Affix borrowing and structural borrowing in Japanese word-formation

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The wealth of English loanwords in the contemporary Japanese lexicon is well-known and constitutes a traditional research topic in Japanese linguistics. In contrast, there are very few previous studies that systematically investigate Japanese word-formation material and schemas copied from English. As a preliminary attempt to fill the gap, this paper examines the borrowing of three different English grammatical items: the adjectivalizing suffix **-ic**, *the possessive pronoun* **my**, *and the preposition* **in**. *While the first case is affix-to-affix borrowing, the latter two cases are borrowing of grammatical words as word-formation items. First,* **-ic** *is borrowed as an adjectivalizing suffix, which, however, differs from the model in the type of adjectives produced. Next, the copy of* **my** *functions as a prefix that produces nouns with an anaphoric nature, which are reminiscent of* **self-N** *forms in English. The most complicated of the three are nominal modifiers involving the copying of* **in**. *In some cases, the model lends its surface form only; in other cases, its form and head-first structure are both replicated. To account for the qualitative mismatches between the donor model and recipient copy, the authors emphasize certain typological differences between the two languages involved.*

Keywords: *language contact*; *English*; *Japanese*; *word-formation*; *grammatical borrowing*; *word syntax.*

1. Introduction

The topic of this paper is the influence of English on contemporary Japanese word formation and word syntax. Let us start with the lexicon. As succinctly introduced in Shibatani (1990: 140–157) and Hasegawa (2015: 61–74), the Japanese lexicon consists of native Japanese words, Sino-Japanese words, foreign words, and combinations of them. Onomatopoeia also abounds. Foreign words or *gairaigo* (lit. 'foreign coming words') are loanwords from foreign languages other than Chinese. The distinction is reflected in orthography. Japanese uses a mixed writing system consisting of *kanji*, logographic writing, and *kana*, phonographic writing. Kana consists of *hiragana* and *katakana* (see Sampson 1985: 172–193; Shibatani 1990: 125–131; Hasegawa 2015: 43–57). Basically, native and Sino-Japanese lexemes are written in kanji and hiragana, while foreign words are written in katakana. Below, nouns, verbs, and adjectives are illustrated in the Romanized form (the first line) and original form (the second line), followed by semantic translation (the third line).[1]

(1) a. Native *tamago* *yaku* *furui*

[1] Hasegawa (2015: 55–57) adopts a slightly modified version of the Hepburn System for Romanization. We follow her system. In glossing, we use the following abbreviations: ACC (accusative), COMP (complementizer), DAT (dative), NOM (nominative), GEN (genitive), OBL (oblique), PRS (present tense), PST (past tense), Q (question particle), TOP (topic).

	卵 or たまご	焼く	古い
	‘egg’	‘to burn, fry’	‘old’
b. Sino-Japanese	*gyōza*	*nenshō*	*ganko*
	餃子	燃焼	頑固
	‘pot sticker’	‘to burn’	‘stubborn’
c. Foreign	*furūtsu*	*rimaindo*	*yunīku*
	フルーツ	リマインド	ユニーク
	‘fruit’	‘remind’	‘unique’

Members of each lexical stratum combine with each other to produce complex words. Etymologically hybrid combinations are also possible, as in:

(2) a. Native + S-J: *natsu* ‘summer’ + *fuku* ‘clothes’ → ‘summer apparel’
b. S-J + native: *kan* ‘can’ + *kiri* ‘cut’ → ‘can opener’
c. Native + foreign: *nama* ‘raw’ + *hamu* ‘ham’ → ‘uncured ham’
d. Foreign + native: *kōhī* ‘coffee’ + *mame* ‘bean’ → ‘coffee beans’
e. S-J + foreign: *yasai* ‘vegetable’ + *sarada* ‘salad’→ ‘vegetable salad’
f. Foreign + S-J: *supīdo* ‘speed’ + *ihan* ‘violation’ → ‘speed violation’

(Hasegawa 2015: 62)

Kanji and katakana co-occur within words of the types (2c-f), as in: (2c) 生ハム, (2d) コーヒー豆, (2e) 野菜サラダ, and (2f) スピード違反. For sociolinguistic, historical, lexicographical, and/or phonological aspects of foreign words, see Loveday (1996), Miller (1998), Stanlaw (1998; 2004), Ishiwata (2001), Yamada (2005), Kobayashi (2009), Schmidt (2009), Hashimoto (2010), Kinsui (2010), Irwin (2011), Jinno-uchi et al. (2012), and Okimori & Akutsu (2015). As a general recognition of contact linguistics, sociolinguistic and historical-cultural factors are important for understanding the flood of English loanwords into the Japanese lexicon, yet those factors are beyond the scope of this paper. We refer interested readers to the studies cited above.

Next, we give a general description of Japanese morphology. Typologically, Japanese, whose genetic affiliation is under debate, is an agglutinative head-final language. In sentences, nouns are followed by case particles. Verbs are also expanded to the right with negation, tense, aspect, and modality markers. Native verbs such as *yaku* in (1a) can carry these grammatical morphemes on their own, employing different bound stems. Sino-Japanese and foreign items with verbal lexical semantics, such as *nenshō* in (1b) and *remaindo* in (1c), need the light verb *suru* ‘do’ to formally realize tense, aspect, and modality, so that they are called verbal nouns. Adjectives are similar to verbs. Native adjectives such as *furui* in (1a) directly combine with negation and tense markers, while Sino-Japanese and foreign items such as *ganko* in (1b) and *yunīku* in (1c) are adjectival nouns.[2] In the domain of word-formation, complex words (compounds and derivatives) are generally right-headed (Kageyama 1982; Namiki 1982, 2001; Shimada 2017), but dvandvas (Shimada 2013), blends

[2] For a general introduction to the categories of adjectival nouns (AN) and verbal nouns (VN), see Shibatani (1990: 215–217), Tsujimura (2014: 137–142), and Hasegawa (2015: 64–67). For technical discussions on AN, see Ohkado (1991), Nishiyama (1999), and Backhouse (2004), among others.

(Kubozono 1995), and certain compounds (Sugioka 2002; Kageyama 2009: 514) can be headless or left-headed. The following illustration of productive patterns is meant to give a general idea of Japanese word-formation:

(3) N1 + N2 compounds
  a. N2 = entity noun — (2a) *natsu-fuku* 'summer apparel'; (2c) *nama-hamu* 'uncured ham'; (2d) *kōhī-mame* 'coffee beans'; (2e) *yasai-sarada* 'vegetable salad
  b. N2 = eventive noun — (2b) *kan-kiri* (lit. can-cutting) 'can opener'; (2f) *supīdo-ihan* 'speed violation'

(4) V1 + V2 compounds
  a. V2 = lexical verb — *korogari-ochiru* (lit. roll-fall) 'roll down'
  b. V2 = aspectual verb — *kaki-hajimeru* (lit. write-begin) 'begin to write'

(5) Class-changing suffixation
  a. A > N — *marui* 'round' → *maru-**sa***, *maru-**mi*** 'roundness'
  b. N > A — *kodomo* 'child' → *kodomo-**ppoi*** 'childish'
  c. Causativization — *taberu* 'eat' → *tabe-**saseru*** 'cause to eat'

(6) Sino-Japanese prefixation: ***zen**-daitōryo* (lit. former president) 'ex-president'

(7) Dvandva compounds
  a. N + N *nichi-bei* (lit. Japan-USA) 'Japan and USA'
  b. V+ V *imi-kirau* (lit. detest-hate) 'detest'
  c. A + A *hoso-nagai* (lit. thin-long) 'long and narrow'

(8) Shortening
  a. Blending — *apāto* 'apartment' + *manshon* 'condominium' → *apaman* 'a generic term for apartments and condos'[3]
  b. Clipping — *intorodakushon* 'introduction' → *intoro*

For general descriptions of word-formation elements in foreign lexical strata, see Morioka (1985; 1994: 201–227), Loveday (1996: 138–156), Irwin (2011: 137–157), and Okimori & Akutsu (2015).

As stated in the abstract, this paper closely examines AFFIX-BORROWING (Seifart 2015) and STRUCTURAL BORROWING (Renner 2018, this volume) in word-formation between English, the donor language, and Japanese, the recipient language. Renner distinguishes the two types of grammatical borrowing based on the involvement of linguistic material. Unlike affix borrowing, structural borrowing is concerned with the influence of abstract word-formation schemas found in the donor language. To quote his definition:

> *Structural borrowing in word-formation is thus defined here as the increase or decrease in frequency of use of an abstract word-formation schema caused by*

[3] This word was coined by a rental housing company as its shop name.

> *language contact and includes the new availability of a virtually unknown schema (i.e. a change from a null to a non-null frequency, or structural borrowing* sensu stricto*).*

Renner's distinction is in line with the MAT (matter) vs. PAT (pattern) distinction in contact linguistics. Based on large-scale cross-linguistic research on the borrowing of grammatical words and bound items, Matras & Sakel (2007a) confirm the usefulness of separating the formal and functional sides of the donor language's model construction (see Matras & Sakel 2007b: 841–847 for the history of the concepts of MAT vs. PAT in contact linguistics). To quote from Sakel (2007: 15):

> *MAT and PAT denote the two basic ways in which elements can be borrowed from one language into another. We speak of MAT-borrowing when morphological material and its phonological shape from one language is replicated in another language. PAT describes the case where only the patterns of the other language are replicated, i.e. the organization, distribution and mapping of grammatical or semantic meaning, while the form itself is not borrowed. In many cases of MAT-borrowing, also the function of the borrowed element is taken over, that is MAT and PAT are combined. In other instances, MAT and/or PAT are borrowed, but deviate considerably in their form or function from their original source.*

Because affixes are combinations of matter and pattern, affix borrowing belongs to MAT-borrowing with or without corresponding PAT, while structural borrowing belongs to PAT borrowing (without MAT). Notice that Matras & Sakel (2007b) use the term *replication* rather than *borrowing*. This probably reflects the general recognition that "a copy is never identical with the model. The new terminology highlights code-copying as an essentially creative act: speakers under external influence shape their language in novel ways" (Johanson & Robbeets 2012: 4–5). If the donor's MAT is combined with the recipient's PAT, or vice versa, what is gained is indeed a novel linguistic possibility. Although this paper retains the traditional terminology, the discussion to be presented below speaks for the validity of the MAT vs. PAT distinction in word-formation and the working of a certain form-function matching process as a way to incorporate foreign grammatical items. Sections 2 to 4 present three cases of seemingly random patchwork between MAT and PAT from English and Japanese. As a possible underlying factor for how MAT and PAT are combined in the novel word-formation construction, we pay attention to relevant typological differences between the two languages involved. Section 5 is the conclusion.

2. Affix-to-affix borrowing: the derivational suffix *-ic*

In the first case, the MAT of an English derivational suffix is combined with the PAT of Japanese denominal adjectival formation. Consider the following morphological and syntactic restrictions imposed on English relational adjectives (Nagano & Shimada 2016: 222):

(9) a. In modifying a noun, the derivative requires strict adjacency to the modified noun in a unique position:
***wooden** big table* vs. *big **wooden** table*

b. The derivative lacks gradability and comparativeness:
a very **industrial output*, **more **industrial***

c. The derivative lacks predication possibility:
This output is **industrial. *This decision is **senatorial**.*

d. The derivative does not potentiate further nominal affixation:
??*presidentialness,* ??*racialness*

e. Prefixal negation should be done by *non-*; *in-* and *un-* are difficult.

As is well-known, English and many other European languages have a relational vs. qualitative distinction in denominal adjectival formation (Beard 1995; Fradin 2007, 2008; Bisetto 2010; Rainer 2013; Fábregas 2014, among others). RAs (Relational Adjectives) and QAs (Qualitative Adjectives) are distinct adjectival classes (or subclasses within a major part of speech). QAs are prototypical scalar adjectives that can constitute a predicate. They allow degree morphology and nominalization. In contrast, RAs are attributive-only denominal adjectives with non-scalar, very general semantics, which are often described as 'characterized by', 'pertaining to', and 'relating to'.

Bauer et al.'s (2013: 288–321) corpus-based research suggests that English denominal adjectivalizing suffixes are divided into those that are basically QA-producing, such as *-ish* (e.g. *childish, doggish*) and *-ful* (e.g. *faithful, lawful*), and those that are basically RA-producing, such as *-al* (e.g. *industrial, behavioral, verbal*), *-ary* (e.g. *alimentary, budgetary*), and *-ical* (e.g. *alphabetical, theatrical*). Our target is the RA-deriving suffix *-ic*, which produces relational adjectives such as:

(10) *alcoholic, basaltic, cyclonic, diadic, ectomorphic, fumarolic, genomic, halalic, imbecilic, jihadic, kleptocratic, lethargic, melancholic, nomadic, ozonic, palindromic, quietistic, rhapsodic, satiric, thoracic, urologic, vampiric, warrioristic, xerographic, yogic, zoophilic*

(Bauer et al. 2013: 291)

More established derivatives such as *dramatic* and *romantic* are used not only relationally, as in (11), but also qualitatively, as in (12).

(11) a. *Bodo asked the waitress if she would take the **romantic** lead in film he claimed to be making and…*
b. *The hair and features are certainly in the **romantic** tradition, but the eyes are otherworldly.*

((a) from *BNC Online*, (b) from *Wordbanks Online*)

(12) a. *This evening there's a formal and very **romantic** dinner in the garden of Sandringham, under an avenue of lime trees, the long table lit by candles, with night-lights and lanterns in the branches and on the surrounding lawn.*
b. *He doesn't look like that, but he's very, very **romantic** inside.*

((a) and (b) from *Wordbanks Online*)

Yet, the QA use in (12) should be seen as an extension from the RA use in (11) because most of the RA suffixes occur in the same type of QA (see Nagano 2018).

The suffix *-ic* has been brought into Japanese in the form *-chikku*, through English loanwords such as *romanchikku* (< *romantic*) and *doramachikku* (< *dramatic*). According to Muranaka's (2012) corpus study using *the BCCWJ-NT (The Balanced Corpus of Contemporary Written Japanese)*,[4] *-chikku* is productive, attaching to native, SJ, and foreign bases and turning them into new adjectival nouns. Witness:

(13) a. Derivatives from native words

otome-chikku	'girlish'
< *otome*	'a young girl, maiden'
tenpura-chikku	'tasting like tempura, looking like tempura'
< *tenpura*	'tempura'
muneo-chikku	'reminding one of Muneo Suzuki'
< *Muneo*	the first name of a famous Japanese politician
yarase-chikku	'giving the impression of having been staged'
< *yarase*	'staging'

b. Derivatives from Sino-Japanese words

eigo-chikku	'sounding like English'
< *eigo*	'English'
manga-chikku	'manga-like'
< *manga*	'manga'
kōkyū-chikku	'apparently high-class, posh-looking'
< *kōkyū*	'high-class, posh'
mendō-chikku	'apparently troublesome'
< *mendō*	'troublesome'

c. Derivative from foreign words

SF-chikku	'SF-like'
< *SF (esu-efu)*	'SF, science fiction'
mirufīyu-chikku	'looking like a mille-feuille'
< *mirufīyu*	'a mille-feuille'
ajian-chikku	'looking like Southeast Asian-style'
< *ajian*	'Southeast Asian-style'

Significantly, all these *-chikku* words are SIMILATIVE QAs in the classification of Bauer et al. (2013: Chapter 14) and Fábregas (2014); that is, their meanings can be analyzed as 'be similar to N' (N = base noun). The QA status of the derivatives in (13a-c) is shown not only by their semantic translations but also by the fact that *-chikku* can be appended to another adjectival noun, as in *kōkyū-chikku* in (13b) and *ajian-chikku* in (13c).[5] Additionally, they

[4] This is a large-scale electronic corpus of contemporary written Japanese of various genres, offered by the National Institute for Japanese Language and Linguistics. For details, see: http://pj.ninjal.ac.jp/corpus_center /bccwj/en/

[5] Consider, for instance, the QA suffix *-ish* in English. It produces similative QAs such as *doggish, boyish, feverish*, etc., which share the approximation sense with deadjectival adjectives such as *biggish* 'almost big' and *yellowish* 'almost yellow'.

can be modified by the indefinite degree modifier *totemo* 'very', as in *totemo otome-chikku-na heya* (lit. very girl-affix-PRS room) 'a very girly room'.

A contact-linguistic question we have to address here is this: why is *-chikku* exclusively QA when its source suffix in English derives RAs? In our view, this fact results from a grammatical difference between the languages in contact. Despite their richness in English, RAs cannot be produced from an English loan affix because Japanese grammar does not allow this type of derivation. Consider the following adjectivalizing affixes used in contemporary Japanese:

(14) N/A-to-A affixes in contemporary Japanese

a. Native:
*kodomo-**ppoi*** 'childish', *kodomo-**rashii*** 'childlike, appropriate for a child', *dokudoku-**shii*** 'poisonous-looking', *shirōto-**kusai*** 'amateurish', *byōki-**gachi*** 'sickly'

b. Sino-Japanese:
*risei-**teki*** 'rational', ***mu**-jihi* 'merciless', ***fu**-shizen* 'unnatural',
***bu**-kakkō* 'unshapely'

c. English loan:
-chikku = (13)

In Nagano & Shimada (2016), we closely examined each of these affixes and confirmed their exclusively QA status.

Additionally, in Nagano (2016), one of us confirmed Hagège's (2004: 260) typological generalization concerning Japanese:

> *For example, languages like Chinese, Japanese, various Melanesian languages, etc., have no relational adjectives. In these languages we find relative clauses instead of the relational adjectives found in other languages. This means that in Chinese, etc., "adjectives" always function as predicates.*

Strictly speaking, Japanese uses attributive genitives instead of relational adjectives. Thus, in the following data, the English relational adjectives correspond to the two attributive genitive modifiers in (a) and (b) (see Nagano 2016: 52–55 for more exhaustive illustration):

(15) wheaten bread <Material>
a. *komugi* ***no*** *pan*
wheat GEN bread
b. *komugi-**sei*** ***no*** *pan*
wheat-made GEN bread

(16) Chinese vase <Origin>
a. *Chūgoku* ***no*** *kabin*
China GEN vase

b. *Chūgoku-**sei no*** *kabin*
China-made GEN vase

(17) Slavic language <Genealogy>
a. *surabu **no*** *gengo*
Slav GEN language
b. *surabu-**kei no*** *gengo*
Slav-line GEN language

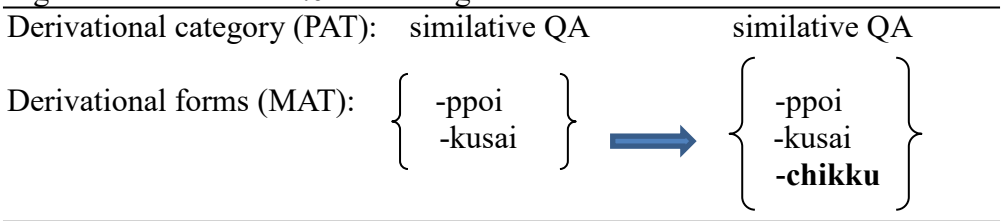
(18) Wordsworthian form <Model, Style>
a. *wāzuwasu **no*** *keisiki*
Wordsworth GEN form
b. *wāzuwasu-**{fū / ryū}*** ***no*** *keisiki*
Wordsworth-style GEN form

(19) triangular room <Shape>
a. *sankaku-**no*** *heya*
triangle-GEN room
b. *sankaku-**kei no*** *heya*
triangle-form GEN room

The modifiers in (a) are formally identical to genitive forms of the base noun, while those in (b) additionally involve a classifier or its kin between the base noun and the genitive particle. The modifiers in (a) and (b) are in the semantic relation of hyponymy. For example, (15a) and (15b) differ in that (15a) has the same semantic sparseness as *wheaten bread*, while (15b) foregrounds its most salient reading, 'bread made of wheat'. (15b) is always interpreted in this way because the bound morpheme *sei* is a specialized marker of the made-of relation. Following Nagano (2016), we will call the longer form EXPANDED MODIFIER. (We return to this type of modifier in the next section.)

In brief, the novel suffix *-chikku* is a combination of MAT from the donor language and PAT from the recipient language. If both the MAT and PAT of the donor were replicated, it would have resulted in the creation of a new derivational category in Japanese: RA. However, the actual case is an addition of a new member to the pre-existing set of native members that are used to formally realize the derivational category of similative QA. Figure 1 is a rough illustration of the contact-induced change in this case.

Figure 1: The effect of *ic*-borrowing



Based on the discussion in Nagano & Shimada (2016), we assume that there are certain semantic subdivisions within the QA suffixes cited in (14a, b), with *-ppoi* and *-kusai* from the native stratum being used for similative QAs. As illustrated in Figure 1, *-chikku* is added into

the paradigmatic relationship between *-ppoi* and *-kusai* and expands a two-member set into a three-member set. A question of particular interest is the distribution of the three suffixes over potential nominal bases. If the choice of *-chikku* over *-ppoi* and *-kusai* turns out to be based on some feature or a combination of some features, it might be seen as a sign of the emergence of a new distributional class within the category of similative QA, caused by *ic*-borrowing. We leave this question for future research.

3. Morphostructural borrowing: the preposition *in*

English and Japanese show yet another stark contrast in the availability of prepositions. Japanese, a head-final language, does not use prepositions. Is it possible for such a language to borrow English prepositions? As will be shown presently, the first way to do so is to borrow them as purely morphological alternates of existing grammatical items. This is similar to the way *-chikku* was borrowed as a morphological alternate to the pre-existing QA affixes. Interestingly, however, we detect incipient effects of the harder option and borrowing of the left-headed structure.

3.1 *MAT borrowing without PAT*

We begin with cases where only MAT of *in* is borrowed. Japanese [Noun + イン] compounds with the sense 'containing N' or 'with N added' are closely studied by Namiki (2003, 2005).[6] イン is the katakana writing of the borrowed version of *in*. We use this original orthography to avoid unnecessary confusion between the English *in* and its borrowed version; イン is romanized as *in*, so the romanization causes confusion for readers. Namiki provides many examples of a [Noun + イン] compound occurring as a modifier to another noun, forming a larger tripartite nominal modification: [[$Noun_1$ + イン] + $Noun_2$]. Witness:

(20) [[$Noun_1$ + イン] + $Noun_2$]

a. ***rinsu-イン*** *shanpū* (original: リンスインシャンプー)
rinse in shampoo
'shampoo with rinse in it, conditioning shampoo'

b. ***furūtsu-イン*** *sheiku* (original: フルーツインシェイク)
fruit in shake
'fruit shake'

c. ***hābu-イン*** *dentā* (original: ハーブインデンター)
herb in Dentor (trade name for toothpaste)
'Dentor with herbs in it'

d. ***takoyaki-イン*** *gyōza* (original: たこ焼きイン餃子)

[6] The construction studied by Namiki is semantically and categorially different from verbal nouns ending in イン such as シーズンイン (lit. season-in) 'start of the (sports) season' and ゴールイン (lit. goal-in) 'attainment of a goal' (Morioka 1985: 116, Loveday 1996: 139).

octopus ball in pot sticker
'Pot sticker with an octopus ball in it'

(Namiki 2005: 8–9, glosses and translations ours)

As shown by the original scripts, the pattern accommodates etymologically different words.

What Namiki has revealed based on such instances is that イン is not necessarily a preposition. To be specific, he shows that the linkers in (20) are not prepositions. If they were, they should project the left-headed structure [$Noun_1$ + [イン + $Noun_2$]], in which N_1 is the head of the entire expression. However, the expressions in (20) are strictly right-headed, instantiating a structure in which N_2 is the head of the entire expression and イン takes N_1 as its complement. For example, (20a) is not a type of hair rinse but a type of shampoo, which means that it is interpreted not in the way depicted in (21a), but in the way depicted in (21b).

(21) a. $Noun_1$ イン $Noun_2$
rinse IN shampoo

b. $Noun_1$ イン $Noun_2$
rinse IN shampoo

Namiki argues that the expression *rinsu-イン shanpū* is interpreted this way because イン is being used as a morphological alternant for the native deverbal noun *iri* (入り), which is based on the change-of-location verb *iru* 'go in, get in, enter'.[7]

Recall the Japanese attributive genitives we encountered in Section 2. The expanded modifiers in (15-19b) have a complex form in which Noun is selected by a classifier and the combination is further selected by the genitive marker, as in [[Noun + classifier] + *no*].[8] *Iri* functions as a classifier of this pattern and forms expanded modifiers, taking Quantity, Ingredient, or Container as the complement N. Witness:

(22) *N-iri* compounds expressing 'containing N' or 'contained in N'

a. ***2 rittoru-iri*** *no* *bin* <N: Quantity>
2 liter-containing GEN bottle
'a bottle containing 2 liters; a bottle with a capacity of 2 liters'

b. ***kuri-iri*** *no* *kēki* <N: Ingredient>
chestnut-containing GEN cake
'cake with chestnuts in it'

c. ***kan-iri*** *no* *bīru* <N: Container>
can-contained GEN beer

[7] Technically, *iri* is a *ren'yō* deverbal noun from the old change-of-location verb *iru* 'get in, go in, enter' (according to *Nihon Kokugo Daijiten*), but *iru* in this sense is now superseded by *hairu* 'get in, go in, enter'. Thus, *Daijirin*, another Japanese dictionary, relates the form to *hairu*.

[8] As detailed in Nagano (2016), this form differs from the genitive modifier [N + *no*] in being able to function as a predicate. Thus, the modifiers in (15-19a) are truly similar to RAs in being attributive-only, while those in (15-19b) can be used as predicates.

‘canned beer, beer in a can’

((a) from Namiki 2005: 541; (b) and (c) our own)

Significantly, using the usage in (22b), we can produce nominal modifiers in the pattern [Noun-*iri no*] that are semantically and structurally parallel to the [Noun + イン] modifiers in (20). Compare (20a-d) with the following expressions:

(23) a. ***rinsu-iri*** *no* *shanpū* (リンス入りのシャンプー)
rinse-added GEN shampoo
‘shampoo with rinse in it, conditioning shampoo’

b. ***furūtsu-iri*** *no* *sheiku* (フルーツ入りのシェイク)
fruit-added GEN shake
‘fruit shake’

c. ***hābu-iri*** *no* *dentā* (ハーブ入りのデンター)
herb-added GEN Dentor (tradename for toothpaste)
‘Dentor with herbs in it’

d. ***takoyaki-iri*** *no* *gyōza* (たこ焼き入りの餃子)
octopus ball-added GEN pot sticker
‘Pot sticker with an octopus ball in it’

The expressions in (20) are different from those in (23) in lacking the genitive marker, and the construction [Noun_1 + イン] + Noun_2] as a whole constitutes a compound. This difference is, however, not important because the genitive markers in (23) can be deleted, which makes the entire expression close to compounds, as in: (23a) ***rinsu-iri*** *no shanpū* → ***rinsu-iri*** *shanpū*. What is crucial here is the fact that the preposition *in* is borrowed as a morphological alternant for a pre-existing native nominal classifier. Put differently, Namiki’s イン is an instance of MAT borrowing of a preposition without its PAT.

3.2 *MAT borrowing with different aspects of PAT*

Next, there are instances of イン that inherit the word-order and/or selectional aspects of the PAT of *in*. Let us call this type “new イン”, in contrast to Namiki’s イン. In English, the PAT of *in* has two aspects: it projects a left-headed structure, and it selects a locative expression. Surprisingly, in Japanese, the new イン replicates the word-order aspect only in some cases, while it replicates both aspects in other cases. We start with the first type.

Namiki’s イン produces right-headed compounds because it is not a preposition but a morphological alternant for a native classifier and follows the latter’s word syntax. Interestingly, however, on the Internet, we sometimes come across semantically similar compounds put in the reverse, left-headed order. In the following expressions, bold-faced parts are structural constituents, with イン taking the following Ingredient-denoting noun as its complement:

(24) a. *hanbāgu* ***イン-chīzu*** (ハンバーグインチーズ)
hamburger in cheese
'cheese-stuffed hamburger'
(From a recipe site by a famous Japanese cook, date not specified)[9]

b. *mābōdōfu* ***イン-raisu*** (麻婆豆腐インライス)
mabo tofu in rice
'mabo tofu (a Chinese tofu dish) with rice in it'
(From a blog article written in 2010)[10]

c. *Oishisōna sūpu karī,* ***イン-raisu*** *ga dekiagari!*
Delicious-looking soup curry IN rice NOM be.ready
'Voila, a delicious-looking soup curry with rice in it!'
(From a blog article written in 2009)[11]

d. *Gōichi de wa nokorijiru ni* ***イン-raisu*** *de 'ojiya' o tanoshimu sōdesu*
G at TOP soup DAT in rice OBL porridge ACC enjoy I.heard
'I heard that at Gōichi (a rāmen shop), he likes to put boiled rice into his remaining soup and eat it as porridge.'
(From a blog article written in 2013)[12]

First, let us compare these colloquial expressions with Namiki's examples. The bold-faced parts [イン + Noun] are also compounds that function as nominal modifiers. In (24a-c), the instance modifies the preceding noun, while (24d) can be seen as modification of a phonetically zero nominal. Semantically, [イン + Noun] compounds are synonymous to [Noun + イン] and [Noun + *iri*], all of them expressing 'containing N (Ingredient)'. As indicated below, it is possible to reverse the word-internal order of the modifiers in (24) without affecting the semantic interpretation or well-formedness of the entire expression.

(25) a. *hanbāgu* ***chīzu-イン***
= synonymous to (24a)

b. *mābōdōfu* ***raisu-イン***
= synonymous to (24b)

c. *Oishisōna sūpu karī,* ***raisu-イン*** *ga dekiagari!*
= synonymous to (24c)

d. *Gōichi de wa nokorijiru ni* ***raisu-イン*** *de 'ojiya' o tanoshimu sōdesu*
= synonymous to (24d)

[9] http://recipe.sp.findfriends.jp/?pid=recipe_detail&id=11637 (Accessed in January 2017)
[10] https://blogs.yahoo.co.jp/acmasterjp/61319424.html (Accessed in January 2017)
[11] http://blog.livedoor.jp/robinxxx2008/archives/2009-02.html?p=4 (Accessed in January 2017)
[12] http://f31a0418.blog.fc2.com/category1-4.html (Accessed in January 2017)

The expressions in (24a) and (25a) are new versions of the following more established name formed in the strictly right-headed order adopted in (20): [[*chīzu-イン*] *hanbāgu*] 'cheese-stuffed hamburger' = synonymous to (24a) and (25a).

The observation above is significant because, usually, pairs of reversible compounds are not synonymous (Scalise 1992: 179; Namiki 1994: 270–273):

(26) a. sugar maple ≠ maple sugar
b. house dog ≠ dog house
c. piano player ≠ player piano
d. association football ≠ football association

(Namiki 1994: 271)

According to Namiki (1994), the pairs in (26) are not synonymous because both members are right-headed. If so, our synonymous reversible compounds should differ in their head position, with [Noun + イン] being right-headed and [イン + Noun] being left-headed. Since the complement Noun is Ingredient in both types, the former イン and the latter イン share the same selectional property. Based on these considerations, it is safe to conclude that Namiki's イン and the new イン in (24) differ only in the word-order property. The latter is similar to the Japanese *iri* in its selectional property but similar to the English *in* in its word-order property.

Next, let us proceed to a different subtype of the new イン. Compare the expressions in (24) with the following examples:

(27) a. *samurai* ***イン-Atene*** (サムライ・**イン**・アテネ)
samurai in Athens
'samurais in Athens'[13]

b. *Shinsengumifesuta* ***イン-Hino*** (新選組フェスタ**イン**日野)
Shinsengumi festival in Hino (a city in Tokyo)
'Shinsengumi festival in Hino'

c. 精密工学会秋季大会学術講演会 **in** 仙台
Seimitsukōgakkai Shūkitaikai Gakujutsukōenkai ***イン-Sendai***
Precision-engineering-society autumn-meeting lecture in Sendai
'Precision Engineering Society's autumn meeting lecture in Sendai'

((a, b) from Namiki 2005: 17, Footnote 13; glosses and translations ours;
(c) from our personal corpus)

The example in (27c) uses alphabets for イン. In (27a-c), the glosses and translations show that the [イン+ Noun] combination is structurally and semantically similar to an English locative *in*-phrase. The complement Noun is not an Ingredient but a Location. This subtype of the new イン is not a morphological alternant of *iri*. The above expressions

[13] This is the title of a song composed by a Japanese songwriter for Japan's synchronized swim team, played at the Athens Olympics in 2004.

cannot be paraphrased with it: (27a) ≠ *samurai Atene-iri*, (27b) ≠ *Shinsengumifesuta Hino-iri*, (27c) ≠ *Seimitsukōgakkai Shūkitaikai Gakujutsukōenkai Sendai-iri.* Rather, the instances in (27a-c) should be seen as a replication of the preposition *in*, retaining its word-order and selectional properties.

Table 1 summarizes our observations in Section 3:

Table 1: Three subtypes of the copy of *in* in Japanese

	Category of イン	What is borrowed	Example
1 Noun + イン	classifier *iri*	MAT only	(20)
2 イン + Noun	classifier *iri*	MAT & word-order PAT	(24)
3 イン + Noun	Locative preposition	MAT & word-order PAT & selectional PAT	(27)

In Type 1, the preposition is borrowed as a morphological alternant for a pre-existing native classifier. In Type 3, it is borrowed as a preposition, including its left-headed syntax and selectional property (cf. Moravcsik 1978).[14] What substantiates the separation of MAT and PAT as well as different aspects of PAT in grammatical borrowing is Type 2, where the category of イン is a classifier but the word-internal syntax is prepositional.

4. Affix-borrowing in the sense of creation of a new affix: the pronoun *my*

This final section addresses the borrowing of the first person singular possessive pronoun *my*. As far as we know, *my*-borrowing has not been seriously studied in the literature, but it is a fascinating phenomenon that resonates with the inherent ambiguity of the term *affix-borrowing*: a pronoun in the donor language is replicated as a derivational prefix in the recipient language.

4.1 *Syntactic and semantic properties of* mai-X

In contemporary Japanese, the borrowed form *mai*, which is written as マイ, is being increasingly used as a prefix, producing novel expressions not only from foreign loans but also from native and Sino-Japanese bases.

Let us start with established examples, where *mai-* is attached to English loan bases:

(28) a. *mai-kā*
my car
'privately owned car'

b. *mai-hōmu*
my home
'privately owned house'

[14] Moravcsik's (1978: 112) sixth constraint on borrowing says: *A lexical item that is of the "grammatical" type (which type includes at least conjunctions and adpositions) cannot be included in the set of properties borrowed from a language unless the rule that determines its linear order with respect to its head is also so included.*

(Shibatani 1990: 151)

Comparing these with their English counterparts *my car* and *my home*, we easily notice that while *my* refers to the first person, *mai-* does not. For example, *my car* refers to a car owned by the speaker of this expression, but *mai-kā* can refer to a car owned by the addressee, as in (29a), or one owned by a third person, as in (29b):

(29) a. *Anata wa koko ni* ***mai-kā*** *de kimashita ka?*
You TOP here to my car by come.polite.PST Q
'Did you come here in your own car?'

b. *Taro wa koko ni* ***mai-kā*** *de kimashita ka?*
Taro TOP here to my car by come.polite.PST Q
'Did Taro come here in his own car?'

Japanese dictionaries translate *mai-kā* as *jikayō-sha* 'self-use car' and *mai-hōmu* as *jibun no mochi'ie* 'self's private-house' or *jibun no katei* 'self's home', suggesting that *mai-* corresponds not to *watashi no*, the first person singular possessive, but to *jibun no*, the genitive of the reflexive pronoun *jibun* 'self'. In fact, the above English-Japanese difference can be easily explained by thinking that *mai-kā* is close to *jibun no kuruma* 'self's car', for it is well-known that *jibun* is bound by the subject of the sentence (Shibatani 1990: 283; Tsujimura 2014: 255–263; Hasegawa 2015: 151). In (29a), *mai-* refers to the addressee because the subject of the sentence is *anata* 'you'. On the other hand, in (29b), the preceding subject is Taro, so *mai-kā* refers to Taro's car. Compare (29) with (30) and (31), respectively:

(30) a. *Anata wa koko ni* ***jibun no kuruma*** *de kimashita ka?*
You TOP here to self GEN car by come.polite.PST Q
'Did you come here in your own car?'

b. *Taro wa koko ni* ***jibun no kuruma*** *de kimashita ka?*
Taro TOP here to self GEN car by come.polite.PST Q
'Did Taro come here in his own car?'

(31) a. *Anata wa koko ni* ***watashi no kuruma*** *de kimashita ka?*
You TOP here to I GEN car by come.polite.PST Q
'Did you come here in my car?'

b. *Taro wa koko ni* ***watashi no kuruma*** *de kimashita ka?*
Taro TOP here to I GEN car by come.polite.PST Q
'Did Taro come here in my car?'

These sentences show that *mai-X* can be replaced with *jibun no X*, but the replacement with *watashi no X* dramatically changes the interpretation of who owns X.

To confirm the syntactic and semantic parallelism between *mai-X* and *jibun no X*, consider the following sentence:

(32) *Naomi wa Ken ni* ***jibun no heya*** *de sekkyōshita.*

Naomi TOP Ken DAT self GEN room in lecture. PST
'Naomi lectured Ken in her own room.'

In this sentence, *jibun no heya* 'self's room' is preceded by two human-denoting NPs, Naomi (a female subject) and Ken (a male object). However, as the translation indicates, the antecedent is limited to the subject. The above sentence cannot be read in the sense 'Naomi lectured Ken in his own room'. The concept of subject orientation captures the fact that the anaphoric interpretation of *jibun* is oriented towards the subject in this manner. Our point is that the same property can be found in the interpretation of *mai-X*. Witness:

(33) *Naomi wa Ken ni* ***mai-rūmu*** *de sekkyōshita*.
Naomi TOP Ken DAT self room in lecture. PST
'Naomi lectured Ken in her own room.'

This sentence, too, exhibits subject orientation.

Moreover, *mai-X* and *jibun no X* share the possibility of long-distance binding. First, consider the following biclausal sentence in which (32) is embedded:

(34) *Jon wa* [*Naomi ga Ken ni* ***jibun no heya*** *de sekkyōshita*] *to omotta*.
John TOP Naomi NOM Ken DAT self GEN room in lecture. PST COMP think.PST
i. 'John thought that Naomi lectured Ken in her [Naomi's] room.'
ii. 'John thought that Naomi lectured Ken in his [John's] room.'

As indicated in the translations, this sentence is ambiguous. In reading (34i), *jibun no heya* refers to Naomi's room, while in reading (34ii), it refers to John's room. The latter reading is called long-distance binding because the embedded *jibun* is bound by the main-clause subject. In reading (34i), on the other hand, it is bound by the clause-mate subject. Significantly, the same ambiguity is observed when sentence (33) is embedded in the same structure:

(35) *Jon wa* [*Naomi ga Ken ni* ***mai-rūmu*** *de sekkyōshita*] *to omotta.*
John TOP Naomi NOM Ken DAT self room in lecture. PST COMP think.PST
i. 'John thought that Naomi lectured Ken in her [Naomi's] room.'
ii. 'John thought that Naomi lectured Ken in his [John's] room.'

This observation confirms that *mai-X* also allows long-distance binding.

The parallelism between *mai-X* and *jibun-no X* is empirically supported by recent *mai*-coinages. Our *mai-X* data collected from various sources roughly divides into three semantic groups, Group 1 in (36), Group 2 in (37), and Group 3 in (38), with the former two groups (the major ones) corresponding to *jibun no X.* Cross-cutting with the semantic division is the division of base etymology; instances in (a) are based on katakana words (the default choice), while those in (b) are based on hiragana or kanji words. Witness our tentative classification:

(36) Group 1 *mai-X = jibun-yō no X* 'self-use's X'

a. *mai-bōru* 'self ball' *mai-bakku* 'self bag'
mai-botoru 'self bottle' *mai-kappu* 'self cup'

mai-desuku ‘self desk’ *mai-pēji* ‘self page’
mai-shīto ‘self seat’ *mai-songu* ‘self song’

b. *mai-kasa* ‘self umbrella’ *mai-hashi* ‘self chopstick’
mai-isu ‘self chair’ *mai-kaya* ‘self mosquito net’
mai-karuta ‘self karuta’ *mai-kappa/gappa* ‘self raincoat’

(37) Group 2 *mai-X = jibun-ryū no X* ‘self-manner’s X’

a. *mai-wārudo* ‘self world’ *mai-pēsu* ‘self pace’
mai-būmu ‘self boom’ *mai-shīzun* ‘self season’
mai-puran ‘self plan’ *mai-rūru* ‘self rule’
mai-kyanpēn ‘self campaign’ *mai-kyara* ‘self character’

b. *mai-osechi* ‘self osechi (traditional Japanese dish for the New Year)’
mai-ryōri ‘self cooking’ *mai-kenkō* ‘self health’
mai-saiten ‘self grading’ *mai-jōbutsu* ‘self Rest-in-Peace’
mai-sōgi ‘self funeral’ *mai-uchiage* ‘self party’

(38) Group 3 miscellaneous

a. *mai-nanbā* ‘individual number’
mai-kōdo ‘individual code’
mai-saizu ‘individual size’

b. *mai-wari* ‘individual discount’
mai-nabe ‘individual firepot meal’
mai-ongaku ‘individual music’

Both Group 1 and Group 2 are consistent with our analysis because they can be naturally translated as *jibun no X*. Their division arises only at the level of expanded modifiers (see §2) in the sense that the two groups involve different classifiers. In Group 1, *mai-* corresponds to *jibun-**yō** no* ‘of self-use’, while in Group 2, it corresponds to *jibun-**ryū** no* ‘of self-manner’. In contrast, Group 3 accommodates miscellaneous cases where the translation with *jibun-yō no X* or *jibun-ryū no X* is not natural. In this group, *mai-* is closer to *kojin (no)* ‘individual’. For example, (38a) *mai-nanbā* refers to Japanese citizens’ official identification numbers issued by the Japanese Ministry of Internal Affairs and Communications. The ministry website translates *mai-nanbā* as *individual number* in English. Instances in (38b) involve a kind of individual/group opposition, being produced against the common notion of X for/by a larger collective group. For instance, *nabe* ‘firepot meal’ is usually enjoyed by a group of people, but *mai-nabe* refers to a single person enjoying it on his or her own. Group 3 requires a separate treatment.[15]

In sum, this section has shown that *mai* is a combination of English MAT and Japanese PAT (the category of *jibun* ‘self’).

[15] One possibility is comparing *mai-* in Group 3 with the Sino-Japanese bound item *shi* ‘private’, found in such expressions as *shi-hi* ‘private money’, *shi-fuku* ‘private clothes’, *shi-jin* ‘private person’, *shi-yō* ‘private business’, and *shi-seikatsu* ‘private life’.

4.2 *Emergence of a new affix*

There are several questions to be answered on *my*-borrowing. The first one is: Why is *my* mapped to *jibun* 'self' rather than *watashi* 'I' in Japanese? The second one is: is *mai-X* phrasal like *my X*?

In our view, the key to the first question lies in Hirose's (1995, 2000, 2002, 2013, 2014) hypothesis that *jibun* 'self' rather than *watashi* 'I' is the default speaker in Japanese. Hirose divides the concept of speaker into PRIVATE SELF and PUBLIC SELF. The former refers to the speaker as the subject of thinking or consciousness, while the latter refers to the speaker as the subject of communicating. Moreover, Hirose observes that Japanese and English differ in how the two selves are morphological encoded. Witness the following table:

Table 2: Two aspects of the speaker and their morphological encoders

	Private-Self pronouns	Public-Self pronouns
Japanese	***jibun***	*watashi, boku, atashi, watakushi…*
English	*I* (*you, he, she*)	***I***

(Based on Hirose 2013: 9)

Japanese morphologically distinguishes the two aspects of the speaker, using *jibun* 'self' for the private self and the first person pronoun *watashi* (or *boku* or *atashi* or *watakushi*) for the public self. English, on the other hand, does not have a special word for the private self. The pronoun *I* encodes the public self, but it is secondarily used for the private self too.

What is crucial to better understand *my*-borrowing is Hirose's claim that "English is a public-self centered language, whereas Japanese is a private-self centered language" (Hirose 2013: 5). Based on careful and elaborate comparisons of various Japanese and English constructions, including quotation and soliloquy, Hirose shows that the unmarked deictic center is located at the public self in English but at the private self in Japanese. For instance, *jibun* is much more natural than *watashi* as the subject of the following soliloquizing utterance:

(39) ***Jibun*** *wa zettaini tadashi-i.*
Self TOP absolutely right-PRS
'I am absolutely right.'
Lit. 'Self is absolutely right.'

(Hirose 2013: 9 with slight modifications)

Now, let us look at the highlighted cells in Table 2. These cells correspond to the unmarked deictic centers of the two languages. We claim that the MAT of *my* is mapped to the PAT of *jibun* because the copying of information most likely occurs at the unmarked level.[16] Put simply, the combination of MAT and PAT in *my*-borrowing reflects the status of *jibun* as the true counterpart of *I.*

Let us move on to the second question. The copy of *my* differs from its model also in its morphological property. From the viewpoint of lexical integrity (Lieber & Scalise 2007),

[16] This working hypothesis, of course, awaits extensive empirical examination in various cases of grammatical borrowing.

my X can be internally divided by a phrasal modifier or modifiers, as in *my car* > *my very old pink car*, but *mai-X* cannot. Witness:

(40) a. *mai-kā* > **mai pinku no kā*
self car self pink GEN car
'self car' ('self's pink car')

b. *mai-kasa* > **mai furui kasa*
self umbrella self old.PRS umbrella
'self umbrella' ('self's old umbrella')

The results show that *mai-X* cannot be divided by a phrasal modifier. Compare the ungrammatical expression in (40b) with *mai-furugasa* (self old.umbrella) 'self old-umbrella'. The latter expression is acceptable given an appropriate context because 'old' and 'umbrella' are compounded, as indicated by the sequential voicing on the noun (i.e., *kasa* > *gasa*). It is clear that *mai-X* is a morphological combination.

Next, *mai-* always occurs in front of X:

(41) a. **kasa mai*
umbrella self
('self umbrella')
b. **nanbā mai*
number self
('individual number')

This fact shows that *mai-* has a positional restriction imposed on an affix (Scalise 1984: 75). To be specific, *mai-* should be seen as a prefix.

The two tests above show that *mai-* is a derivational prefix (there are no grounds to see it as inflectional). This morphological observation, however, flies in the face of the syntactic-semantic observation in §4.1. As is known as the Anaphoric Island property of lexical integrity, generally, word-internal elements cannot be coreferential with outside elements. For example, we cannot refer to the first element of compounds such as *lion hunter* with *it*. However, *mai-* can be coreferential with the subject of the sentence, as we saw in §4.1. How can we make sense of these contradictory properties? We tentatively suggest that *mai-X* is an instance of Kageyama's (2001, 2009) WORD PLUS (W+) category. Kageyama observes that certain Sino-Japanese prefixes and certain types of compounds are words (X^0) in the sense of morphological integrity — no internal modification and deletion — but phrasal (X') in the sense of syntactic-semantic analyzability, in particular, the possibility of sentence-level anaphora. For instance, Kageyama (2009) notes that Japanese dvandva compounds such as *fūfu* (husband-wife) 'husband and wife' have such properties:

(42) **Fūfu** wa **tagai** o hagemashita.
Husband-wife TOP each other ACC cheer.PST
'The husband and wife cheered each other up.'
(Kageyama 2009: 515; Romanization modified)

The dvandva cannot be morphologically manipulated: for instance, **fufū* (wife-husband), **fū-**ken**-fu* (husband-cum-wife). However, it allows sentence-level anaphora. The mixture of these properties is exactly what we have found for *mai-X*.

To summarize the discussion in this section, *mai-* is replicated as the W+ counterpart of *jibun*. The emergence of this new prefix can be understood as another sign of the primacy of *jibun* over *watashi* in language use by Japanese speakers.[17]

6. Conclusion

This paper has focused on three English grammatical items and examined how each of them is used in contemporary Japanese. As in many other languages, lexical borrowing is much more active than grammatical borrowing in this language, but in the domain of word-formation, incorporation of a new MAT and/or PAT is not impossible. The overall picture is thus consistent with the observation in contact linguistics that derivational affixes are more borrowable than inflectional affixes (Matras 2007: 61–62).

Throughout, we separated MAT and PAT in word-formation. The approach is promising because the process of grammatical borrowing involves an intricate rearrangement of concrete forms and abstract properties from the donor and recipient languages. The principle(s) of rearrangement is/are unknown, but it is reasonable to hypothesize that typological differences between the two languages involved play a pivotal role. In *ic*-borrowing, the PAT of the copy is determined by the nature of the Japanese N-to-A derivation. In *my*-borrowing, the PAT of the copy is determined by the aspect of this language as a private-self centered language. This case is also important in that the term *affix-borrowing* should be used carefully; generally, it means that an affix of the donor language is borrowed, as in the case of *ic*-borrowing, but there are cases where a non-affixal element is borrowed as an affix. Finally, *in*-borrowing is multi-faceted. In Type 1, the MAT of the preposition is combined with the PAT of a Japanese deverbal classifier, whereas in Type 3, both the MAT and PAT of the preposition are replicated. Type 2 is most complicated because its PAT combines the selectional property of the Japanese deverbal classifier and the word-order property of the English preposition.

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[17] One may suggest viewing *mai-* as a morphological alternant for the pre-existing bound form *ji-*. One difficulty with this idea is that unlike *mai-X*, *ji-X* does not always involve a possessor-possessee relationship between *ji* 'self' and X. Additionally, *ji-X* differs from *mai-X* in disallowing the long-distance anaphora such as (34) and (35). See Shimada & Nagano (2011) for details.

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