1. Two types of adnominal classifiers in Japanese

(1) a. Taro-wa hyaku-ko-no gyoz-(o) tabe-ta. (pre-nominal NC)
    Taro-Top 100-CL-Gen dumpling-Acc eat-Past
    ‘Taro ate 100 dumplings.’

   b. Taro-wa gyoz-(a) hyaku-ko-o tabe-ta. (post-nominal NC)
    Taro-Top dumpling 100-CL-Acc eat-Past
    ‘Taro ate 100 dumplings.’

(2) (XP) (pre-nominal NC; Saito et al. 2008)

    \[\begin{array}{c}
    \text{NP} \\
    \text{CLP-no} \\
    \triangleleft \text{NP} \\
    \triangleleft \text{#-CL}
    \end{array}\]

(3) XP (post-nominal NC; Watanabe 2006)

    \[\begin{array}{c}
    \text{NP} \\
    \text{X’} \\
    \text{CLP} \\
    \text{X} \\
    \triangleleft \text{# CL’} \\
    \triangleleft \text{t}_{NP} \\
    \text{CL}
    \end{array}\]

   a. a non-uniform analysis of the numeral classifier (NC) construction\(^1\)
   b. the post-nominal NC and the floating NC in Japanese are transformationally related.

5. san ben (*-de) shu (Chinese)
   three CL book
   ‘three books’

6. CLP

    \[\begin{array}{c}
    \text{# CL’} \\
    \triangleleft \text{CL} \\
    \triangleleft \text{NP}
    \end{array}\]

   (cf. Tang 1990, Cheng and Sybesma 1999 etc.)

7. The NC construction in Chinese and the post-nominal NC construction in Japanese essentially share the same structure, except that the latter involves overt movement of NP.

---

1.1 Scope (see Huang and Ochi 2011)

(8) a. *Taro-wa subete-no gyooza hyaku-ko o tabe-ta. (*\-no N NC)
    Taro-Top \-Gen dumpling 100-CL-Acc eat-Past

b. Taro-wa hyaku-ko no gyooza subete-o tabe-ta.
    Taro-Top 100-CL-Gen dumpling \-Acc eat-Past

(9) all three books vs. *three all books

1.2 Specificity (see Huang and Ochi 2010)

(10) Specific indefinites have a larger structure than non-specific indefinites (see Hudson 1989, Ritter 1995, and especially Muromatsu 1998).

(11) Chinese indefinites (setting aside the definite vs. indefinite issue; see Cheng and Sybesma 1999)

<table>
<thead>
<tr>
<th>Bare N (e.g., shu 'book')</th>
<th>non-specific</th>
<th>specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL + N (e.g., ben shu 'CL book')</td>
<td>√</td>
<td>*</td>
</tr>
<tr>
<td>Num + CL + N (e.g., san ben shu 'three CL book')</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

(12) Japanese (see Downing 1994, Huang and Ochi 2010)

<table>
<thead>
<tr>
<th>Pre-nominal NC + N (e.g., san-satsu-no hon ...)</th>
<th>non-specific</th>
<th>specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>N + Post-nominal NC (e.g., hon san-satsu-o ...)</td>
<td>??</td>
<td>√</td>
</tr>
<tr>
<td>floating NC (e.g., hon-o kinoo san-satsu ...)</td>
<td>√</td>
<td>*</td>
</tr>
</tbody>
</table>

(13) Non-specific context (\ pre-nominal; *post-nominal NC; √ floating NC)

heikin-suru to, maishuu kono byooin-de-wa, ....
average-do every week this hospital-at-Top
'On average, every week in this hospital, ....'

san-nin no akanboo-ga/#akanboo san-nin-ga umare-teiru.
three-CL-no baby-Nom baby three-CL-Nom be born
'... three babies are born.'

cf. akanboo-ga san-nin umare-teiru.

baby-Nom three-CL be born

2. Classifiers and collective/plural elements

(14) a. xuesheng-men  
    student-MEN
    'the students'

b. gakusei-tachi  
    student-TACHI
    '(the) students'

(15) a. Xiao Qiang-men  
    Xiao Qiang-MEN
    'Xiao Qiang and others'

b. taro-tachi  
    taro-TACHI
    'Taro and others'
Attachment of \textit{–men\-tachi} turns the nominal phrase into a definite (or specific) expression (See Li 1999 and Kurafuji 2004 among others).\(^2\)

(16) a. \texttt{wo qu zhaomai\-zi.}
   \begin{quote}
   I go find child
   \end{quote}
   ‘I will go find some/the child(ren).’

   b. \texttt{wo qu zhaomai\-men.}
   \begin{quote}
   I go find child-MEN
   \end{quote}
   ‘I will go find the children.’

(17) a. \texttt{Boku-wa kodomo-o sagashiteiru.}
   \begin{quote}
   I-Top child-Acc look for
   \end{quote}
   'I'm looking for some/the child(ren).'

   b. \texttt{Boku-wa kodomo-tachi-o sagashiteiru.}
   \begin{quote}
   I-Top child-TACHI-Acc look for
   \end{quote}
   'I'm looking for the children.'

\textit{–men} and the classifier cannot co-occur when the former is attached to the common noun (Iljic 1994, Li 1999)\(^3\)

(18) a. \texttt{woqing[san-ge xuesheng(--men)]chifan.}
   \begin{quote}
   I invite three-CL student-MEN eat
   \end{quote}
   ‘I invited (the) three children for a meal’

   b. \texttt{boku-wa [san-nin-no gakusei-tachi / gakusei-tachi san-nin]-o maneita.}
   \begin{quote}
   I-Top three-CL-Gen student-TACHI student-MEN three-CL-Acc invited
   \end{quote}
   ‘I invited (the) three students for a meal.’

\textit{–men} and CL are compatible when the former is attached to the proper noun/pronoun occurring in the left periphery of the nominal phrase (Li 1999)

(19) a. \texttt{woqing[ta-men/Xiao Qiang-men san-ge (ren)] chifan.}
   \begin{quote}
   I invite (s)he-MEN/Xiao Qiang-MEN three-CL person eat
   \end{quote}
   ‘I invited [them three children/the three people including Xiao Qiang] for a meal’

   b. \texttt{boku-wa [kanojyo-tachi/hanako-tachi san-nin-no jyosei]-o maneita.}
   \begin{quote}
   I-Top she-TACHI/Hanako-TACHI three-CL-Gen lady-Acc invited
   \end{quote}
   ‘I invited [them three ladies/the three ladies including Hanako]’

(20) Proposals (based on Li 1999)
   a. \textit{–men} and \textit{–tachi} are suffixes attached to the nominal head, and
   b. they bear some feature relevant for definiteness (or specificity), which needs to be checked against a higher functional head.

\(^2\) But see Nakanishi and Tomioka (2004) for a different view. While they offer several arguments to the effect that \textit{–tachi} is not inherently definite, what is crucial for me here is that these suffixes share some property P (be it definiteness or something else) and that P is tied to the syntactic dependency between N-\textit{men\-tachi} and a higher functional head. It is therefore necessary to examine whether or not the points and observations made by Nakanishi and Tomioka for \textit{–tachi} also hold for \textit{–men\-tachi}, a task that I have to leave for another occasion.

\(^3\) Previous analyses of this phenomenon include Borer’s (2005) morpho-syntactic account and Bale & Khanjian’s (2008) semantic account. The former works well for Chinese but fails to extend to Japanese. The latter discusses some interesting fact about Armenian vs. English; but it fails to capture the fact about Japanese.
(21) Li (1999): Head-movement of N to a higher functional head is blocked by the presence of the CL head.

(22) \[ \text{XP} \]
    \[ \text{\hspace{1cm} CLP} \]
    \[ \text{\hspace{1cm} \hspace{1cm} \#} \]
    \[ \text{\hspace{1cm} CL'} \]
    \[ \text{CL NP} \]
    \[ \text{N-men} \]

- This head movement cannot be overt (contrary to Li 1999)

(23) a. wo zhaoda-le kaile-de haizi-men le.
    I found-ASP happy-DE child-MEN
    'I found the happy children.'

b. *wo zhaoda-le haizi-men kaile(-de)le.
    I found child-MEN happy

(24) \[ \text{XP} \]
    \[ \text{\hspace{1cm} NP} \]
    \[ \text{\hspace{1cm} X} \]
    \[ \text{\hspace{1cm} \#-CL} \]
    \[ \text{\hspace{1cm} CLP-no} \]
    \[ \text{\hspace{1cm} N-tachi} \]

(25) \[ \text{XP} \]
    \[ \text{\hspace{1cm} NP} \]
    \[ \text{\hspace{1cm} X'} \]
    \[ \text{\hspace{1cm} \hspace{1cm} \#} \]
    \[ \text{CL'} \]
    \[ \text{\hspace{1cm} CL} \]

(26) Pronouns and proper names are (or can be) base-generated 'high' in the nominal domain (Li 1999).

(27) \[ \text{XP} \]
    \[ \text{\hspace{1cm} kanojyo-tachi} \]
    \[ \text{\hspace{1cm} X'} \]
    \[ \text{\hspace{1cm} \hspace{1cm} \hspace{1cm} \#} \]
    \[ \text{\hspace{1cm} NP} \]
    \[ \text{\hspace{1cm} X} \]
    \[ \text{\hspace{1cm} \hspace{1cm} \hspace{1cm} \#} \]
    \[ \text{\hspace{1cm} 3-nin-no N} \]
3. Universal Numeric Quantifiers (UNQs)

3.1 Dutch, Romanian, Italian etc. (see Cirillo 2010)

(28) a. Alle drie de studenten hebben het boek gelezen.
    all three the students have the book read

b. De studenten hebben alle drie het boek gelezen.
    the students have all three the book read

(Cirillo 2010)

(29) a. Al de studenten hebben het boek gelezen.
    all the students have the book read

b. De studenten hebben allen/allemaal het boek gelezen.
    the students have all/all (adv.) the book read

● Floating UNQ is not adverbial (Cirillo 2010)

(30) a. Alle drie de studenten hebben het boek gelezen.
    all three the students have the book read

b. *De studenten hebben alle/*allemaal drie het boek gelezen.
    the students have all/all (adv.) three the book read

3.2 Floating UNQs in Japanese?

(31) taro-ga gyooza-o sono toki hyaku-ko subete tabe-ta (koto)
    Taro-Nom dumpling-ACC that time 100-CL eat-Past fact
    ‘(the fact that) Taro ate all of the 100 dumplings at that time’

(see Kawashima 1994, 1998)

● The order of ∨ and the NC is fixed

(32) *taro-ga gyooza-o sono toki subete hyaku-ko tabe-ta (koto)
    Taro-Nom dumpling-ACC that time 100-CL eat-Past fact
    ‘(the fact that) Taro ate many/most of the 100 dumplings at that time’

● Floating UNQ requires ∨

(33) a. taro-ga tsukue-no ue-no gyooza-o takusan/hotondo tabeta (koto)
    Taro-NOM table-GEN top-GEN dumpling-ACC many/most eat fact
    ‘(the fact that) Taro ate many/most of the dumplings on the table’

b. taro-ga tsukue-no ue-no gyooza-o hyaku-ko
    Taro-NOM table-GEN top-GEN dumpling-ACC 100-CL

*takusan/*hotondo/subete tabeta (koto)
    many/most/∨ ate fact
    ‘(intended) (the fact that) Taro ate many/most/all of the 100 dumplings on the table’

● Unlike the ordinary floating NC, the floating UNQ is incompatible with a partitive interpretation

(34) a. taro-ga tsukue-no ue-ni aru hyaku-ko-ko gyooza-o sanjyu-ko tabeta (koto)
    Taro-NOM table-GEN top-DAT be 100-CL-GEN dumpling-ACC 30-CL eat fact
    ‘(the fact that) Taro ate 30 of the 100 dumplings on the table’
b. taro-ga tsukue-no uru ni aru hyaku-ko gyooza-o subete tabeta (koto)
   Taro-NOM table-DAT top-DAT be 100-CL-GEN dumpling-ACC ∨ ate fact
   ‘(the fact that) Taro ate all of the 100 dumplings on the table’

c. *taro-ga tsukue-no uru ni aru hyaku-ko gyooza-o
   Taro-NOM table-DAT top-DAT be 100-CL-GEN dumpling-ACC

   sanjyu-ko subete tabeta (koto)
   30-CL ∨ ate fact
   ‘(the fact that) Taro ate all of the 30 dumplings out of the 100 dumplings on the table’

3.3 Adnominal UNQs in Japanese

(35) a. *Taro ga subete-no hyaku-ko gyooza-o tabe-ta (koto)\(^4\)
   Taro-NOM ∨-GEN 100-CL-GEN dumpling-ACC eat-Past fact
   ‘(the fact that) Taro ate all (of the) 100 dumplings’

b. *Taro-ga hyaku-ko no subete-no gyooza-o tabe-ta (koto)
   Taro-NOM 100-CL-GEN ∨-GEN dumpling-ACC eat-Past fact

(36) a. *Taro-ga subete-no gyooza hyaku-ko-o tabe-ta (koto)
   Taro-NOM ∨-GEN dumpling 100-CL-ACC eat-Past fact
   ‘(the fact that) Taro ate all (of the) 100 dumplings’

b. Taro-ga hyaku-ko no gyooza subete-o tabe-ta (koto)
   Taro-NOM 100-CL-GEN dumpling ∨-ACC eat-Past fact

(37) a. *Taro-ga gyooza subete hyaku-ko-o tabe-ta (koto)
   Taro-NOM dumpling ∨ 100-CL-ACC eat-Past fact
   ‘Taro ate all (of the) 100 dumplings.’

b. Taro-ga gyooza hyaku-ko subete-o tabe-ta (koto)
   Taro-NOM dumpling 100-CL ∨-ACC eat-Past fact

I will focus on the pattern shown in (37b), leaving the pattern shown in (36b) out of consideration.

(38) a. Recent studies such as Sauerland and Yatsushi (2004) and Miyamoto (2009) converge on the idea that prenominal NCs should be treated separately from postnominal NCs and floating NCs.

b. Jenks’ (2010) generalization states that only those classifier languages that have (or allow) the post-nominal NC allow the NC to float (head-final languages: Burmese, Japanese, and Korean; head-initial languages: Thai, Khmer).

c. To the extent that we accept Saito et al.’s (2008) proposal, shown in (2), that prenominal NCs occur within NP (which is the lowest maximal projection within the extended nominal domain), we should not expect prenominal NCs to be available for stranding.

---

\(^4\) I will not discuss (35) in this presentation. See Huang and Ochi (2011) for discussion.
Like the floating UNQ (see (34c)), the post-nominal NC(+∀) is incompatible with a partitive reading.

(40) *taro-ga tsukue-no ue-ni aru hyaku-ko no gyooza sanju-ko (subete)-o
Taro-NOM table-GEN top-DAT be 100-CL-GEN dumpling 30-CL ∀-ACC

tabeta (koto) 
ate fact
‘(the fact that) Taro ate (all of the) 30 dumplings out of the 100 dumplings on the table’

3.4 Partitives in Japanese

(41) a. Taro-wa tsukue-ni aru gyooza-no (uchi-no) san-ko-o tabe-ta.
Taro-TOP table-DAT be dumpling out-of 3-CL-ACC eat-Past
‘Taro ate three of the dumplings on the table.’

b. Taro-wa tsukue-ni aru gyooza-no subete-o tabe-ta.
Taro-TOP table-DAT be dumpling-GEN ∀-ACC eat-Past
‘Taro ate three of the dumplings on the table.’

Some variants in the post-nominal domain

(42) a. Taro-wa tsukue-ni aru gyooza hyaku-ko subete-o tabe-ta.
Taro-TOP table-DAT be dumpling 100-CL ∀-ACC eat-Past
‘(lit.) Taro ate all 100 dumplings on the table.’

Taro-TOP table-DAT be dumpling-GEN out-of 100-CL ∀-ACC eat-Past
‘(lit.) Taro ate all 100 of the dumplings on the table.’

c. Taro-wa tsukue-ni aru gyooza hyaku-ko no subete-o tabe-ta.
Taro-TOP table-DAT be dumpling 100-CL-GEN ∀-ACC eat-Past
‘(lit.) Taro ate all of the 100 dumplings on the table.’

(43) The pre-stranding source of the floating UNQ should be the sequence shown in (42a) or (42b), but not the one in (42c).

Universal quantifier required (cf. (33))

Taro-TOP table-DAT be dumpling 100-CL most-ACC eat-Past
‘(lit.) Taro ate most 100 dumplings on the table.’
b. *Taro-wa tsukue-ni aru gyooza-no (uchi-no) **hyaku-ko hotondo-o** tabe-ta.
   Taro-TOP table-DAT be dumpling-GEN out-of 100-CL most-ACC eat-Past
   ‘(lit.) Taro ate most 100 of the dumplings on the table.’

c. Taro-wa tsukue-ni aru gyooza **hyaku-ko-no hotondo-o** tabe-ta.
   Taro-TOP table-DAT be dumpling 100-CL-GEN most-ACC eat-Past
   ‘(lit.) Taro ate most of the 100 dumplings on the table.’

* the floating UNQ does not permit -no (uchi-no) between the NC and subete ‘∀’

(45) *Taro-wa tsukue-ni aru gyooza-o sonotoki **hyaku-ko-no** (uchi-no)
   Taro-TOP table-DAT be dumpling-ACC that time 100-CL-GEN out-of

   **subete** tabe-ta.
   ∀-ACC eat-Past

* Floating UNQ in Japanese cannot be analyzed as a base-generated adjunct containing a null nominal element (see Doetjes 1997, Fitzpatrick 2006). That is, (46b) is not the right way to go

(46) a. The students have [all pro] passed the exam.

   b. Taro-ga gyooza-o sonotoki [pro/sore-ra hyaku-ko subete] tabe-ta (koto)
   Taro-NOM dumpling-Acc that time pro/them 100-CL ∀ eat-Past fact
   ‘(the fact that) Taro ate all 100 of the dumplings’

(47) *Taro-wa tsukue-ni aru gyooza-o sonotoki [pro/sore-ra hyaku-ko no (uchi-no)
   Taro-TOP table-DAT be dumpling-ACC that time pro/them 100-CL-GEN out-of

   **subete** tabe-ta.
   ∀-ACC eat-Past

* (43) is consistent with Cirillo’s characterization of the UNQ in Romance/Germanic

(48) a. **Alle drie** de studenten hebben het boek gelezen. (= (28))
   all three the students have the book read

   b. De studenten hebben alle drie het boek gelezen.
   the students have all three the book read

(49) a. Al de drie studenten hebben het boek gelezen.
   ∀ the three students have the book read

   b. De drie studenten hebben allen het boek gelezen
   the three students have ∀ the book read

* NP in (50b) is too deeply embedded; alternatively, it has no reason to move out (Last Resort).

(50) a. ∀P
   ┌─┐
   │ │
   └──┘
     P
   ┌─┐
   │ │
   └──┘
     CLP ∀
   ┌─┐
   │ │
   └──┘
     # CL’
   ┌─┐
   │ │
   └──┘
     NP CL

   b. ∀P
   ┌─┐
   │ │
   └──┘
     PP ∀
   ┌─┐
   │ │
   └──┘
     CLP P
   ┌─┐
   │ │
   └──┘
     # CL’ no
   ┌─┐
   │ │
   └──┘
     NP CL
4 Ellipsis


(51) Suiran Zhangsan mai-le [san -ben shu], dan Lisi mai-le [wu -ben shu].
    though Zhangsan buy-Perf three-CL book but Lisi buy-Perf five-CL book
    ‘Zhangsan bought three books, but Lisi bought five.’

- The pre-nominal NC nominal in Japanese does not allow ellipsis (Saito, Lin, and Murasugi 2008) whereas the post-nominal NC does (see Takahashi 2008).

(52) *Taro-wa [san-satu-no hon]-o katta ga, Hanako-wa [go-satu-no hon]-o katta.
    Taro-Top three-CL-Gen book-Acc bought though Hanako-Top five-CL-Gen book-Acc bought
    ‘Taro bought three books, but Hanako bought five.’

    Bush-top self-dat related book 2-CL-Acc read Obama-Top 3-CL-acc read
    ‘Bush read two books about himself. Obama read three e.’ (\sqrt{ sloppy})

(54) There is no maximal projection within the nominal domain to the exclusion of the pre-nominal NC if the latter always occurs inside NP, the lowest nominal projection.

- But things are not so simple ...

(55) Taro-wa san-satu-no hon-o katta ga, hanako-wa go-satu katta.
    Taro-TOP three-CL-GEN book-ACC bought though Hanako-TOP five-CL bought
    ‘Taro bought three books, but Hanako bought five.’

(Watanabe 2010)

- Watanabe rejects the following line of analysis on the basis of the familiar parallelism requirement imposed on ellipsis.

(56) Taro-wa [NP san-satu-no [NP hon]]-o katta ga, hanako-wa [NP hon]-o go-satu katta

\[ \text{LF copy} \]

- Ellipsis is sensitive to the presence/absence of an adjunct element associated with the elliptical site

(57) Taro-wa jiro-ga kaita hon-o katta ga, hanako-wa kawa-nak-atta.
    Taro-TOP jiro-NOM wrote book-ACC bought though Hanako-TOP buy-NEG-PAST
    a. Taro bought a book that Jiro wrote but Hanako didn't buy a book that Jiro wrote.

(58) John washed a car carefully, but Mary didn't. (Oku 1998)
    a. John washed a car carefully but Mary didn't wash a car carefully.
    b. *John washed a car carefully but Mary didn't wash a car.

- Watanabe's (2010) analysis

(59) ... hanako-wa [go-satu hon]-o katta
    hanako-TOP five-CL book-ACC bought

\[ \]

5 See Watanabe (2010) for the claim that the pre-nominal NC in fact licenses ellipsis. See Huang and Ochi (2010) for an argument against such a view.
But there is evidence for (56)

(60) a. san-nin-no otoko-ga taro-o koroshita. (prenominal NC)
    3-CL-GEN man-NOM Taro-ACC killed
    'Three men killed Taro.'

    b. otoko san-nin-ga taro-o koroshita. (postnominal NC)
    man 3-CL-NOM Taro-ACC killed

    c. *otoko ga san-nin taro-o koroshita. (floating/stranded NC)
      man-Nom 3-CL Taro-acc killed

(61) kyonen san-nin no otoko-ga jiro-o koroshita.
    last year three-CL-GEN man-Nom Jiro-acc killed

*Kotoshi go-nin taroo-o koroshita.
    this year five-CL Taro-acc killed

'Last year three men killed Jiro. This year, five men killed Taro.'

cf. Kotoshi go-nin-no otoko-ga taroo-o koroshita.
    this year five-CL man-NOM Taro-acc killed

But, then, we need to explain the difference between (55) (as analyzed in the manner shown in (56)), on the one hand, and (57) and (58) on the other.

(62) Oku's (1998) subset copy principle
    A (proper) subset of the antecedent can be copied and supplied as the content of an elided material under LF-copying operations.

(63) Mary will admire John, and he thinks Susie will, too.

Oku's idea: a pronoun is merely a collection of φ-features while an R-expression contains φ-features and some additional features (relevant for their intrinsic referential property) (see Burzio 1991)

(64) a. Mary will [vp admire John], and he thinks Susie will [vp admire John], too.
    b. Mary will [vp admire John], and he thinks Susie will [vp admire him], too.

Oku's subset copy principle should allow (56). Although the same reasoning should apply to (57) and (58), I suspect that the parallelism constraint would interfere with ignoring the adjunct in such cases.

5. Conclusion

(65) a. The contrast between Chinese and Japanese with respect to the (in)compatibility of –men/-tachi
    and CL can be analyzed in syntactic terms.
    b. The floating UNQ involves stranding.
    c. Some asymmetries in the domain of ellipsis follow rather naturally from the postulated structures for Japanese/Chinese NC constructions.

References
Cheng, L. and R. Sybesma. (1999) "Bare and Not-So-Bare Nouns and the Structure of NP," Linguistic
Inquiry 30, 509-542.


