Numeral quantifiers and syntactic structure

This handout: | Bonus handout — not on quiz

- 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) **Gakusei-ga** **san-nin** hon-o katta. (Miyagawa 1989: 27)
student-NOM *3-CL* *book-ACC* *bought*
'Three students bought books.'

(b) **Tomodati-ga** **san-nin** 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 **pen-o** **san-bon** katta. (Miyagawa 1989: 28)
Hanako-NOM *pen-ACC* *3-CL* *bought*
'Hanako bought three pens.'

(6) Examples where NQs are **ungrammatical**

(a) * [NP [NP **Tomodati-no**] kuruma-ga] **san-nin** kosyoo-sita. (M. 1989: 30)
friend-GEN *car-NOM* *3-CL* *broke-down*
(intended meaning: 'Three friends' cars broke down.')
cf. [NP [NP Tomodati-no] **kuruma-ga**] **san-dai** kosyoo-sita.

(b) * **Gakusei-ga** hon-o **san-nin** katta. (Tsujimura 2007: 238)
student-NOM *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 **kuruma** de **san-dai** kita.
students-NOM *car* *with/by* *3-CL* *came*
(intended meaning: 'Students came in (by means of) three cars.')

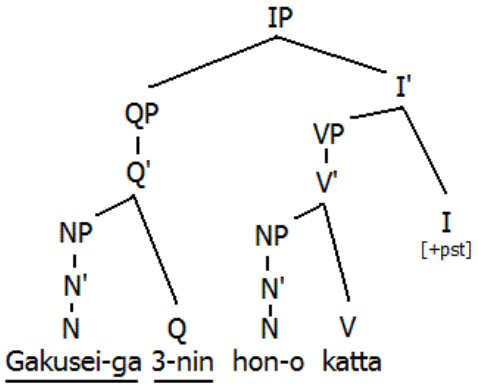
(b) * Aya-ga **kooen** e **huta-tu** itta.
Aya-NOM *park* *to* *2-CL* *went*
(intended meaning: 'Aya went to two parks.')

(8) Proposal: A NQ is a **head** of category Q ('quantifier'), which projects a QP phrase

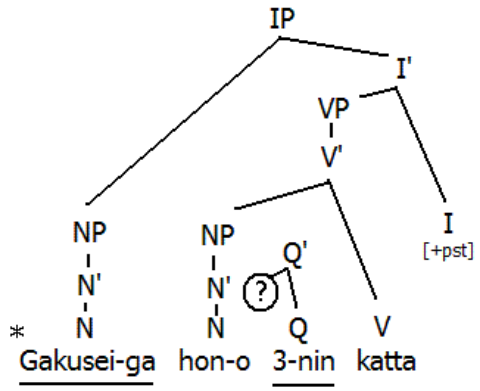
—> This Q head takes a NP as its complement (and a QP can fill an NP position)

- 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 **sizin** NI **huta-ri** atta.
Ken-NOM poet ?? 2-CL met
'Ken met two poets.'

(b) * Aya-ga **kooen** NI **huta-tu** 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-o gakusei-ga **san-satu** katta.
book-ACC students-NOM 3-CL bought
'Students bought three books.'

- 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., 2ed.* [See especially §3.3.1, "Numeral quantifiers".] Oxford: Blackwell. (This book is on reserve for the course; look for the second edition, not the third!)

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.)