Numeral quantifiers and syntactic structure

This handout:

- introduces the interesting and complex numerical quantifier (NQ) system of Japanese
- provides evidence, using sentences with NQs, about the syntactic structure of "particles", contrasting case markers like -ga NOM and -o ACC with postpositions like de 'with, on/at, by means of and e 'to, toward'
- provides evidence for how we should analyze (-)ni (DAT case suffix? postposition?)
- I. Introduction to numeral quantifiers (NQs)
- (1) "A numeral quantifier consists of a numeral and a classifier that agrees with the type of entity being counted." (Miyagawa 1989: 19)
- (2) Japanese has two sets of numerals
 - *hito-, huta-, mi-,...* are native ("Yamato")
 - *iti, ni, san,...* are Sino-Japanese

Classifiers tend to combine with numerals of the same lexical stratum

- (3) A few examples (there are many more NQs)
 - (i) hito-ri, huta-ri 1, 2 people san-nin, yo-nin 3 or more people
 - (ii) iti-dai, ni-dai, san-dai furniture, machines, vehicles (land/air)
 - (iii) ip-pon, ni-hon, san-bon long, thin, cylindrical objects (incl. bottles)
 - (iv) is-satu, ni-satu, san-satu books, magazines, pads of paper
 - (v) hito-tu, huta-tu, mit-tu generic counter for inanimate objects
- II. NQs and syntactic structure
- (4) Consider the following examples with NQs. (Additional constructions are also grammatical; see Watanabe (2006) for discussion, proposals, and a review of the literature.)
- (5) Examples where NQs are grammatical
 - (a) <u>Gakusei-ga</u> <u>san-nin</u> hon-o katta. (Miyagawa 1989: 27) <u>student-nom</u> 3-cl book-acc bought 'Three students bought books.'
 - (b) <u>Tomodati-ga</u> <u>san-nin</u> Tanaka-sensei-ni atta. (Miyagawa 1989: 29) *friend-NOM* 3-CL Tanaka-teacher-DAT met

 'Three friends met (encountered, ran into) Prof. Tanaka.'
 - (c) Hanako-ga <u>pen-o</u> <u>san-bon</u> katta. (Miyagawa 1989: 28) *Hanako-NOM pen-ACC* 3-CL bought 'Hanako bought three pens.'

- (6) Examples where NQs are ungrammatical
 - (a) * [NP [NP <u>Tomodati-no</u>] kuruma-ga] <u>san-nin</u> kosyoo-sita. (M. 1989: 30)

 friend-GEN car-NOM 3-CL broke-down

 (intended meaning: 'Three friends' cars broke down.')

 cf. [NP [NP <u>Tomodati-no</u>] <u>kuruma-ga</u>] <u>san-dai</u> kosyoo-sita.
 - (b) * <u>Gakusei-ga</u> hon-o <u>san-nin</u> katta. (Tsujimura 2007: 238) <u>student-NOM</u> book-ACC 3-CL bought (intended meaning: 'Three students bought books.')
- Draw syntax trees for examples from (5) and (6). Can you make a proposal for why the examples in (5) are grammatical but those in (6) are not?
- (7) More examples where NQs are ungrammatical (data adapted from Miyagawa 1989: 31)
 - (a) * Gakuseitati-ga <u>kuruma</u> de <u>san-dai</u> kita.

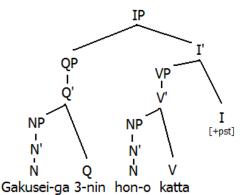
 **students-NOM* car with/by 3-cL came

 (intended meaning: 'Students came in (by means of) three cars.')
 - (b) * Aya-ga <u>kooen</u> e <u>huta-tu</u> itta.

 Aya-NOM park to 2-cL went

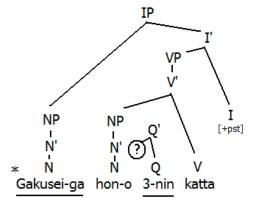
 (intended meaning: 'Aya went to two parks.')
- (8) Proposal: A NQ is a **head** of category Q ('quantifier'), which projects a QP phrase
 - —> This Q head takes a NP as its complement (and a QP can fill an NP position)
 - This proposal is a simplified version of the one in Watanabe (2006); see that for more details
 - (a) Grammatical example:

NP as complement to Q



(b) Ungrammatical example:

NP separated from Q



- Can you use this proposal to account for the other examples in (5) vs. (6)?
- (9) What do the examples in (7) tell us about the complement of Q?
 - It must be an NP, not a PP (can you draw the structures to see this?)
 - This difference also supports our analysis of -ga and -o as suffixes can you see why?

- (10) Now consider these examples (data adapted from Miyagawa 1989: 35, 36)
 - (a) Ken-ga <u>sizin</u> NI <u>huta-ri</u>atta. *Ken-nom poet ?? 2-cL met*

'Ken met two poets.'

- (b) * Aya-ga <u>kooen</u> NI <u>huta-tu</u> itta. *Aya-NOM park ?? 2-cL went*(intended meaning: 'Aya went to two parks.')
 - These examples show that there are **two kinds of /ni/**: one is a case suffix (dative), and one is a P. (Do you see why this is? Can you draw the structures?)
- (11) Thus far, all grammatical examples have had the NP immediately adjacent to the NQ. Here is an example where that is not the case. (Data from Tsujimura 2007: 239.)

Hon-ogakusei-gasan-satukatta.book-ACCstudents-NOM3-CLbought

• What are the implications of this example for the syntactic analysis of word-order variation (scrambling) in Japanese?

For further reading

Miyagawa, Shigeru. 1989. *Structure and Case Marking in Japanese*. [See especially chapters 1 and 2.] San Diego: Academic Press.

Tsujimura, Natsuko. 2007. Ch 5, "Syntax." *An Introduction to Japanese Linguistics.* [See especially §3.3.1, "Numeral quantifiers".] Oxford: Blackwell. (This book is on reserve for the course.)

Watanabe, Akira. 2006. "Functional projections of nominals in Japanese: Syntax of classifiers." *Natural Language & Linguistic Theory* 24(1): 241-306. (This article is downloadable through a UNC connection.)

^{&#}x27;Students bought three books.'