Event/entity polysemy and head identification in deverbal compounds

Yoko Sugioka
Keio University (JAPAN)

1 Introduction: polysemy in deverbal nominals and compounds

Deverbal nominalization exhibits polysemy, in particular of the event/entity ('result') interpretation (Chomsky 1970, Grimshaw 1990, Lieber 2016 inter alia): e.g. *construction, painting* (event/product). This paper takes up hitherto little-discussed instances of polysemy in Japanese deverbal compounds: one type in N-V compounds with exocentric vs. endocentric structures (Section 2), and another type of polysemy in V-N compounds with different heads in the semantic structure and the morphological structure (Section 3).

2 Two competing structures for deverbal N-V compounds

Two different internal structures have been proposed for deverbal (synthetic) compounds in English, one with a nominalized N-V complex, the other as a N-N compound with the deverbal noun head (Ackema & Neelman 2004, Lieber 1983, inter alia).

(1) a. $[[\text{truck drive}]_V \text{ -er}]_N$
b. $[\ \text{truck}\ ]_N\ [\ \text{drive}_V \text{ -er}]_N$

Although (1b) is a more canonical morphological structure (N-N) for a compound, (1a) can attribute the semantic compositionality and productivity of synthetic compounds to the argument-verb relation of the embedded N-V complex. In fact, Wiese (2008) postulates (1a) as morphosyntactic and (1b) as morphophonological structure of German synthetic compound (e.g. *Appetit.hemmer* 'appetite blocker') in the parallel representation model of Jackendoff (2002). Booij (2009), on the other hand, proposes a construction-based analysis for Dutch deverbal compounds, where the two templates $[\text{N V}]_V$ and $[\text{V } \textit{er}]_N$ are conflated.

The importance of the dichotomy in (1a/1b) becomes even clearer when we look at crosslinguistic data. The two structures (1a/1b) have been argued to manifest in two different types of deverbal compounds (N+V-infinitive form) in Japanese, namely, argument and adjunct compounds (Sugioka 1996, 2002). Argument compounds as in (2) are N with the (1a)-type structure ($[\text{N-V}]_N$), an exocentric structure due to the lack of nominalizing affix on the V.

(2) a. event /act atena-kaki 'address writing'; ame-huri 'rain fall'
b. agent / instr. hana-uri 'flower vendor'; tume-kiri 'nail cutter'
c. property uso-tuki 'lie teller, liar' kane-moti 'money-having, rich'

In contrast, adjunct compounds are used as nominal predicates (3), and unlike their English counterparts, can violate First-Sister Principle (i.e. adjunct N-Vt as in 3a).

(3) a. event/act pen-gaki (-suru) ' (do) pen-writing (writing with pen) '
haya-gui 'fast-devouring'
b. result state usu-giri (-da) ' (be) thin-slicing (thin-sliced) '
isi-zukuri 'stone-making (stone-made)'

These have (1b)-type endocentric structure with a deverbal N head: $[\ \text{N}\ [\text{V}]_{\ N}\ ]_N$, as evidenced by Rendaku (voicing of the initial consonant of the second element, cf. (3a) pen-gaki <kaki), which generally applies to the head of N-N compounds in Japanese (note there is no Rendaku for (2)).

To these two types we can add another type of N-V compounds, product compounds, an 'argument' compounds with (1b)-type structure. This addition can yield the following minimal pair of compounds:

(4) a. [[atena$_N$ kaki$_V$]$_V$]$_N$ 'address writing' (event =2a)
b. [atena]$_N$ [gaki$_V$]$_N$]$_N$ 'address writing (entity 'written address')

The first element *atena*$_N$ 'address' in (4a) is the internal argument of the verb *kaki* 'write', whereas it is in (4b) a modifier to the deverbal nominal *kaki* 'writing' and specifies the type of writing by its content, hence the difference in structure and Rendaku. (4a) denotes an event, while (4b) denotes a product. As expected from the difference in productivity between argument compounds (2) and adjunct compounds (3), the first element in (4a) can be freely replaced with nouns selected by the verb *kak* 'write' (i.e. *genkoo* 'manuscript', *tegami* 'letter', *repooto* 'report', *syoosetsu* 'novel', *namae* 'name' etc.), but it is restricted to only a handful of fixed expressions in (4b) (i.e. *memo* 'memo', *tyuui* 'caution', *ninsoo* 'profile'). The product compounds are unproductive and have lexicalized meanings: e.g. *tamago-yaki* '(lit.) egg-fry, specific egg dish', *ume-bosi* '(lit.)plum-dry, pickled plum', *isi-gumi* 'stone-arrangement'.

Exocentric structure similar to (4a) with different word order has been proposed for Romance V-N compounds (Di Sciullo & Williams 1987), and now-obsolete English ones.

(5) French: essui-glace 'window-wiper' ; Spanish: anza-cohetes 'rocket launcher'
Italian: apri-porta 'door opener' ; Portuguese: afia-lápis 'pencil sharpener'
cf. English: pick-pocket, scarecrow, killjoy, coverall

These are all argument compounds, and the exocentric structure [[essui$_V$-glace$_N$]$_V$]$_N$ reflects naming the act of 'V-ing N', on which instrument and agent interpretations presumably are based (cf. (2b) in Japanese) . Hence, postulating a V+N complex in exocentric structure (1a) can capture the commonalities found in the productive deverbal compounds denoting event (and metonymic extensions) across typologically different languages, e.g. Germanic and Romance languages, and Japanese. In contrast, compounds of (3/4b) are more idiosyncratic and lexicalized in Japanese, and not productive in Romance languages and English.

In sum, the dichotomy in structures (1a/1b) for deverbal compounds can account for polysemy as seen in (4) as well as those in typologically different languages.

3 Polysemy and head identification in Japanese V-N compounds

Compounds in Japanese with V-N word order in many cases denote an entity (6a), but there are some instances that exhibit entity/event polysemy (6b).

(6) a. tabe-mono 'eat-thing, food'; nomi-mizu 'drinking water'; nagare-bosi 'shooting star'
b. uti-mizu 'spray-water'; yomi-mono 'read-material'; hari-gami 'put.up-paper';
taki-bi 'burn-fire (bonfire)'; kakusi-goto 'hide-thing, secret'

Thus, the following V-N compounds clearly denote an entity.

(7) a. itadaki-mono o tabe-ru 'eat a gift'
receive-thing ACC eat-PRES
b. oki-gasa o kari-ru 'borrow (someone's) spare umbrella'
leave-umbrella ACC borrow-PRES
c. negai-goto o kak-u 'write (one's) wish'
wish-matter ACC write-PRES

They can also denote action as an argument of the verbs *suru* 'do', hazime-ru 'begin, etc.

(8) a. kyaku kara itadaki-mono o su-ru 'receive a gift from a guest'
guest from receive-thing ACC do-PRES
b. kaisya ni oki-gasa o su-ru 'leave a spare umbrella at the office'
office LOC leave-umbrella ACC do-PRES

c. nagare-bosi ni negai-goto o su-ru 'make a wish to a shooting star'
shoot-star DAT wish-matter ACC do-PRES

It should be noted that the compounds in (8) are event nouns (N), rather than verbal nouns (VN) (i.e. Sino-Japanese verbs such as *hookoku* 'report', san-sui 'spray water') that take light verb *-suru* without Accusative case (ACC): *san-sui-suru* vs.**uti-mizu-suru 'spray water'*. Hence they are endocentric compounds with a N head: $[uti_V\text{-}mizu_N]_N$.

Nevertheless, there is evidence showing that the left-hand V is indeed responsible for the event interpretation of the compounds in (8). First, we can argue that the Source (8a), Locative (8b), and Goal (8c) arguments are selected by the leht-hand V in the compounds. This is because, if they were to modify the compound as a whole, they would have to take an adnominal Genitive marker *no* 'of', but that would be unacceptable.

(9) *[Kyaku kara-no itadaki-mono] o suru. 'receive a [gift from a guest]' (cf. 8a)
guest from GEN receive-thing ACC do-PRES

Second, the aspectual feature of V determines that of the compound. While *taki* 'burn' (10a) denotes activity, *otosi* 'lose' (10b) denotes punctual event, yielding the contrasts below:

(10) a. 3 zikan taki-bi o si-ta. 'burned a bonfire for 3 hours'
hour burn-fire ACC do-PAST
b. *3 zikan otosi-mono o si-ta. 'lost (something) for 3 hours'
hour lose-thing ACC do-PAST

(11)a. taki-bi-tyuu ni 'while burning a bonfire'
burn-fire-during at
b. *otosi-mono-tyuu ni 'while losing (something)'
lose-thing-during at

(12)a.*taki-bi ga takusan at-ta 'there was much burning fire'
burn-fire NOM much be-PAST
b. otosi-mono ga takusan at-ta 'there were many instances of losing items'
lose-thing NOM much be-PAST

Time adverbial *3 zikan* 'for 3 hours' and aspectual suffix *-tyuu* 'during' can modify durative activity (10a, 11a) but not punctual event (10b, 111b), while the verb *aru* 'be' can be used with a punctual event nominal to denote its happening (12b), but not a durative event (12a).

Consequently, we can say that while the head in the morphological structure of these V-N compounds is always the right-hand N so that the whole compound is N rather than VN, the head in the semantic structure can vary depending on the context: it is N when an entity reading suits the context as in (7), but the left-hand V is identified as the head when an event interpretation is called for as in (8). This is a type of structural polysemy in the sense of Pustejovsky (1995), where contextual coercion can force one of the multiple interpretations afforded by the qualia structure of the word (cf. Ono 2013). The following are (due to space limit) partial qualia specifications for these V-N compounds.

(13)a. otosi-mono 'lose-thing' Formal: entity (y).event (e) Agentive: lose (e, x, y)
b. taki-bi 'burn-fire' Formal: entity (y).event (e) Agentive: burn (e, x, y)
c. yomi-mono 'read-thing' Formal: entity (y).event (e) Telic: read (e, x, y)

When a word has dual Formal qualia as in (13), the multiple senses can sometimes coexist in a sentence (e.g. *She came in through the broken **window*** (physical object/aperture) cf. Kageyama 1999:43). In fact, V-N compounds can form this type of zeugma as well.

(14)a. Tan-zikan de nagai kaki-mono o si-ta 'did a long writing in a short time'
short-time in long write-thing ACC do-PAST
b. Kooka-na itadaki-mono o si-ta 'received an expensive gift'
expensive receive-thing ACC do-PAST

c. Tiisa-na taki-bi o hazime-ta. 'begin a small bonfire'
small burn-fire ACC begin-PAST

Crucially, *suru* 'do' (14a,b), *hazime* 'begin'(14c) and the time adverbial 'in a short time' (14a) call for event meaning, while adjectives *nagai* 'long' (14a), *kooka-na* 'expensive' (14b), and *tiisa-na* 'small' (14c) select entity reading of the V-N compound in the same sentence.

4 Summary and implications

Two types of event/entity polysemy in Japanese deverbal compounds stem from 1) exocentric and endocentric internal structures for N-V compounds, and 2) semantic coercion by the context for V-N compounds. First, nominalization of N-V complex as opposed to V to N conversion yield the contrast in meaning, as well as semantic compositionality and productivity. This contrast is revealing in face of the common assumption that exocentric structure (1a) is non-canonical in morphological structure. On the other hand, event/entity polysemy in V-N compounds is activated by semantic coercion, and can be analyzed by splitting the head in the semantic structure from that in the morphological structure. Ramifications of postulating different heads in different components must be further developed, e.g. in a modular approach to morphology (e.g. Jackendoff 2002, Sadock 2012).

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