referentiality of predicate nominals. We saw, however, that their analysis is not able to deal with the distribution of non-bare predicate nominals. Further, since it is a language-particular matter whether gender agreement is realised or not, there is little reason to postulate a universal head Agr as the locus of gender agreement within noun phrases. Thus, I will dispense with the head Agr within noun phrases, and provide an alternative solution.

In what follows, I consider predicate nominals under the DP/NumP/NP framework, only in part following Munn & Schmitt. However, I assume that grammatical features such as a gender feature, a number feature and a Case feature of nominals are idiosyncratic and they are (sometimes optionally) assigned to heads, namely N, Num or D, as these heads enter from the lexicon into the numeration (Chomsky 1995: Chapter 4).

6.3.3 Three possible structures for predicate nominals

Having briefly observed the distribution of predicate nominals in Romance and Germanic, I would like to argue that there are three possible structures for predicate nominals across languages, namely, NP, NumP and DP.

6.3.3.1 Bare predicate nominals as NPs in Romance and Germanic

Let us first consider bare predicate nominals lacking an indefinite article in Romance and Germanic. It seems that bare predicate nominals such as *médicin* 'doctor' in French and *president* in English Small Clause (SC) constructions are in a certain class

of nouns that can be bare NPs. Nouns that denote such as "social roles" and "inalienable body-parts" are likely to be in this class both in Romance and in Germanic.[11, 12]

I propose that all and only the type of bare predicate nominals in Romance and Germanic shown through (27)-(31) share the same structure with Japanese predicate nominals, i.e., bare NPs. Bare predicate NPs lack a [-interpretable] number feature to be checked off by the head Num, and such NPs are limited to those denoting social titles or inalienable body parts.

With the structure (12) proposed for Japanese bare predicate NPs, I assign the following base structure for bare predicate nominals in Romance and Germanic:

---

[11] Stowell (1989, 1991) suggests that if predicate nominals are title-denoting such as *president*, they are interpreted as adjectival predicates, and thus they do not need to be associated with an indefinite determiner when they are predicated of individuals. The parallelism between predicate nominals and adjectives with regard to gender agreement supports his view. Consider:

(i)   a. Jean est intelligent.
          Jean is   intelligent[masculine]
          'Jean is intelligent.'

    b. Marie est intelligente.
       Marie is   intelligent [feminine]
       'Marie is intelligent.'

It is clear from comparing (i) to (41) and (42) below that agreement pattern of bare predicate NPs is parallel to that of adjectives.

[12] Stowell (1991) notes that the contrast between German and English as to whether *doctor*-class nouns can be bare predicates might be attributed to the fact that German treats nouns of this class as adjectival titles more readily than English. He points out that in German, the *doctor*-class nouns are more freely used as titles modifying names, while in English they generally do not (**Dentist Jones, *Engineer Smith*, but *Doctor Jones*). He concludes that nouns' ability of becoming adjectival titles can be related to their ability to function as bare predicate NPs.

(40) Jean est médecin.   French (= (27a))
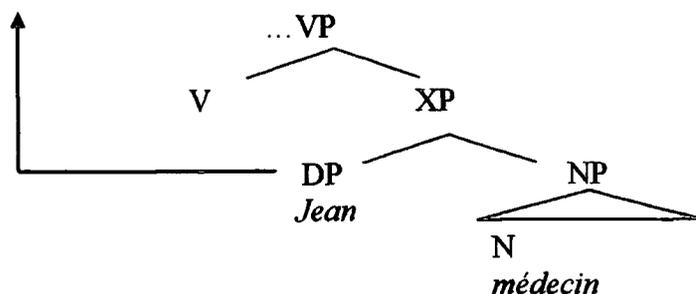
The XP is taken as a complement of the copula verb, and the subject DP *Jean* undergoes

raising out of XP for further feature-checking.

In French, it is the case that a predicate nominal that lacks an indefinite

determiner and its subject show gender agreement as below:[13]

(41) a. Jean   est   avocat.

     Jean   is   lawyer[masculine]

   'Jean is a lawyer.'

   b. Marie   est   avocate.

     Marie   is   lawyer[feminine]

   'Marie is a lawyer.'

(42) a. Jean   est   boulanger.

     Jean   is   baker[masculine]

   'Jean is a baker.'

---

[13]   I thank Stéphanie Pourcel for providing me with the French data.

b. Marie   est   boulangère.

Marie   is   baker[feminine]

'Marie is a baker.'

Notice that these predicate nominals denote professions. I claim that these predicate nominals are also just NPs, where the head Ns bear a gender feature (as argued in Ritter (1992)), which is a [-interpretable] formal feature. It is thus checked off by their subject DPs with an identical gender feature when they are in the Predication Relation in the structure (40).[14] Whether or not an N bears a [-interpretable] gender feature is language-particular, and thus I simply assume that Japanese Ns do not bear such a gender feature. I conclude that predicate nominals may be bare NPs in Romance and Germanic if their heads are Ns that denote such as social titles, professions or inalienable body parts and lack a [-interpretable] number feature to be checked off.

6.3.3.2 Predicate nominals as NumPs

Let us next consider non-bare predicate nominals. In English, when the subject is singular, the predicate nominal in post-copula position must co-occur with an indefinite article; when the subject is plural, the predicate nominal must be plural or a collective

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[14]   It is interesting to note that a class of nouns that can appear bare in predicate position in Romance and Germanic is limited to nouns referring to occupations, inalienable parts and equivalents across languages. It may be possible to argue, following Vergnaud & Zubizarreta (1992), that these nouns that can become bare predicate NPs in Romance and Germanic bear an argument-taking property which is satisfied by a subject DP in the Predication Relation, XP, in (40). Although this idea is still speculative and there are many points to be clarified, I believe that it is worth pursuing, to analyse the availability of bare predicate nominals in Romance and Germanic with reference to an argument-taking property of Ns.

noun (*couple, family, team, army*, etc.) (Stowell 1989, 1991):

(43) a. John is *(a) fool.

b. John and Mary are doctors.

Also in Swedish, if the subject is plural, the predicate nominal, which can appear

bare when the subject is singular, also shows plural agreement:

Swedish (Holmberg 1993: 131)

(44) Per   och   Lisa   är   piloter.

Per   and   Lisa   are   pilots.

'Per and Lisa are pilots.'

Also note that Italian predicate nominals and their subjects show number agreement

when a predicate nominal, which can appear bare in (27c), is modified by an adjective

or a relative clause:

Italian (Longobardi 1994: 619-620)

(45) Gianni è *(un) medico [che si cura davvero dei suoi pazienti].

'Gianni is a doctor who really cares for his patients.'

(46) Ritengo Mario *(un) bravo medico.

'I believe Mario a good doctor.'

I argue that predicate nominals with number specification through (43)-(46) are

NumPs and the head Ns of the embedded NPs have a [-interpretable] number feature,

which must be checked off by an identical number feature in the head Num. Stowell

(1989, 1991) suggests that predicate common nouns such as *fool* in (43a) denote only

properties of kinds, and such kind-denoting predicate nominals must be combined with

an indefinite article *a* to create a complex predicate of kind-membership which can be

predicated of an individual.[15] By adding an indefinite determiner to an NP, the

kind-denoting NP is converted into a complex predicate that denotes a set of members

of the kind, and an individual-level predicate of kind-membership is created. In other

words, the indefinite article *a* picks a single member out of the set of the kind *fool* and

can be predicated of the individual-denoting subject DP *John*. That is, the head Num

is the locus of an interpretable number feature, and the number feature is realised as an

indefinite determiner *a*. This implies that the head N is not the locus of a

[+interpretable] number feature, whether it is realised as singular or plural. I thus

claim that the head Num within predicate nominals appears to satisfy syntactic

requirements, i.e., to check off the [-interpretable] number feature in N, but the presence

of the head Num also has a semantic effect as described by Stowell.

Thus, in (43a), the head N *fool* has a [-interpretable] number feature, [singular],

which has to be checked off covertly by a [+interpretable] number feature [singular] in

Num. Adapting Chomsky's (1995) analysis of V-movement for noun phrases, I claim

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[15] An alternative idea is proposed by Higginbotham (1987). He points out that there is some
distinction in English between (i) and (ii) given below:

(i)   John is a lawyer.
(ii)   John is one lawyer.

He notes that (ii) suggests that John is one lawyer among others, while (i) does not bear such a reading.
That is, the semantic content of *one* is different from that of *a* in (i). This leads him to claim that the
indefinite article in (i) is inserted purely as a syntactic reflex and plays no semantic role at all.

that the [-interpretable] number feature in N is checked off by an identical number feature in Num in the course of N-to-Num covert raising. Predicate nominals, i.e., NumP, and a subject DP form a predicational category, XP, where the NumP and the subject DP agree in number. The XP is taken as a complement of the copula verb, and the subject DP then undergoes raising out of XP for further feature-checking. The schematised structure is below:

(47) John is a fool. (=(43a))

```
             ...VP
            /      \
         V           XP
                    /    \
         DP              NumP
         John           /    \
              Num[singular]    NP
                 a            /  \
                            N[singular]
         Covert head movement    fool
```
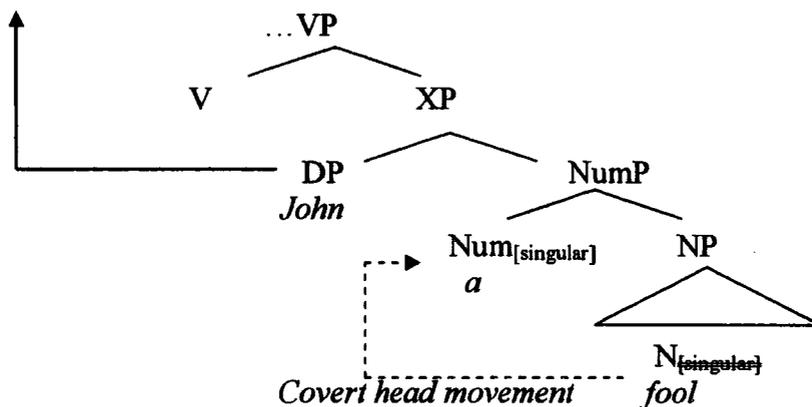
Let us next consider a bare plural predicate shown in (43b). The predicate nominal *doctors* in (43b) is also best analysed as an NumP headed by Num with a [+interpretable] number feature, i.e. [plural], while its complement NP whose head N has a [-interpretable] number feature. I claim that in (43b) Num has an interpretable number feature [plural] but lacks phonetic features, and checks off the [-interpretable] number feature in N. Schematically:

(48) John and Mary are doctors. (=(43b))

Covert head movement
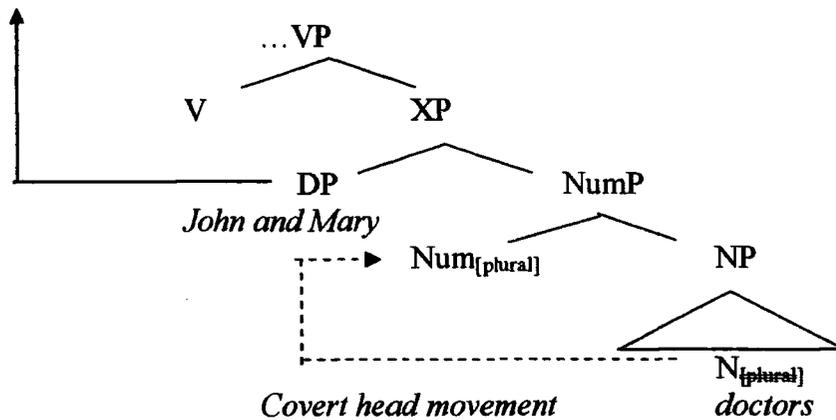
I suggest that the [plural] feature in Num and the subject DP agree in number when NumP and the subject DP form an XP.[16]

In the French examples given below, predicate nominals show number and gender agreement with their subjects:

(49) Linda et Marie   sont coiffeuses.

Linda and Marie   are hair-dressers[feminine][plural]

'Linda and Marie are hair-dressers.'

Applying the NumP predicate analysis to (49), the embedded N within the NumP in (49) has a number feature [plural] and a gender feature [feminine], both of which are [-interpretable]. When the NP is taken as a complement of Num, the [-interpretable]

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[16] N-to-Num raising is not considered as an overt head movement since no word order difference is observed:

(i)   a. three good boys
      b. *boys good

If an adjective is adjoined to NP and Num takes an NP as its complement, N-to-Num overt raising would give rise to the [plural N-A] order, contrary to the fact.   Therefore, I suggest that the formal features of the head N such as a [-interpretable] number feature are checked off by covert N-to-Num raising.

number feature in N is checked off by Num. The [+interpretable] number feature in Num and the subject DP agree in number when they form a maximal projection, XP. I suggest that the remaining gender feature in N is also checked off when the subject DP and the predicate NumP form an XP. Hence, two [-interpretable] features in N, namely a number feature and a gender feature are checked off by the head Num and by the subject DP, respectively.

If the number is specified, the copular construction becomes ungrammatical in English as shown below. A question that arises here is: how is it ruled out in the present analysis?

(50) *John and Mary are two doctors.

If the numeral *two* were a realisation of the head Num, the internal structure of the NumP would be the same as the one given in (48), and (50) could not be ruled out for a structural reason.

However, if we assume that numerals other than the indefinite article *a* appear in Spec of NumP as NumeralP (Schmitt 1996), the internal structure of the predicate in (50) can be illustrated as follows:

(51)

```
                         VP
                    ┌────┴────┐
                    V         XP
                         ┌────┴────┐
                        DP         NumP
                   John and Mary ┌──┴────┐
                              Numeral P  Num'
                                two   ┌───┴────┐
                          ┌ ─ ─ ─► Num[Plural]  NP
                          ┆                   ┌──┴──┐
   Covert head movement   ┆                  N[plural]
                          ┆                   doctors
                          └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
```
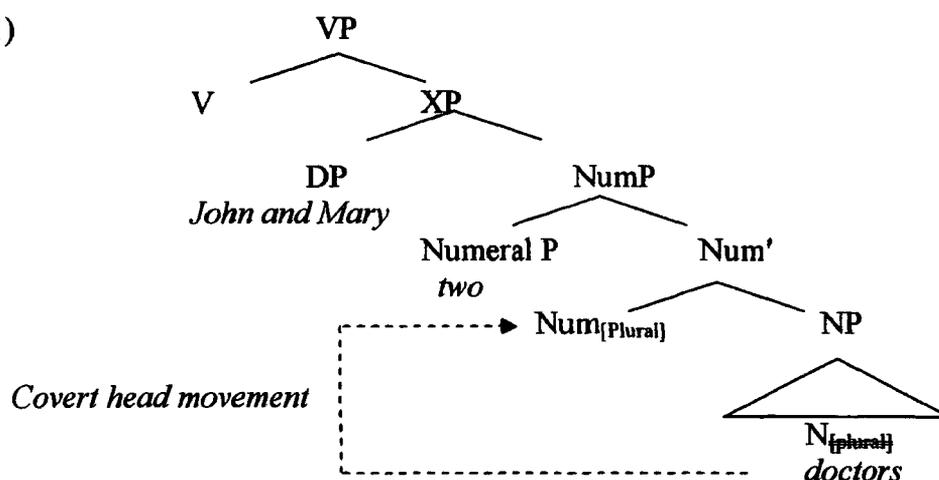
I suggest that Spec-head number agreement takes place between the [+interpretable] number feature [plural] in Num and the Numeral P in Spec of NumP. Thus, the number-agreement relationship between the subject DP *John and Mary* and the NumP are not established under XP since the overt Numeral P in Spec of NumP intervenes. Recall that in (47) and (48), there is no Numeral in Spec of NumP. From the contrast between (48) and (51), I conclude that number agreement must be established between the subject DP and a [+interpretable] number feature in Num, via NumP.

The difference between predicate NPs and predicate NumPs is that the head N within predicate NumPs has a [-interpretable] number feature, while the head N within predicate NPs does not. I thus conclude the existence of a [-interpretable] number feature in N is related to the presence of the head Num within predicate nominals. Japanese is a language whose Ns lack a [-interpretable] number feature to be checked off, and thus bare predicate NPs can appear without any NC. In Germanic and Romance, on the other hand, a [-interpretable] number feature is optionally selected together with an N. When a [-interpretable] number feature is not selected with an N, it can become a bare predicate NP. When a [-interpretable] number feature is selected

with an N, on the other hand, the head Num with a [+interpretable] number feature is necessary to check off a [-interpretable] number feature in the head N.

6.3.3.3 Predicate nominals as DPs headed by an empty non-definite D

In this section, I discuss predicate nominals which cannot be considered as bare NPs or as NumPs. As pointed out by Stowell (1989, 1991), it is the case that a predicate nominal contains a possessor phrase as shown below:

(52) Mary is my friend.

(53) I made John my assistant.

(54) John considers Mary his best friend.

If we assume in the DP-hypothesis that possessors such as *my* and *his* in (52)-(54) appear in Spec of DP, the above examples of predicate nominals are analysed as DPs.

The above examples lead Stowell (1989, 1991) to suggest that DP can function as a predicate in contexts where NP may not. In this vein, I assume that certain types of D are only "optionally" referential (Emonds 1985, 2000). Thus, when DPs appear as predicate nominals as in (52)-(54), the head D is not the locus of definiteness.

Longobardi (1994: 622) also points out that it is the case that a predicate nominal can be associated with a determiner in Italian as below:

(55) Maria   è   **la   mia segretaria e   la   tua collaboratrice**.

Maria   is   the   my   secretary   and   the   your collaborator

'Maria is my secretary and your collaborator.'

In (55), two predicate nominals associated with a determiner are coordinated. Compare (55) to the following example (56) in which two DPs are coordinated in subject position:

(56) **La   mia segretaria e   la   tua collaboratrice**   stanno/*sta uscendo.

the   my   secretary   and   the   your collaborator   are/is   going out.

'My secretary and your collaborator are going out.'

Notice that the coordinated subject in (56) and the coordinated predicate nominal in (55) are superficially identical, namely two singular DPs are coordinated, but they do not share the same interpretation.[17]   In (56), the number agreement on the copula indicates that the coordinated subject is understood as plural: there are two persons, 'my secretary' and 'your collaborator', and they are going out together.   This suggests that each of the two argument DPs has a number property, [singular], respectively.   In (55), on the other hand, the post-copula complex predicate nominal is not understood as plural.   There is only one person, *Maria*, who works as a secretary of the speaker and

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[17]   From this contrast, Longobardi suggests that a DP becomes an argument when the head D has a grammatical number feature, while a DP becomes a predicate when the head D does not have such a feature.   In the present study, however, I assume that a [+interpretable] number feature is located in Num, and thus D originally lacks such an interpretable number feature.

Ritter (1992) claims that in Haitian Creole, Num with a plural feature undergoes head movement to the empty head D with a definite feature within an argument DP in order to licence the empty category. Given that, it might be possible to suggest that within the Italian predicate DPs, Num covertly raises to D with a [-interpretable] number feature and a non-definite feature.

as a collaborator of the speaker's friend.

Given the observation of DP-like predicate nominals in Italian and English, I propose in line with Emonds (1985, 2000) that DPs can be predicates when the head D is not the locus of definiteness. As for the overt determiner in post-copula position in (55), I claim that the definite determiner in Italian is optionally the locus of definiteness, and (55) thus presents the case where it is not.[18]

Having seen the Italian non-referential determiner observed in post-copula position in (55), I claim that a covert counterpart of the Italian non-definite D appears within predicate DPs in English. I would like to propose the following structure for (52), in which the post-copula predicate nominal *my friend* is a DP:

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[18] Longobardi (1994) notes that a predicate nominal in the post-copula position may contain an empty D under the following conditions:
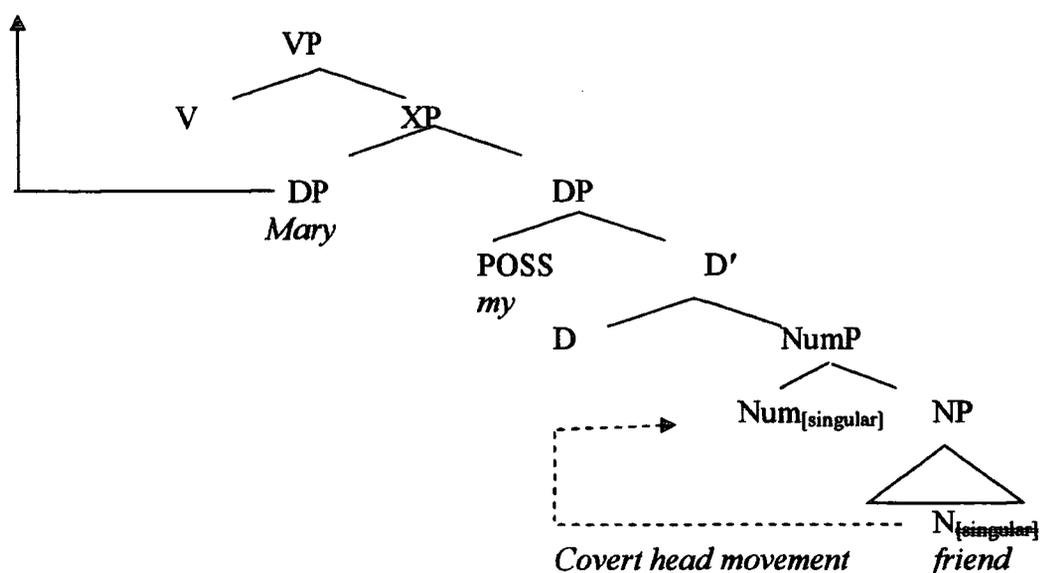
(i)   It is headed by a plural or mass head N, and
(ii) It is lexically governed.

(27c), in which a predicate nominal lacks an indefinite article, is grammatical even though it satisfies only the latter condition: it is in the post-copula position, i.e., lexically-governed position. (45), in which a predicate head N is relativised, shows that the sentence becomes ungrammatical if it lacks an indefinite article. That is, an empty D associated with a non-mass head N does not satisfy the former condition. The former condition also rules in (46), in which a predicate non-mass head N is modified by an adjective and an indefinite article is contained.

Longobardi (1994: 617) points out that in the following example, the non-argument nominal expression *amico di Maria* 'friend of Maria' appears in a non-lexically governed position and the sentence is acceptable.

(i)   Amico di   Maria sembra essere   Gianni.   (Longobardi 1994: 617)
      friend of Maria seems   to-be   Gianni

This may suggest that in Italian a predicate nominal can be an NP lacking D and thus it can occur in non-lexically governed position.

(57)   Mary is my friend. (=(52))

VP

V   XP

DP
Mary

DP

POSS   D'
my

D   NumP

Num[singular]   NP

N[singular]

Covert head movement   *friend*

The [-interpretable] number feature in N is checked off by the head Num with a number feature in the course of N-to-Num covert raising.   The predicate nominal *my friend* is a DP headed by a non-definite D and it forms a predicational category, XP, with the subject DP *Mary*, where they agree in number.[19]

It is also important to note that in Indo-European languages with rich morphological case-marking, predicate nominals can bear Case.   The following examples are taken from Icelandic (Maling & Sprouse 1995: 168):

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[19]   Stowell (1991:48) also points out that a definite article can show up in predicate nominals like the following:

(i)   a. I consider John the smartest student.
       b. I consider John the winner.
       c. I consider John the man for the job.

It is clear that these DPs are not functioning referentially from the fact that they lack the discourse properties attributed to definite DP arguments (Heim 1982), and none of these sentences presuppose familiarity with a referent for the predicate nominal in question.   In line with Stowell (1991) and Emonds (2000), I simply assume that predicate nominals in English can be DPs, where the head D is not the locus of definiteness.

(58) Hún   er   kennari.

she-NOM is   teacher-NOM

'She is a teacher.'

Emonds (2000) suggests that such predicate nominals bearing Case are DPs under certain circumstances and they are case-assigned by their subjects but only at PF. If we assume that a Case feature is located in D as I claimed in Chapter 2, case agreement between the subject and the predicate nominal in (58) follows straightforwardly. The head D of a predicate DP has a Case feature and it agrees with its subject when they form a predicational category, XP.

6.4 Conclusion

In this chapter, I have shown that the phrasal category of predicate nominals varies across languages, depending on the distribution of features such as a [-interpretable] number feature in N and a Case feature in D. I have claimed that Japanese predicate nominals are just NPs, which lack D and NC, and also that in languages such as Romance and Germanic, predicate nominals can be bare NPs when they are headed by Ns that lack a [-interpretable] number feature. In other cases, predicate nominals can be NumPs or DPs, where the head Num is the locus of a [+interpretable] number feature, and the head D has a Case feature but is not functioning as the locus of definiteness.

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293

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