How Does Structure Affect Surface Rule Application?: Accent and Verbal Morphology in Japanese Deverbal (Noun) Compounds

Yu Tomita
Universität Leipzig, Germany
yt44kiry@studserv.uni-leipzig.de

Abstract

This paper investigates deverbal compounds in Japanese. Previous studies have discussed the classification of deverbal compounds, which can be classified according to their structure. Some former investigations discovered some generalizations on accents, *rendaku*, and direct verbalization. Here I propose a generalization on direct verbalization and deaccentuation, combining two previous generalizations. I also suggest that some deverbal compounds do not have accents due to a functional head, realized as a phonological floating feature on (de)accentuation, by utilizing the Distributed Morphology (DM) framework.

1 Introduction

Here I investigate morphological and phonological aspects of Japanese deverbal (noun) compounds[1]. These deverbal compounds consist of two components: non-head element (**dependent**) and verb-infinitive noun head (**base verb**), where the base verb stands for a vowel-final verb stem or consonant-final verb stem followed by the suffix *-i* (conjugation form)[2]. For example, (1a) and (1c) consist of the dependent and the consonant-final base verb *kir*, whereas (1b) consists of a dependent *azi* and a vowel-final base verb *tuke*.

(1) a. *hará* + *kirí* →
berry cutting
harakirí
'suicide with a sword'

b. *azi* + *tuké* → *ajituke*
taste adding 'seasoning'

c. *ne* + *kirí* → *negiri*
price cutting 'discounting'

d. *usu* + *kirí* →
thin cutting
*usu**g**iri*
'cutting into thin pieces'

e. *kuruma* + *tome* →
car stopping
*kuruma**d**ome*
'roadblock'

As shown in (1c–1e), NV compounds can undergo sequential voicing (***rendaku***). As well

[1]Here, I use the term **deverbal (noun) compounds** as referring to compounds of some word and a deverbal noun, setting aside the similar term **synthetic compounds**, which is generally understood to mean more specific compounds consisting of a noun and a (transitive) verb.

[2]In this paper, I employ the Japanese system of Romanization instead of phonetically rigorous transcription. See Yamaguchi (2014), e.g., for detail.

as other NN compounds, NV compounds generally obey (Motoori-)Lyman's law.

(2) **(Motoori-)Lyman's Law (Lyman 1894):** in a compound noun, if the second constituent contains voiced obstruent, it bleeds *rendaku*.

Semantically, these compounds denote various entities and eventualities. For instance, *harakiri* means an event of committing suicide, whereas *kurumadome* denotes some entity. These compounds behave as N(P)s but partially have verbal properties. Moving on to the verbal properties of deverbal compounds, some of them can be used like a verb with the light verb *suru*, as shown in (3a–3d).

(3) a. *Syogun-wa hara-kiri(-o) sita*
general-TOP berry-cutting(-ACC) did
'A *shogun* committed a suicide.'

b. *Yiding-wa banana-ni azi-tuke(-o) suru*
Y-TOP banana-DAT taste-adding(-ACC) do.PRES
'Yiding flavors banana.'

c. *Elin-wa kagu-o ne-giri(*-o) suru*
E-TOP furniture-ACC price-cutting(-ACC) do.PRES
'Elin haggles furniture.'

d. *Lukas-wa niku-o sen-giri(-ni/*o) suru*
L-TOP meat-ACC thousand-cutting(-DAT/ACC) do.PRES
'Lukas shreds meat.'

e. * *Mary-wa kurumadome(-o) suru*
M-TOP car-stopping(-ACC) do.PRES
Intended: 'Mary parks.'

However, other deverbal compounds which only denote entities or resultant of events (result nominals, Grimshaw 1990) cannot be used like a verb, as shown in (3e). Following Ito & Sugioka (2002), I will focus on deverbal compounds denoting eventualities.

I will analyze these deverbal compounds with Distributed Morphology (DM) framework (Halle & Marantz 1993), focusing on deverbal compounds' phonological and morphological behaviors. For example, some combination of a dependant and a base verb results in two compounds that are phonologically and semantically different. (4) exhibits the different compounds from the same dependent *zin* and base verb *tori* (Tatsumi 2016, 2021).

(4) *zin* + *tori* 'spot + take'
a. *zintóri* 'Tom Tiddler's ground'
b. *zin**d**ori* 'encamping'

It indicates that there is a morphological difference between these compounds.

The rest of the structure in this paper is as follows. First, I review previous work on Japanese deverbal compounds. Especially, I focus on Yamaguchi (2014) and Tatsumi (2016, 2021), which propose useful generalization of deverbal compounds. Then I will propose a generalization of deverbal compounds in accents and direct verbalization. I will integrate their ideas. Finally, I will suggest an analysis of deverbal compounds in the DM framework. Following Volpe (2005), I will classify the structure base verbs into two subcategories. Then I will analyze the deaccented deverbal compounds due to some functional head, which is realized as a phonological floating feature on (de)accentuation, by utilizing the DM framework.

2 Previous studies

The previous investigations on deverbal compounds have mostly focused on NV compounds and their phonological aspects, especially *rendaku* and accentuation. Some earlier papers discovered a phonological and morphological generalization of these compounds.

2.1 Argument and Adjunct Type

Sugioka (2002) and Ito & Sugioka (2002) classify deverbal compounds (containing bimoraic base verbs) into two types. One is called **(Direct) Argument type**, in which the dependent corresponds to the internal argument, as in (5).

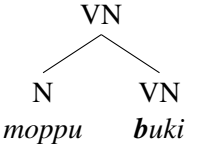
(5) *mádo* + *hukí* → *madóhuki*
window wiping wiping window

The other is called **Adjunct type**, in which the first element does not correspond to the internal argument, as in (6).

(6) *moppu* + *hukí* →
mop wiping
*moppu**b**uki*
wiping with a mop

Adjunct Type

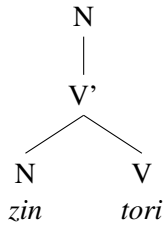
The dependent modifies the base verb as an adjunct in these deverbal compounds. Sugioka (2002) and Ito & Sugioka (2002) argue that this kind of deverbal compound generally undergoes *rendaku* and is deaccented, as shown in (6). They argued that these deverbal compounds contain verbal noun as shown in below.

(7)


→ *moppub**u**ki*

Argument Type

Sugioka (2002) and Ito & Sugioka (2002) argue that this kind of deverbal compound tends to undergo *rendaku* but have an accent, as shown in (5). They analyzed these deverbal compounds as the nominalized V' rather than compounds of dependents and nominalized base verbs.

(8)


→ *zintóri*

[3]

2.2 Corpus Studies

The analysis in Ito & Sugioka (2002) and Sugioka (2002) is supported by subsequent corpus studies, but they also obtained some results not contained in previous work.[4].

Complementary Distribution between Accents and *Rendaku*

Yamaguchi (2014) surveyed some corpora and found a complementary distribution be-

[3]However, as (1c) illustrates, there are Argument type deverbal compounds that undergo *rendaku*, as shown in (i).

(i) Argument type deverbal compounds which undergo *rendaku* (Tagawa 2010)
   a. *misé* + *simai* → *misezímai* 'store + put away' → 'closing a store'
   b. *úmi* + *hirakí* → *umibíraki* 'sea + open' → 'the beginning of a sea-bathing season'
   c. *tikará* + *soe* → *tikarazoe* 'power + attach' → 'helping'
   d. *kuti* + *tuké* → *kutizuke* 'mouth + put' → 'kissing'
   e. *toogé* + *koe* → *toogegoe* 'peak + go over' → 'crossing over a peak'
   f. *sina* + *kiré* → *sinagire* 'goods + go over' → 'being out of stock"

[4]Note that corpora used in these studies contain deverbal VV compounds, in which the dependent is also a deverbal noun. This may affect the tendency of *rendaku*, but it has something little in common with this paper.

tween *rendaku* and accentuation in deverbal compounds containing the bi-moraic base verb.

(9) **Yamaguchi's complementary distribution**
If a base verb in a deverbal compound is bi-moraic, then *rendaku* and accentuation exhibit complementary distribution.

This generalization states that Japanese deverbal compounds always carry an accent or undergo *rendaku* but not both.

Also, Yamaguchi (2014) discovered that some deverbal compounds with tri-moraic base verbs do not obey this distribution. That is, deverbal compounds with trimoraic base verbs strongly tend to have accents.

Tendency of *Rendaku*

Fukasawa (2020) carried out a corpus study and found the base verbs with particular tendencies to undergo *rendaku* in (external- and internal-) argument type environment, which is summarized in (10).

(10) a. −R verbs (tend to avoid *rendaku*):
kiri 'cutting', *tuki* 'attaching', *kakusi* 'hiding', *tataki* 'hitting', ...

b. +R verbs (tend to undergo *rendaku*):
tome 'stopping', *kaesi* 'returning, *kaki* 'writing', *kosi* 'passing', ...

According to her statistical result, VV compounds also tend to avoid *rendaku*. However, the avoidance of tendency in these compounds is weaker than in Argument type compounds.

2.3 DM Approaches

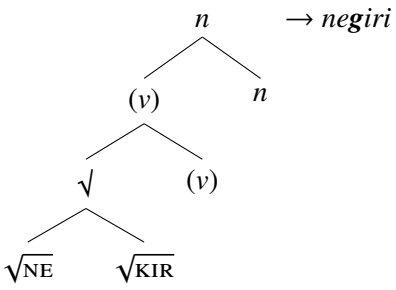
Moreover, some deverbal compounds can be used as a verb without the light verb *suru*. Instead, they can be directly verbalized in the sentence.

(11) a. *Hanako-wa syoohin-o*
H-TOP grocery-ACC
negiru
bargain.PRES
'Hanako beats down the price of groceries.'

b. *Taro-wa sakura-no sita-o*
T-TOP sakura-GEN bottom-ACC
zindoru
encamp.PRES
'Taro stakes out a spot under a cherry blossom.'

Unlike the examples in (3), in each sentence of (11) deverbal compounds are used as a verb directly. I will call these verbal use **verbal derivative**, to distinguish it with light verb construction. Tatsumi (2016, 2021) analyzed these deverbal compounds within phase-based Distributed Morphology (Arad 2003). In his analysis, all Adjunct type deverbal compounds and some Argument type deverbal compounds with *rendaku* contain a constituent that consists of at least two Roots without any intervening phase head, shown in (12).

(12)



Then he proposed a generalization on the verbal use of NV compounds.

(13) Tatsumi's (2016) Observation
If a noun-verb deverbal compound is used as a verb, it shows sequential voicing unless it violates Motoori-Lyman's Law[5].

[5]Tatsumi (2016, 2021) pointed out that there are some

This means that if a direct argument type compound can be verbalized without a verbalizer *suru*'do', it undergoes *rendaku*.

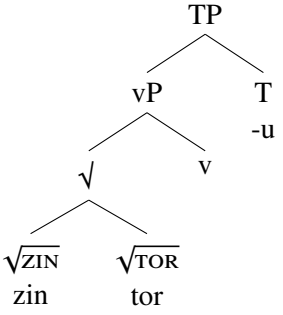
(14) a. *ne* + *kirí|kíru* →
price cutting|cut.PRES
*neg**i**ri|neg**í**ru*
'bargaining'|'bargain'

b. *ziń* + *torí|tóru* →
spot taking|take.PRES
*zin**d**ori|zin**d**óru*
'encamping'|'encamp'

c. *awá* + *tatí|tátu* →
bubble standing|stand.PRES
*awa**d**ati|awa**d**átu*
'lathering'|'bubble'

This structure allows direct verbalization.

(15) → *zindóru*

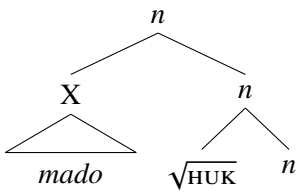


If a noun-verb deverbal compond does not undergo *rendaku*, then the deverbal compound cannot be used as a verb without *suru*.

(16) a. * *harakiru* (cf. *harakirí(-o)-suru*)
b. * *zintoru* (cf. *zintóri(-o)-suru*)

He also suggests that other Argument type compounds without *rendaku* can have a different structure, as shown in (17). This compound does not undergo *rendaku* since a projection of the phase head *n* intervenes between the dependent and the base verb.

(17) → *madófuki*



He argues that this structure allows compounds neither to undergo *rendaku* nor to have verbal use. Hasegawa & Oseki (2020) also proposed a very similar analysis, arguing that a two-Root constituent does not bare an accent[6].

2.4 Interim summary

There are two findings on deverbal compounds.

(9) **Yamaguchi's complementary distribution**
If a base verb in a deverbal compound is bi-moraic, then *rendaku* and accentuation exhibit complementary distribution.

(but few) exceptions for this observation.

a. *kosi* + *kake* → *kosikáke*
hip hanging 'stepping stone'

For instance, the above example does not undergo *rendaku* but allows direct verbalization *kosikakéru*. In this paper, however, it is out of focus.

[6]These analyses seem to assume the intuition that closely connected constituents feed (sequential) voicing. This implies that if the two Roots are sisters, then the second one undergoes (sequential) voicing if morphophonological restrictions such as Motoori-Lyman's law are respected. Crucially, there are counterexamples against this conclusion, where only a two-Roots constituent undergoes *rendaku*. They evidently contain a non-Root dependent.

(i) *mi-kake* + *taosi*→ *mikake**d**aosi* 'appearance + bringing down; not as good as it looks'

(ii) *kaw-ar-i* + *hae*→ *kawari**b**ae* 'replacement + good looking; improvement'

As for (i), *mikake* consists of at least two stems; *mi* and *kake*. If we assume Tatsumi's hypothesis and analyze *mikake* as a single Root, then each *mi* and *kake* must be a Root, and compounds of them should undergo *rendaku*. If *mikake* is not a single Root, then it might be predicted that *taosu* does not undergo *rendaku*. However, both possible analyses fail to predict the form *mikakedaosi*. Similarly, since *kaw-ar-i* contains an intransitive marker *-ar*, the dependent in (ii) is not a Root.

(13) **Tatsumi's observation**
If a noun-verb compound allows direct verbalization and its base verb is *rendaku*-capable, the compound undergoes *rendaku*.

These generalizations seem to complement each other, but you can find several exceptions against both of them: deverbal compounds shown in (18). They do not undergo *rendaku* or have an accent but allow direct verbalization.

(18) NV compounds allowing direct verbalization

a. *azi* + *tuké|tukéru* →
taste attaching|attach.PRES
azituke|azitukéru
'seasoning'|'flavor'

b. *maru* + *tuké|tukéru* →
circle attaching|attach.PRES
marutuke|marutukéru
'grading'|'mark as correct'

c. *húu* + *kirí|kíru* →
seal cutting|cut.PRES
huukiri|huukíru
'{releasing|release} (a film)'

d. *áku* + *taré|taréru* →
evil dropping|drop.PRES
akutare|akutaréru
'verbal abuse'|'behave badly'

e. *kotó* + *kaki|káku* →
thing lacking|lack.PRES
kotokaki|kotokáku
'shortage'|'lack'

In the next section, I will propose an integrated generalization which can cover these examples.

3 Integrated generalization

I do not offer any new observations or analyses of *rendaku* but discuss a relationship between direct verbalization and accents. Yamaguchi's complementary distribution entails that if a deverbal compound undergoes *rendaku*, it also undergoes deaccentuation. Then I propose an integrated generalization of the statements from Yamaguchi's distribution and Tatsumi's observation.

(19) **Yamaguchi-Tatsumi's generalization (to be revised)**
If a noun-verb compound allows direct verbalization and its base verb is *rendaku*-capable and bimoraic, then the compound (denoting eventualities) has no accent.

The examples in (14), which obey Tatsumi's original observation, also follow the proposed generalization. Besides, some of the counterexamples against Tatsumi's observation are subject to this generalization. The examples in (18) contain *rendaku*-capable base verbs, and NV compounds in (18) allow direct verbalization.Tatsumi's observation does not predict (18) since they do not undergo *rendaku*. However, (18) obey the generalization (19) since they are deaccented.

The generalization is also applicable to many compounds consisting of nominal dependents and *rendaku*-incapable base verbs, which allow direct verbalization.

(20) X = N cases

a. *na* + *nori|noru* →
name riding/ride.PRES
nanori|nanóru
'{giving|give} one's name'

b. *katá(ho)* + *yori|yoru*
one side approaching/approach
→ *katayori|katayóru*
'deviation'|'lean over'

Moreover, the proposed generalization covers a lot of XV compounds (X = V, Adj), which allow direct verbalization. Especially, according to Fukasawa (2020), VV compounds tend to

avoid *rendaku*, although their behavior is similar to adjunct type deverbal compounds. This tendency is weaker than Argument type VCs but not covered by Tatsumi's original observation. It is, however, compatible with my proposal: Yamaguchi-Tatsumi's generalization.

(21) X = V cases

a. *kiki* + *torí|tóru* →
listening taking|take.PRES
kikitori|kikitóru
'{hearing|hear} what others say'

b. *uti* + *kirí|kíru* →
hitting cutting|cut
utikiri|utikíru
'finish'

c. *mi* + *hari|haru* →
seeing spreading|spread.PRES
mihari|miharu
'watch'

(22) X = Adj cases

a. *chiká(-i)* +
near
yori|yoru →
approaching|approach.PRES
chikayori|chikayóru
'getting closer'|'go closer'

b. *taká(-i)* + *nari|náru* →
high ringing|ring.PRES
takanari|takanáru
'fast beating'|'beat loudly'

Therefore, (19) will be revised in the following way.

(23) **Yamaguchi-Tatsumi's generalization (final)** If an XV compound allows direct verbalization and its base verb is bimoraic, then the compound (denoting eventualities) has no accent.

Note that deverbal compounds which do not undergo *rendaku* or have accents, shown in (24), do not obey Yamaguchi's (2014) complementary distribution. However, they are no longer counterexamples against the proposed generalization (23).

(24) Deaccented deverbal compounds without *rendaku*

a. *ika* + *turi*→ *ikaturi* 'squid + fishing; fishing squids'

b. *kuti* + *kirí*→ *kutikiri* 'mouth + cutting; opening'

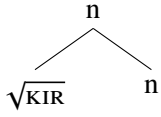
In summary, the lastly proposed generalization covers these XV compounds regardless *rendaku*-capability:

- Argument type NV (tend to avoid *rendaku*)
- Adjunct type NV (tend to undergo *rendaku*)
- VV (tend to avoid *rendaku*)
- AdjV

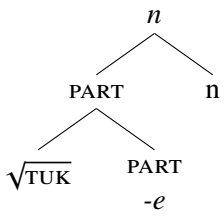
4 Towards a DM analysis

Following Volpe's (2005) analysis of Japanese verbs, I assume that a base verb consists of several segments, including Roots, categorizer heads such as *n* and *v* and Affixal Particle head PART (den Dikken 1995), introducing Root-derived and verb-derived distinction. All morphological segments of each base verb shown in (1a) and (1b) are in (25a) and (25b), respectively. In (25b), *-e* is a transitive marker, while the suffix *-i* in (25a) is analyzed as phonological epenthesis with consonant-final Roots (Poser 1984).

(25) a. Root-derived: *kir*√*-i*(-øv)-øn

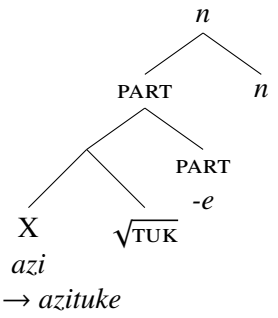


b. Verb-derived: *tuk*√-*e*v-øn



Then, the example (1b) *azituke* 'seasoning' can be analyzed as shown in (26).

(26)



Going back to (10), Fukasawa's findings on the tendency of *rendaku* in base verbs, −Rendaku verbs such as *kiri*, *tuki*, and *tataki* are possibly Root-derived since they do not have any overt transitivity morphology (*kiri* and *tataki* cannot alter intransitive forms; *tuki* has a transitive alternation *tuke* and *tukasi*), while most +Rendaku verbs such as *tome* and *kaesi* overtly contain transitive markers, indicating that they are verb-derived[7].

[7]Note that though *kakusi* also contains a transitive marker, it exceptionally avoids *rendaku* in modern Japanese even if it appears in Adjunct type environment, as shown in (i).

(i) *hita(sura)* + *kakusí* →
solely hiding
hitakakusi
'hiding (a secret) at all costs'

In old Japanese, however, *kakusi* was allowed to undergo *rendaku*.

(ii) *omo* + *kakusi*|*kakusu* →
face hiding|hide
*omo**g**akusi*|*omo**g**akusu*
'{hiding|hide} one's face'

Tatsumi's (2016) observation correctly predicts the *rendaku* in (ii) since it allowed direct verbalization.

Following Trommer (2019), I will argue that some floating feature H subtracts an accent in deverbal compounds. I assume that H is an exponent of some functional category. Based on the findings in Yamaguchi (2014), it seems straightforward to think that *rendaku* and deaccentuation have equivalent initial status, and that PART can be realized as such an exponent involving lexical insertion of some (overt) transitivity morpheme.

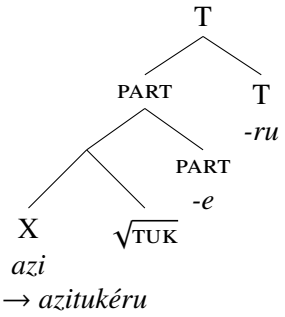
(27) Possible analysis (to be revoked):
PART ↔ H + /-*e*/

However, the verbal derivatives shown in all previous examples except (21c) have accents, even though deverbal compounds are deaccented. Therefore, the above approach does not work. Instead, I propose that the *n* is realized as a floating featural element H that eliminates accents in a certain environment.

(28) Proposal: contextual allomorphy
a. H ↔ *n* / PART
b. ø ↔ *n* / elsewhere

This context-sensitive exponent in (28) allows deverbal compounds to keep their original accents after direct verbalization since verbal derivatives do not contain *n*[8].

(29)



[8]Oseki (2017) provides a more sophisticated analysis of Japanese verbal morphology in the DM framework. I leave the development of the proposed research incorporating his idea as future work.

Note that as mentioned in Volpe (2005), bi-moraic verbs are hard to use solely as a nominal with verb-related meaning. Even though they are used in conjugation form and they still have an accent, deverbal compounds are different from them.

5 Limitations

Although the coverage of Yamaguchi-Tatsumi's generalization is restricted to deverbal compounds with bi-moraic base verbs, some exceptions do not obey the proposed generalization.

(30) Exceptional accented deverbal compounds allowing direct verbalization:

a. *yokú* + *hari|haru* →
greed spreading|spread.PRES
yokubári/yokubáru
'grasping'|'be greedy'

b. *kosi* + *aké|akéru* →
hip hanging|hang.PRES
kosikáke|kosikakéru
'seating'|'take (chair)'

However, one of the two previous generalizations still predicts them. Tatsumi's observation correctly predicts (30a), and (30b) obeys Yamaguchi's distribution. Logically speaking, you cannot find a counterexample that violates all generalizations since when an accented deverbal compound undergoes *rendaku*, it cannot be a counterexample of Tatsumi's observation.

6 Conclusion

In this paper, I investigated Japanese deverbal compounds and proposed Yamaguchi-Tatsumi's generalization, arguing that deverbal compounds which allow direct verbalization does not have any accent. This property can be explained in the DM framework by utilizing contextual allomorphy.

The important problem is that most Japanese deverbal compounds do not allow direct verbalization, unlike English synthetic compounds. Tatsumi (2016, 2021) argued that most of the argument type deverbal compounds contain *n* as a unique functional head, indicating that it is only used as a noun. However, many other compounds which undergo *rendaku* and are deaccented do not allow direct verbalization.

This paper and previous articles cited in this paper mainly focused on NV compounds. As you have seen, however, the proposed generalization (23) is applicable to lots of deverbal XV compounds. Further investigation should be carried out on (de)accentuation in deverbal noun compounds, including VV and AdjV compounds. Especially, VV compounds have been widely investigated, but there is little connection between research on NV compounds and VV compounds.

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References

Arad, Maya. 2003. Locality Constraints on the Interpretation of Roots: The Case of Hebrew Denominal VERBS. *Natural Language & Linguistic Theory* 21(4). 737–778. https://doi.org/10.1023/A:1025533719905.

den Dikken, Marcel. 1995. *Particles: On the Syntax of Verb-Particle, Triadic, and Causative Constructions*. Oxford University Press.

Fukasawa, Michiko. 2020. Rendaku in the Syntax-Phonology Interface: A Corpus-Study on Deverbal Noun Compounds. In Michael Barrie (ed.), *Japanese/Korean Linguistics*, vol. 27. CSLI Publications.

Grimshaw, Jane. 1990. *Argument structure* (Linguistic Inquiry Monographs 18). Cambridge, Mass: MIT Press.

Halle, Moris & Alec Marantz. 1993. Distributed Morphology and the Pieces of Inflection. In *The view from Building 20: Essays in Linguistics in Honor of Sylvian Bromberger*, 111–176. Cambridge, Massachusetts: MIT Press.

Hasegawa, Takuya & Yohei Oseki. 2020. Bunsanketairon to Nihongo no Doshi Yurai Fukugo Go [in Japanese]. In *Handbook of the 161th meeting of the Linguistics Society of Japan*, 299–305.

Ito, Takane & Yoko Sugioka. 2002. *Structure of words and word formation [in Japanese]*. Kenkyusha.

Lyman, Benjamin Smith. 1894. Change from surd to sonant in Japanese compounds. *Oriental Studies*. Oriental Club of Philadelphia. 160–176.

Oseki, Yohei. 2017. *Voice morphology in Japanese argument structures*. New York University Qualifying Paper.

Poser, William John. 1984. *The phonetics and phonology of tone and intonation in Japanese*. Massachusetts Institute of Technology dissertation.

Sugioka, Yoko. 2002. Incorporation vs. modification in deverbal compounds. In *Japanese/Korean Linguistics*, vol. 10, 495–508. CSLI Publications.

Tagawa, Takumi. 2010. A descriptive note on deverbal compounds in Japanese: with emphasis on their phonological behavior [in Japanese]. *Bulletin of Tsukuba Gakuin University* 5. 157–163.

Tatsumi, Yuta. 2016. Deverbal Compounds in Japanese: A Distributed Morphology Approach. In *Proceedings of Formal Approaches to Japanese Linguistics*, vol. 8, 177–187. Mie.

Tatsumi, Yuta. 2021. Structural restrictions on sequential voicing in Japanese N-V compounds. The 29th Japanese/Korean Linguistics Conference, Nagoya, Japan.

Trommer, Jochen. 2019. A Concatenative Account of Japanese Subtractive Accent. Universität Leipzig.

Volpe, Mark Joseph. 2005. *Japanese Morphology and its theoretical consequences: Derivational morphology in Distributed Morphology*. Stony Brook University dissertation.

Yamaguchi, Kyoko. 2014. *Accentuation and Rendaku in Japanese Deverbal Compounds: A Comparison with Noun Compounds*. University of Tokyo dissertation.