snippets

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Anatomy of *what* and NUMBER in Japanese

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It has been well known that an inanimate wh-pronoun *nani* in Japanese is optionally contracted to *nan* in colloquial speech if and only if followed by a coronal consonant (Martin 1975, among many others).

(1) **Nan*(i)**-ga **nan(i)**-no jaanaru-ni notta   no?
     what-NOM what-GEN journal-on appeared C
     'What appeared in what journal?'

It has been unnoticed, however, that the same wh-pronoun is obligatorily "contracted" to *nan* in certain cases (actual forms are subject to sequential voicing and gemination).

(2) a. nan(*i)-{kai/pataan/hiki}
         what-{CL_{times}/$CL_{pattern}$/CL_{animal}}
         'how many times/patterns/animal'

     b. nan(*i)-banme
         what-order
         'which (ordinal) number'

     c. nan(*i)-{zyuu/hyaku/sen}
         what-{ten/hundred/thousand}
         '(Lit.) how many tens/hundreds/thousands'

Note that the "contraction" in (2) is not phonologically conditioned because it is obligatory even when *nan* is not followed by a coronal consonant.

This obligatory short form *nan* in (2), however, has semantics distinct from *nani*. The latter refers to a concrete thing or an abstract property/concept etc., but the former exclusively refers to number. In all the examples in (2), *nan* appears in exactly the same position as numerals: before numeral classifiers (2a), before ordinal nouns (2b), and before numerical bases (as a multiplicand) (2c). It can be replaced with a numeral (e.g. *go* 'five') or another wh-element for amount (e.g. *iku* 'how many').

The minimal pair in (3) clearly shows this semantic difference: the same noun *ken* 'prefecture' gives rise to different interpretations, depending on whether it is prefixed by *nan* or *nani*.

(3) a. nan-ken
         what-prefecture
         'how many prefectures'

     b. nani-ken
         what-prefecture
         'what prefecture'

One might hypothesize that *nan* itself is a numeral and hence a NUM head. But this is not tenable because *nan* co-occurs with a numeral classifier, which is a NUM head (Watanabe 2006). Given that numeral classifiers (in NUM) in Japanese require a number category as their specifier, *nan* cannot be a functional head higher than NUM either.

(4) a. go-hiki
          five-CL$_{animal}$
          'five (animals)'

     b. *hiki
          CL$_{animal}$
          '(animals)'

     c. *{takusan/arera}-hiki
          many/those-CL$_{animal}$
          'many/those (animals)'

It is thus reasonable to think that *nan* is combined with a silent element NUMBER (see Zweig 2005, Kayne 2005) and forms a numeral in the specifier of NUMP. This silent element NUMBER in (5) can also be overtly realized as a numerical base *zyuu/hyaku/zen* 'ten/hundred/thousand' in example (2c).

(5) [$_{NUMP}$ [$_{NUMERAL}$ {**nan/go**} NUMBER] [$_{NUM'}$ [$_{NUM}$ classifier]]]
     '{how many/five} (NP)'

If this analysis is correct, the obligatory lack of *-i* is understood as morphological evidence for the presence of the silent NUMBER. This in turn suggests that what we call numerals are more complex than they look. A number of studies have investigated the syntax of numerals (Ionin and Matushansky 2006, Cheng and Sybesma 1999, Watanabe 2006, 2010), but what kind of syntactic category a numeral is has rarely been addressed. The anatomy of *nan* shows that a numeral is a combination of a number word (e.g. *ichi* 'one', *ni* 'two', *nani* 'what') and NUMBER.

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