

A DIACHRONIC ANALYSIS OF COMPOUND TRUNCATION IN JAPANESE FASHION MAGAZINES

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ABSTRACT

The aim of this study is to analyze Japanese truncation formation from a phonological viewpoint. A full year's data at an interval of 10 years were collected from fashion magazines aimed for the younger generation. A detailed analysis has indicated that although the unmarked four-morae output is still dominant throughout, a subtle diachronic change can be observed during the 20 years, especially if we focus on the behavior of three-morae outputs. We attempt to account for this change within the framework of Optimality theory.

Keywords: compound truncation, diachronic change, Optimality theory

1. INTRODUCTION

The topic of this paper is compound truncation from a phonological viewpoint. Previous studies (e.g. [1, 2, 3, 4]) have stated that phonological units such as the mora or the syllable play an important role in this truncation process. The two main objectives in this paper are: 1) to reconsider the influence of the mora or the syllable in the process of compound truncation, with emphasis on the way morae/ syllables are combined and 2) to analyze compound truncation from a diachronic perspective.

The paper is structured as follows: in section 2, we will review some of the major studies in the literature. In section 3, we report on the data that will be employed in the study. This is followed by the result and discussion in section 4. The final section concludes the study.

Let us now turn our attention to the studies that have been presented in the literature.

2. REVIEW OF PREVIOUS STUDIES

In the Japanese language, there are two types of compounding, the “free compounds” and the “bound compounds” [1]. In the former, the compounds are made up of word combinations,

and in the latter, they are made up of stem combinations.

The phenomenon of compound truncation is defined as a clipping process where a change from a “word-word compound” into a “stem-stem compound” takes place [1]. The unmarked type of compound truncation combines the first two morae of each constituent, resulting in a four-morae output, as indicated below in (1):

- (1) e.n.ji.n + su.to.p.pu > e.n.su.to ‘engine stall’
 ro.bo.t.to + ko.n.te.su.to > ro.bo.ko.n ‘robot contest’
 (the [.] indicates mora boundaries)

Generally, phonological processes must adhere to the Minimal Word Constraint, which imposes a minimal length requirement on words. This constraint comes as a matter of course if we consider the nature of the prosodic hierarchy. Each prosodic unit within the hierarchy must be defined by at least one instance of the unit below it. Since the unmarked prosodic word must contain at least one foot, and since the foot has to be either disyllabic or bimoraic, the prosodic word must contain at least two morae. This constraint accounts for why clipping in both English and Japanese results in a bimoraic foot structure as shown in (2):

- (2) a. English clipping
 laboratory > lab (*la)
 professional [prəfeʃənl] > pro [prou] (*[prə])
 b. Japanese clipping
 sutoraiki ‘strike’ > su.to (*su)
 amachua ‘amateur’ > a.ma (*a)

Since compound truncation is processed by combining “stems” rather than “words”, the length of each constituent does not necessarily have to conform to the Minimal Word Constraint. In other words, clipping may take place after the initial mora, thus resulting in a bimoraic output form (e.g. mo.gi + shi.ke.n > mo.shi ‘trial exam’, be.e.su + a.Q.pu > be.a ‘pay raise’).

3. THE DATA

3.1. Pilot study

Before actually starting to collect the compound truncation data, we first conducted a pilot study in order to determine the magazine to be used in this study. The following magazines were selected: *Junon*, *Nonno*, and *Seventeen*. These three magazines were chosen because they satisfied the following three criteria: 1) in order to conduct a diachronic study, the magazine had to be in publication for at least 20 years; 2) in order to collect ample truncation data, the magazine should be aimed for the younger generation, since truncation is said to be a characteristic of the speech of the younger generation; 3) in order to facilitate the data collecting process, the magazine should be easily accessible.

We randomly chose one issue from each magazine and counted the number of truncated words that appear in the text. The results are summarized below in Table 1 :

Table 1: Summary of pilot study.

Magazine title	Issue (yr/ mth)	Truncated forms
<i>Junon</i>	1982/ 2	40
<i>Nonno</i>	1980/ 5	20
<i>Seventeen</i>	1972/ 5	25

Based on the result obtained in our pilot study, we decided to employ *Junon* for data collecting because the number of truncation words outnumbered the other two magazines.

3.2. Data collecting

The data for this study were collected by the first author using the pen-and-paper method, i.e., the compound truncation forms that appeared in the text were recorded on cards together with their original full form. The data thus collected were then saved in digital form using Microsoft Excel 2007.

In addition to analyzing the patterning of the truncated forms *per se*, we also wanted to see whether any changes in the truncated forms could be attested from a diachronic perspective. In order to do this, we decided to collect a full years' worth of data at an interval of 10 years. The following issues of the magazine from years 1988, 1998, 2008 were collected respectively. The result is indicated in Table 2:

Table 2: Summary of data collection.

Magazine (Issue/ Year)	Number of truncated compounds
<i>Junon</i> (Jan.~Dec./ 1988)	105
<i>Junon</i> (Jan.~Dec./ 1998)	227
<i>Junon</i> (Jan.~Dec./ 2008)	324
Total	656

4. RESULT AND DISCUSSION

In order to determine the structural make-up of the truncated compounds, we first analyzed the syllable structure of each output. The result for the 105 truncated compounds for 1988 is summarized below in Table 3:

Table 3: Syllable structure for truncated compounds (1988).

Syllable structure	Number of truncated compounds	Percentage
LLLL	14	13.3%
LLH	30	28.6%
HLL	18	17.1%
HH	32	30.5%
LLL	3	2.9%
HL	3	2.9%
LL	3	2.9%
HHL	1	0.9%
LH	1	0.9%
	105	100.0%

The L in Table 3 stands for a light syllable, that is, a monomoraic syllable that ends in a short vowel (CV), and the H stands for a heavy syllable, i.e., a bimoraic syllable consisting of either a diphthong/ long vowel (CVV), or a short vowel followed by a coda consonant (CVC). Among the 105 truncated forms, 94 (89.5%) were derived by combining the first two morae of each constituent, resulting in a four-morae output (LLLL, LLH, HLL, HH). This indicates that nearly 90% of the truncated forms have the unmarked structure mentioned above in section 2. This preference for the unmarked four-morae output clearly indicates that although the stems that constitute the compounds do not necessarily have to obey the requirement for minimal word length, there is still a strong tendency for the output forms to require two morae from each constituent to be left intact, thus adhering to the Minimal Word Constraint after all.

We now turn to the data for the years 1998 and 2008. The results are summarized below in Tables 4 and 5, respectively:

Table 4: Syllable structure for truncated compounds (1998).

Syllable structure	Number of truncated compounds	Percentage
LLH	71	31.2%
LLLL	62	27.3%
HH	34	15.0%
HLL	31	13.7%
LLL	14	6.2%
HL	9	4.0%
LH	4	1.8%
LL	1	0.4%
HLH	1	0.4%
	227	100.0%

Table 5: Syllable structure for truncated compounds (2008).

Syllable structure	Number of truncated compounds	Percentage
LLLL	111	34.3%
LLH	83	25.6%
HLL	47	14.5%
HH	35	10.8%
LLL	32	9.9%
HL	10	3.1%
LH	5	1.5%
LL	1	0.3%
	324	100.0%

If we compare these results with Table 3, we find that there are some similarities. As for the year 1988, here again, there is a strong tendency to prefer the unmarked four-morae output: for the year 1998, 198 out of the 227 truncated forms conformed to the unmarked structure (87.3%), whereas for the year 2008, 276 out of 324 were unmarked (85.2%), revealing the yet strong dominance of the bimoraic stem in processing truncated compounds.

One of the striking characteristics that differentiate the collection of data for 1988 with the other two data collections is in the total number of truncated forms observed. In 1988, the number observed was significantly lower than the other two years with only 105 in total, but in 1998, it increased to 227, and in 2008, it further increased to 324. This implies that from the 1990's and onwards, compound truncation may have become fairly productive and general as a word formation process.

At this point of discussion, we would like to focus on the three-morae outputs, namely the LLL, HL and LH forms. Although the total number of three-morae compound truncations does not amount to much (they constitute only 6.7% of the data in 1988, 12% for 1998, and 14.5% for 2008),

a close observation of this output type reveals some interesting aspects of the prosodic structure of Japanese.

Theoretically, the three morae items can take the form of the following syllable type combinations: 1) light+light+light (LLL, i.e. $\sigma_\mu\sigma_\mu\sigma_\mu$), e.g. *te.re.ho.n* + *ka.a.do* > *te.re.ka* 'telephone card'; 2) heavy + light (HL, i.e. $\sigma_{\mu\mu}\sigma_\mu$), e.g. *bo.i.su* + *pa.a.ka.Q.shon* > *bo.i.pa* 'voice percussion'; 3) light + heavy (LH, i.e. $\sigma_\mu\sigma_{\mu\mu}$), *bi.zu.tsu* + *da.i.ga.ku* > *bi.da.i* 'art college'. All three patterns are observed in our data; however, there is an asymmetric relationship among the three patterns. Whereas the first two patterns (LLL, HL) are fairly general, the third pattern, LH, with the combination of light + heavy syllables is not commonly observed. A detailed summary is given below in Table 6:

Table 6: Comparison of the three-morae outputs

Syllable structure	1988	1998	2008
a. LLL	2	14	32
b. HL	3	9	10
c. LH	1	4	5
Total	6	27	47

The tendency to prefer HL over LH has been extensively claimed in the literature ([1, 3, 5]). This dominance of HL over LH has been observed in diverse phenomena of Japanese including loanword truncation, *Zu-zya-go* formation, emphatic mimetics and child speech errors. These phenomena are all independent of one another, yet, they all exhibit the strong tendency to avoid the LH form in favor of the HL.

Kubozono [3] gives an explanation for this preference for the HL form in various phenomena given above based on Optimality Theory (OT). The preference can be accounted for by resorting to the following constraints in (3):

- (3) NONFINALITY (σ' , FT'): No head syllable/foot is final in PrWd
 ALIGN-L (FT, PrWd): The left edge of every foot is aligned with the left edge of the PrWd
 PARSE- σ : Every syllable is parsed into feet
 MAX-SEG: Every segment in the input has a correspondent in the output

The constraints given in (3) can successfully yield HL outputs if they are ranked as follows: NONFINALITY (σ' , FT') >> ALIGN-L >> PARSE- σ >> MAX-SEGMENT. This is illustrated in the tableau given below in (4):

(4)

bo.i.su+ pa.a.ka.s.so.n	NON-FIN	ALIGN-L	PARSE- σ	MAX-SEG
a. (bo.pa)	*!			isu,akasson
b. (bo.i)pa			*	su,akasson
c. bo(pa.a)	*!	*	*	isu, kasson
d.(bo.i)(pa.a)		*!		u, kasson

The candidate in (4a) has the LL bimoraic form and (4c) has the LH form. Both are excluded by the violation of the highest constraint NONFINALITY. In addition, candidate (4b) violates PARSE- σ , and (4d) violates ALIGN-L. Although both candidates violate one constraint only, ALIGN-L outranks PARSE- σ . As a result, (4b) is considered to be optimal.

At this point, let us shift our attention to the LLL forms. There are basically two ways of achieving this output form. First, the two morae from the first element of the compound can be combined with the single mora from the second element (e.g. su.no.o + bo.o.do > su.no.bo 'snow board'). Alternatively, a single mora from the first element can be combined with the two morae from the second (e.g. me.e.ru + a.do.re.su > me.a.do 'mail address'). The former can be depicted as (LL)L, the latter as L(LL). In 1988, there was a fairly symmetric relationship between these two forms since there were two examples of the former and one example for the latter. However, this symmetry changes drastically from 1998. This is summarized below in Table 7:

Table 7: 2morae + 1 mora vs 1 mora + 2 morae compounds.

Syllable structure	1988	1998	2008
a. (LL)L	2	12	23
b. L(LL)	1	2	9

Except for the phonological level to which the faithfulness constraint MAX is applied, the same constraints and ranking employed in (4) account for why (LL)L is preferred over L(LL) as illustrated below in (5):

(5)

de.ko.re.e.sho.n +me.e.ru	NON-FIN	ALIGN-L	PARSE- σ	MAX- μ
a.(de.me)	*!			*****
b.(de.ko)me			*	*****
c.de. (me.e)	*!	*	*	*****
d.(de.ko) (me.e)	*!	*		*****

Furthermore, this analysis can also explain the diachronic change that has been observed in the HL and (LL)L pattern between 1988 to 2008. In 1988, only 5% of the data were either HL or (LL)L,

but the number increased to 17% by the year 2008. This diachronic change can be accounted for by the reranking of the constraints ALIGN-L and PARSE- σ , as summarized below in (6):

(6)

1988 NON-FIN >> PARSE- σ >> ALIGN-L >> MAX
 1998 NON-FIN >> PARSE- σ , ALIGN-L >> MAX
 2008 NON-FIN >> ALIGN-L >> PARSE- σ >> MAX

5. CONCLUDING REMARKS

In this paper, we have presented a diachronic analysis of truncated compounds in Japanese. The majority of the data conformed to the unmarked four-morae pattern. In the case of the three-morae outputs, some interesting asymmetries were observed, and we discussed how these asymmetries can be accounted for within the OT framework.

The output forms of compound truncation in Japanese are influenced by morphological make-up and the so-called moraic phonemes. These two aspects must be pursued in detail in order to get a better understanding of the process of compound truncation as a whole. This we leave for future research.

6. REFERENCES

- [1] Ito, J. 1990. Prosodic minimality in Japanese. *CLS 26-II: Papers from the Parasession on the Syllable in Phonetics and Phonology*. Chicago: Chicago Linguistic Society, 213-239.
- [2] Kubozono, H. 2002. *Shingo wa Koushite Tsukurareru* (This is how new words are created). Iwanami-shoten, Tokyo.
- [3] Kubozono, H. 2003. The syllable as a unit of prosodic organization in Japanese. In Féry, D., van de Vijver, R. (eds.), *The Syllable in Optimality Theory*. Cambridge: Cambridge University Press, 99-122.
- [4] Labrone, L. 2002. The prosodic structure of simple abbreviated loanwords in Japanese: A constraint-based account. *Phonological Studies* 6(1), 98-120.
- [5] Poser, W.J. 1990. Evidence for foot structure in Japanese. *Language* 66, 78-105.