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Phonological and Familiarity Effects on Adjective Truncation in Japanese*

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1 Introduction

This paper investigates Japanese adjective truncation and its constraints. Japanese adjectives fall into two morphologically distinct classes—canonical and nominal—as shown in (1).

- | | | | | | |
|-----|--------------------|---------------|----------------|-----------------|-----------------------------|
| (1) | a. <i>asai</i> , | <i>osoi</i> , | <i>samui</i> , | <i>utokusii</i> | Canonical adjectives |
| | ‘shallow’ | ‘slow’ | ‘cold’ | ‘beautiful’ | |
| | b. <i>sizuka</i> , | <i>kirei</i> | | | Nominal adjectives |
| | ‘quiet’ | ‘beautiful’ | | | |

The two adjective types differ primarily in morphosyntactic properties rather than semantic content, as illustrated by near-synonymous pairs such as *utokusii* and *kirei* ‘beautiful’. Crucially, the neutral (non-past) form of canonical adjectives always ends in /i/, commonly analyzed as a non-past suffix following an adjective root such as *asa-* (e.g. Urushibara 1993; Nishiyama 1999).

This paper focuses on the truncation of canonical adjectives (hereafter, adjectives). The examples in (2) show truncated counterparts of the adjectives in (1a).

* I thank Jie Zhang and Heather Goad for insightful comments, as well as the participants in the acceptability judgment tasks. I am also grateful to the audience members and reviewers at JK 32 for their helpful comments and suggestions.

- (2) *asa* *oso* *samu* *??utukusi*
 'so shallow' 'so slow' 'so cold' 'so beautiful'

These truncated forms are typically used when speakers register or react to the degree of a property, and can be roughly paraphrased in English as 'so <adjective>'. Segmentally, they are identical to adjective roots, as they result from deletion of the non-past suffix /i/. One might therefore analyze the forms in (2) as utterances consisting solely of adjective roots, without invoking truncation. However, adjective roots in Japanese are bound morphemes and generally cannot be uttered independently. Moreover, as this paper shows, a root-only analysis fails to capture certain systematic properties of adjective truncation. In some cases, truncation is independently motivated—for example, the truncated form *ati* 'so hot' cannot be analyzed as a bare root but must derive from *atii*. A root-only analysis also fails to explain why certain adjectives, such as *utukusii* 'beautiful', resist truncation altogether. For these reasons, the forms in (2) are more appropriately analyzed as the result of truncation.

This paper identifies three classes of Japanese adjectives that resist truncation, summarized in (3). To my knowledge, the constraints in (3b) and (3c) have not been previously discussed. With respect to (3a), Iwasaki (2014) discusses related data, but the present study provides additional data and a revised formulation of the constraint.

- (3) **Japanese adjectives that resist truncation**
 a. Adjectives ending in /ii/
 b. Monomoraic root adjectives
 c. Unfamiliar adjectives

It will be shown that these truncation-resisting classes and well-formed cases of Japanese adjective truncation can be accounted for within Optimality Theory (OT) using independently motivated constraints, without the need for additional theoretical machinery.

The paper is organized as follows. Section 2 discusses well-formed cases of Japanese adjective truncation in greater detail and shows how they can be analyzed within the OT framework. Section 3 introduces each of the three truncation constraints in (3) and provides a formal OT analysis. Section 4 concludes the paper and discusses remaining issues and directions for future research.

2 Well-formed Adjective Truncation

Following Iwasaki (2014), this paper treats Japanese adjective truncation utterances as a subtype of *internal expressive sentences* (IESs). IESs are utterances that directly externalize a speaker's immediate internal experience—such as perception, emotion, or bodily sensation—rather than describing an external situation or state of affairs. As illustrated in (4), IESs need not involve an adjective.¹

- (4) *zisin-da!*
 earthquake-COP
 'Earthquake!'

¹ This paper follows the Leipzig Glossing Rules. The only abbreviation used here that is not included in the Leipzig Glossing Rules is SFP, glossed as *sentence-final particle*.

As shown in (4), IESs function as temporally deictic expressions anchored to the speaker's immediate experience, and are not primarily intended to convey propositional information, unlike descriptive sentences such as *There was an earthquake last week*. Rather than reporting facts, they give direct expression to the speaker's lived experience at the moment of utterance.

IESs form a grammatically distinct class, identifiable by a cluster of properties. These include their compatibility with outcry vocalizations (e.g. *a!*, *aa!*), the absence of overt experiencer encoding (5a), and their strict anchoring to the speaker's here-and-now experience, which renders them incompatible with past tense morphology (5b). Taken together, these properties characterize IESs as expressions that foreground immediate experience rather than propositional description.

- (5) a. ***kore-wa** zisin-da! (* when interpreted as an IES²)
 This-TOP earthquake-COP
 'This is an earthquake!'
 b. *zisin-da-**tta!** (* when interpreted as an IES)
 earthquake-COP-PST
 'It was an earthquake!'

Analyzing truncated adjectives in Japanese as a type of IES helps explain why deletion of the non-past tense suffix *-i* is permissible in these contexts. Because IESs are inherently anchored to the present moment, tense is interpreted as present by default, and the loss of an overt non-past marker does not compromise temporal interpretation.

While this observation partially explains why adjectives can undergo truncation in IES contexts, it does not explain what motivates truncation, particularly when it violates faithfulness constraints. I propose that the primary motivation for adjective truncation is the resolution of vowel hiatus. As shown in (1a), Japanese adjective roots end in a vowel and are followed by the non-past suffix /i/. Because the two vowels are separated by a morpheme boundary, they are plausibly non-tautosyllabic (e.g. Kubozono 2001) and thus form a hiatus configuration.

Cross-linguistically, vowel hiatus is frequently eliminated by a range of phonological operations. Kubozono et al. (2002) show that, diachronically, vowel hiatus in Japanese is resolved through processes such as truncation (6a) and epenthesis (6b).

- (6) a. *te* + *arai* → *tarai* (Kubozono et al. 2002, p. 90)
 hand wash basin
 b. *ko* + *ame* → *kosame* (Kubozono et al. 2002, p. 90)
 small rain small.rain

Synchronically, truncation and epenthesis are also employed to eliminate vowel hiatus in Lardil (an Australian Aboriginal language), as illustrated in (7).

- (7) a. *thawa* + *in* → *thawan* (Klokeid 1976, p. 41)
 rat ACC rat.ACC

² This paper assumes, following Mio (2003) and others, that the same surface forms can function as either expressive or descriptive sentences. The examples in (5a) and (5b) are well-formed under a descriptive interpretation.

b. *ru* + *in* → *ruyin* (Klokeid 1976, p. 55)
 fat ACC fat.ACC

Within OT (Prince and Smolensky 1993), the preference for resolving vowel hiatus by truncation rather than by other operations such as epenthesis can be captured by the relative ranking of the constraints in (8). The markedness constraint ONSET favors syllables with onsets and thus penalizes vowel hiatus, motivating deletion of /i/ in Japanese adjective truncation. The remaining constraints in (8) are output-to-output faithfulness constraints defined over a Base (B) and its Truncated form (T): MAX-BT militates against segment deletion, while DEP-BT militates against segment insertion.

- (8) a. ONSET : Syllables must have onsets. (e.g. Prince and Smolensky 1993)
 b. MAX-BT : Every element in B has a correspondent in T. (e.g. McCarthy and Prince 1995)
 c. DEP-BT : Every element in T has a correspondent in B. (e.g. McCarthy and Prince 1995)

In Japanese adjectival IESs, truncated forms such as *asa* ‘so shallow’ are preferred to untruncated forms like *asai*, indicating that ONSET dominates MAX-BT . Moreover, truncated forms like *asa* are preferred to epenthesized forms such as *asasi*. This preference shows that DEP-BT also dominates MAX-BT , making epenthesis a more serious violation than truncation in this context. Tableau (9) illustrates this ranking; periods indicate syllable boundaries.^{3,4}

(9)

Base: a.sa.i	DEP-BT	ONSET	MAX-BT
a.sa.i		**!	
as a.sa		*	*
a.sa.si	*!	*	

While this analysis accounts for hiatus resolution via truncation, it leaves open an important question: Why is the suffixal vowel /i/ deleted rather than the root-final vowel? This question is non-trivial, especially given that cross-linguistically it is more common for the first of two adjacent vowels (V1) to delete rather than the second (V2) (e.g. Casali 1997), as illustrated in (6a).

This paper attributes the solution of this question to position-sensitive faithfulness constraints. The core idea behind such constraints is that segments in morphologically or prosodically prominent positions are more resistant to deletion or featural loss (e.g. Steriade 1993). Particularly relevant to Japanese adjective truncation is the well-established asymmetry between roots and affixes: Root material is generally more resistant to segmental loss than affixal material (e.g. Steriade 1993; McCarthy and Prince 1995). This asymmetry is illustrated by the hiatus resolution pattern in (7a), where deletion targets the suffixal vowel V2 rather than the root-final vowel V1.

³ Iwasaki (2014) observes that adjectives can give rise to multiple types of IESs. For example, *asai* ‘shallow’ may surface not only as *asa* via truncation, but also as *assa*, with additional consonant gemination, or as /asaʔ/, with insertion of a word-final glottal stop. These latter forms tend to be used when the speaker reacts more strongly to the degree of the relevant property than with *asa*. Roughly speaking, *asa* can be paraphrased as ‘so shallow’, whereas *assa* and /asaʔ/ correspond more closely to ‘so shallow!’ or ‘extremely shallow’.

⁴ Although standard OT does not require rankings among non-optimal candidates, I posit a fixed ranking between DEP-BT and ONSET to reflect the descriptive preference *asai* >> *asasi*. No claim is made that the present analysis formally derives this gradient contrast.

A closely related asymmetry is observed in English, where function words more readily develop weak forms and participate in segmental reduction processes that are unavailable or much less common in lexical items (e.g. Selkirk 1984). Taken together, these patterns suggest that although V1-deletion is typologically common, it is disfavored when V1 belongs to a root or lexical item and V2 belongs to a suffix or functional element.

Building on these observations, Casali (1997) argues that root–affix and lexical–functional asymmetries are not independent, proposing a unified, position-sensitive faithfulness constraint as in (10) that prioritizes preservation of phonological material with greater lexical-semantic content.

- (10) $\text{MAX}_{\text{LEX-BT}}$: Every element in lexical B has a correspondent in T. (Casali 1997)

In Japanese adjective truncation, the suffixal/functional vowel *-i* is deleted rather than the root-final vowel. Incorporating $\text{MAX}_{\text{LEX-BT}}$ correctly predicts that truncated forms such as *asa* are preferred over forms like *asi*, as shown in (11).⁵

(11)

Base: a.sa.i	$\text{MAX}_{\text{LEX-BT}}$	DEP-BT	ONSET	MAX-BT
☞ a.sa			*	*
a.si	*!		*	*

In addition to the asymmetries discussed above, the fact that root-final vowels in Japanese adjectives often bear lexical pitch accent provides further motivation for suffixal truncation. Accented vowels are known to resist reduction more strongly than unaccented vowels (e.g. Steriade 1995), making deletion of the suffixal vowel an even more favorable repair strategy.

Despite these motivations for suffixal *-i* truncation in Japanese—and more generally for V2-deletion when a suffix-initial vowel follows a root-final vowel—Casali (1997) documents comparable environments in which V1 is deleted. Importantly, many such cases involve monovocalic suffixes, as in Japanese adjectives such as *asa-i*. This raises the question of how Japanese adjective truncation differs from the cases discussed by Casali.

Following Schuh (1995), Casali explains the preference for V1-deletion in these cases as arising from pressures on morphological recoverability: Deleting a monosegmental suffix vowel would eliminate all segmental exponence of the suffix, placing an undue burden on the hearer to recover the intended morphemic content. In this sense, such patterns reflect a requirement to preserve minimal morphological exponence.

By contrast, in Japanese adjective truncation, the monosegmental suffix *-i* can be analyzed as semantically vacuous in internal expressive environments, since IESs are obligatorily anchored to the speaker’s immediate present experience. As a result, deleting *-i* does not compromise recovery of essential morphemic or semantic information. Under $\text{MAX}_{\text{LEX-BT}}$, deletion of suffixal *-i* is therefore preferred to deletion of root-internal material. This analysis not only distinguishes Japanese adjective truncation from the cases discussed by Casali (1997), but also explains why truncation of *-i* in Japanese adjectives is restricted to internal expressive uses as a hiatus-resolution strategy.

⁵ As in Footnote 4, I assume a fixed ranking between $\text{MAX}_{\text{LEX-BT}}$ and DEP-BT to reflect the descriptive preference *asa* >> *asai* >> *asasi* >> *asi*. Again, no claim is made that the present analysis formally derives this gradient contrast.

3 Three Constraints on Adjective Truncation

This section first outlines the data collection methodology, and then introduces three constraints on Japanese adjective truncation, summarized in (12).

(12) **Japanese adjectives that resist truncation**

- a. Adjectives ending in /ii/
- b. Monomoraic root adjectives
- c. Unfamiliar adjectives

3.1 Data Collection

This section describes the data collection procedures used to assess the naturalness judgments in Sections 3.2 and 3.4, based on a 2015 pilot study (Harada 2015). The judgments in Section 3.3 are based on informal interviews with a small number of native speakers of Japanese.

3.1.1 Participant

Five native speakers of Japanese participated in the experiment: one speaker of the Tokyo dialect, one of the Aomori dialect, and three of Kansai dialects. All participants reported no difficulty understanding the Tokyo dialect, which was used for the experimental stimuli.

3.1.2 Stimuli

Each participant was presented with 120 stimuli, yielding a total of 600 tokens across all participants. All stimuli consisted of truncated forms of Japanese adjectives. To examine the effect of lexical familiarity on perceived naturalness, the stimuli were divided into three categories: familiar adjectives, less familiar adjectives, and pseudoword adjectives. The classification of familiar versus less familiar adjectives was based primarily on the author's judgment, and pseudoword adjectives were created by the author and designed to sound as natural as possible.

Based on the hypothesis that the root-final vowel plays a role in determining the naturalness of truncated forms, each of the three adjective categories was further subdivided according to the quality of the root-final vowel. Specifically, adjectives were classified as ending in /a/, /o/, /u/, or /i/. For ease of exposition, these subcategories are referred to as /ai/-, /oi/-, /ui/-, and /ii/-adjectives, corresponding to adjectives whose root-final vowel is /a/, /o/, /u/, and /i/, respectively. The distribution of stimuli used in the experiment is summarized in (13).

(13) **Summary of stimuli** (600 tokens total = 120 items × 5 participants)

- | | |
|----------------------------------|--|
| a. Familiar adjectives (40) | } /ai/-adj: 10 /oi/- adj: 10 /ui/- adj: 10 /ii/- adj: 10 |
| b. Less familiar adjectives (40) | |
| c. Pseudoword adjectives (40) | |

3.1.3 Procedure

Participants listened to the experimenter pronounce truncated adjective forms while viewing a response sheet listing the corresponding base forms. For each item, they evaluated (i) the naturalness of the truncated form and (ii) their familiarity with the base adjective.

Naturalness and familiarity judgments were collected using a four-point and a three-point Likert scale, respectively, as shown in (14) and (15).

- (14) **Naturalness scale**
 Unnatural – Slightly unnatural – Slightly natural – Natural
 1 2 3 4
- (15) **Familiarity scale**
 Never heard – Cannot recall the meaning – Know the meaning
 1 2 3

Each response was assigned the numerical value indicated above, and the naturalness and familiarity of each adjective were calculated as the mean score across participants.

3.2 Constraint 1: Adjectives Ending in *ii*

I observe that /ii/-adjectives systematically resist truncation, as shown in (16), repeated from (2).

- (16) *asai* *osoī* *samui* *??utukusii*
 ‘so shallow’ ‘so slow’ ‘so cold’ ‘so beautiful’

Mean acceptability ratings from the pilot study reveal systematic differences in the naturalness of truncated forms across vowel-ending types for familiar adjectives. As shown in Table 1, truncated /ii/-adjectives receive substantially lower ratings than those ending in /ai/, /oi/, or /ui/.⁶

/ai/	/oi/	/ui/	/ii/
3.95	3.94	3.74	2.90

Table 1: Mean acceptability ratings for truncated forms of familiar adjectives by final vowel type.

Scale: 1 = very unnatural, 4 = very natural

While Iwasaki (2014) likewise observes that truncated adjectives such as *utukusii* ‘beautiful’ are degraded, his descriptive generalization differs from the one proposed here. Specifically, he argues that truncation is determined by semantic class: *perception adjectives* allow truncation, whereas *emotion* and *feeling adjectives* do not.

Under Iwasaki’s classification, *perception adjectives* describe sensory experiences directly accessible through the five senses, including sight (*kurai* ‘dark’), hearing (*urusai* ‘noisy’), smell (*kusai* ‘smelly’), taste (*umai* ‘tasty’), and touch (*katai* ‘hard’). These adjectives describe externally grounded sensations and are claimed to freely permit truncation. By contrast, *emotion* and *feeling adjectives* denote internally experienced mental states not reducible to sensory perception. Although closely related, Iwasaki distinguishes them on psychological and neurological grounds. Emotion adjectives denote typically impulsive and automatic states such as happiness, sadness, embarrassment, sympathy, or fear (e.g. *uresii* ‘happy’, *tanosii* ‘fun’, *natukasii* ‘nostalgic’, *osorosii* ‘fearful’). Feeling adjectives, by contrast, are more complex states arising from emotions combined with other factors and generally requiring time to be consciously registered; examples include *kanasii* ‘sad’ and *turai* ‘painful (psychologically)’.

⁶ Hitomi Minamida and Nozomi Moritake (p.c.) report truncated /ii/-adjectives are more acceptable in Kansai and Oita dialects. Kyoko Yamakoshi (p.c.) further notes a Japanese song whose title and lyrics contain truncated forms of *uresii* ‘happy’ and *hazukasii* ‘embarrassed’. Such cases may reflect dialectal influence and rhythmic constraints.

According to Iwasaki (2014), truncation is systematically unavailable for emotion and feeling adjectives. However, this semantic account both overgenerates and undergenerates. The adjectives in (17) are not emotion or feeling adjectives, yet their truncated forms are judged degraded. Crucially, these adjectives are /ii/-adjectives, supporting the present proposal that /ii/-adjectives resist truncation independently of semantic class.

- (17) *atarasi* *ooki* **Overgeneration**
 ‘so new’ ‘so large’

Conversely, the adjectives in (18) are feeling adjectives, yet their truncated forms are judged natural. This outcome is unexpected under Iwasaki’s analysis, which predicts feeling adjectives resist truncation, but follows from the present proposal, as these adjectives are not /ii/-adjectives.

- (18) *turai* *sindo* **Undergeneration**
 ‘so tough/painful (psychologically)’ ‘so (mentally) tired/overwhelmed’

The arguments from (17) and (18) can be strengthened by considering minimal pairs in which semantic class is held constant while phonological form varies. The pairs in (19) exploit alternations between *-yoi* adjectives and their *-ii* counterparts. These pairs are similar in meaning but differ in phonological form and register (formal/written *-yoi* vs. colloquial *-ii*). Crucially, they show systematic differences in truncation acceptability that are unexpected under Iwasaki’s semantic account but directly predicted by the present /ii/-based analysis.

- (19) a. *kakkoyoi* *kakkoii*
 ‘so good-looking’ ‘so good-looking’
 b. *kimotiyoi* *kimotii*
 ‘so comfortable’ ‘so comfortable’

The acceptability ratings in Table 2 confirm this contrast quantitatively: Truncated *-yoi* adjectives receive higher ratings than their *-ii* counterparts. This asymmetry cannot be attributed to semantic class, since each pair involves adjectives of the same type (emotion in (19a) and feeling in (19b)), but follows naturally if truncation is sensitive to whether an adjective ends in /ii/.

<i>kakkoyoi</i> -type adjectives	<i>kakkoii</i> -type adjectives
3.70	2.59

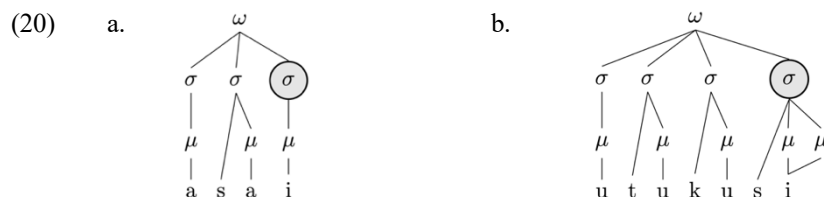
Table 2: Mean acceptability ratings for minimal pairs of truncated adjectives.

Scale: 1 = very unnatural, 4 = very natural

Taken together, these observations show that the resistance of /ii/-adjectives to truncation cannot be reduced to semantic class alone, motivating a phonological constraint-based account.

The truncation constraint on /ii/-adjectives can be captured without introducing additional OT constraints, given one assumption: the word-final *ii* sequence in /ii/-adjectives is tautosyllabic, whereas in non-/ii/-adjectives the root-final vowel and suffixal *-i* do not belong to the same syllable. Under this assumption, and following Moraic Phonology (e.g. Hyman 1984), the structures of *asai*

‘shallow’ and *utukusii* ‘beautiful’ can be represented as in (20). Informally, the restriction on truncating /ii/-adjectives reflects the illegality of deleting only part of a syllable. In (20), truncation targets the circled σ ; consequently, deleting only the word-final /i/ in *utukusii* is impermissible.



In the formal OT analysis, this restriction is likewise captured without positing any additional constraint, as shown in (21). Because the word-final *ii* is analyzed as tautosyllabic, the candidates incur the same number of O_{NSET} violations. The untruncated candidate is therefore selected as optimal, since it does not violate $M_{\text{AX-BT}}$.

(21)

Base: u.tu.ku.sii	$M_{\text{AXLEX-BT}}$	DEP-BT	O_{NSET}	$M_{\text{AX-BT}}$
u.tu.ku.sii			*	
u.tu.ku.si			*	*!

The rest of Section 3.1 provides support for the assumption that word-final *ii* in /ii/-adjectives is tautosyllabic, whereas in non-/ii/-adjectives the root-final vowel and suffixal *i* form a heterosyllabic sequence. One argument comes from accent assignment in Japanese compound personal names ending in *-taroo*. Kubozono (2017) observes accent placement in such compounds depends on the prosodic shape of the first element (N1): bisyllabic N1s bear an accent on the final syllable (e.g. *momó-taroo*), whereas monosyllabic N1s yield unaccented compounds (e.g. *ki-taroo*, *hee-taroo*, but **heé-taroo*). Crucially, when N1 contains two distinct vowels, the compound patterns with bisyllabic N1s, receiving final-syllable accent (e.g. *sai-taroo*, *koí-taroo*). Although some speakers also allow unaccented forms (*sai-taroo*, *koi-taroo*), the contrast between **heé-taroo* and *sai-taroo* is robust. This pattern suggests that identical-vowel sequences are less prosodically separable than distinct-vowel sequences, aligning with the present analysis of /ii/-adjectives.

Additional evidence comes from vowel coalescence phenomena in Japanese. Hasegawa (1979) observes that in men’s vulgar speech, vowel sequences such as /ai/, /oi/, and /ae/ in certain adjectives may coalesce into /ee/, as illustrated in (22a). Similarly, Kubozono et al. (2002) report that /ui/ may coalesce into /ii/, as in (22b). While the adjectives in (22a-b) can function as IESs, like truncated adjectives, they can also function as non-IESs to describe a situation or state of affairs. Thus, the adjectives in (22a-b) can be used with an experiencer (22c), unlike truncated adjectives and like non-truncated adjectives such as *utukusii* ‘beautiful’.⁷

- (22) a. *turai* → *turee* ‘tough/painful (psychologically)’
 b. *atui* → *atii* ‘hot’
 c. *ano rensyuu-wa* honto turee-yo
 that practice-TOP really tough-SFP
 ‘That practice is really tough.’

⁷ However, *turee* cannot appear in the past tense, unlike adjectives such as *utukusii*.

Kubozono et al. (2002) analyze such vowel coalescence as a strategy for resolving vowel hiatus, arguing that derived forms like *turee* and *atii* contain tautosyllabic long vowels /ee/ and /ii/, aligning with the present analysis of /ii/-adjectives.

Under this analysis, /ii/-adjectives and adjectives formed via vowel coalescence share the same phonological structure. A clear prediction follows: adjectives with fused vowels should also resist truncation. This prediction is borne out, at least partially, as illustrated in (23).

- (23) [Context: During a physically demanding baseball club practice, a teammate comments:]
✓*tura* ??*ture*
'so tough/painful (psychologically)' 'so tough/painful (psychologically)'

It should be noted that Iwasaki (2014) claims that fused adjectives may also undergo truncation, as illustrated in (24a). Crucially, however, truncation of fused adjectives has been observed to be acceptable primarily in contexts in which the adjective is used *reflexively*. In (24a), the speaker expresses an immediate, reflexive reaction to the heat in Tokyo upon arriving. By contrast, in (24b), the speaker has already experienced the heat for several days and is merely reiterating a known fact. In this latter context, truncated forms derived from non-fused adjectives such as *atu* remain fully acceptable, whereas truncation of the fused adjective (*ati*) is degraded.

- (24) a. [Context: Taku, from Hokkaido, speaks immediately after arriving in Tokyo in August.]
 ✓*atu* ‘so hot’ ✓*ati* ‘so hot’
 b. [Context: After spending several days in Tokyo, Taku once again feels uncomfortable with the heat.]
 aa (yappari) {✓*atu*/??*ati*}
 ah after.all so.hot

The importance of utterance context in (24) is closely related to Iwasaki's (2014) observation that feeling adjectives tend to resist truncation. In particular, truncation is disfavored when a fused adjective is interpreted as expressing a feeling rather than an immediate sensory perception. For example, fused feeling adjectives such as *turee* 'tough/difficult/painful' resist truncation (whereas their non-fused counterparts (e.g. *turai*) may undergo truncation more freely). Likewise, the perception adjective *atii* 'hot' resists truncation in (24b) when it is interpreted in a feeling-like manner, despite allowing truncation in reflexive, perception-based contexts such as (24a). In (24b), *atu/ati* describes a more complex mental state arising from accumulated experience and discomfort and requiring time to be consciously registered, rather than an immediate sensory reaction. This use closely matches Iwasaki's characterization of feeling adjectives as denoting internally experienced states shaped by emotion and reflection rather than direct sensory input.

Finally, it is worth noting that the adjectives referred to here as /ii/-adjectives correspond to the so-called *-siku* conjugation adjectives in Classical Japanese, whereas non-/ii/ adjectives correspond to *-ku* conjugation adjectives. While /ii/-adjectives such as *kuyasii* ‘regrettable’ are analyzed in Modern Japanese as decomposing into a root plus a suffix (e.g. *kuyasi-ku*), Classical Japanese analyses often treat *si* as part of the stem, as in *kuya-siku*, rather than as a separable suffix (*kuyasi-ku*). Under this view, the *si* element in /ii/-adjectives such as *kuyasii* ‘regrettable’ bears a closer structural relation to the final /i/, supporting the idea that the sequence /ii/ forms a single tautosyllabic unit rather than a root–suffix boundary.

Admittedly, language learners do not have direct access to diachronic information. Nevertheless, historical structure may influence speakers' synchronic representations indirectly. For example, /ii/-adjectives sometimes alternate with forms in other morphological categories, such as *kuya-sii* 'regrettable' vs. *kuya-mu* 'to regret', *komagoma-sii* 'fastidious' vs. *komagoma-to* 'in detail', and *atara-sii* 'new' vs. *arata-na* 'new' (where *atara* is often analyzed as deriving from *arata* via metathesis). Similar appeals to diachronic structure have been made in the analysis of *rendaku* (sequential voicing) in Japanese, where surface alternations involving /h/ → [b] are linked to the historical change from /p/. These considerations suggest that diachronic patterns may continue to shape native speakers' intuitions about morphological and phonological structure, including the internal organization of /ii/-adjectives.

3.3 Constraint 2: Monomoraic Root Adjectives

The second constraint concerns monomoraic root adjectives, which systematically resist truncation in Japanese. All adjectives in (25a) have monomoraic roots and sound unnatural when the suffixal *-i* is truncated.⁸ By contrast, the adjectives in (25b) have bimoraic roots (though still monosyllabic) and are noticeably more acceptable under truncation. The slightly degraded status of *oo* is not fully understood. One possible explanation is prosodic: *ooi* requires a pitch fall after the first mora, whereas truncated adjectives generally appear to favor an unaccented prosodic contour. This accentual mismatch may contribute to the residual unnaturalness of *oo*.

- (25) a. **yoɪ̯* **iɪ̯* **naɪ̯* ??*koɪ̯*
 'so good' 'so good' 'nonexistent' 'so rich (taste)'
 b. *tooɪ̯* ?*ooɪ̯*
 'so far' 'so many'

The dispreference for monomoraic words is well attested cross-linguistically and within Japanese, including hypocoristic name formation (e.g. Poser 1984), loanword truncation (e.g. Ito 1990), and formulaic recitation patterns such as days of the week (e.g. Martin 1987), telephone numbers (e.g. Ito 1990), and the Chinese zodiac (e.g. Kubozono et al. 2002). This tendency is commonly analyzed as a *minimality requirement* on prosodic words.

Following this line of work, I adopt the prosodic constraints in (26) to account for the resistance of monomoraic root adjectives to truncation.

- (26) a. $GrW_D = PrW_D$: A grammatical word must be a prosodic word. (e.g. Prince and Smolensky 1993)
 b. $Ft-BIN$: Feet are binary under moraic or syllabic analysis. (e.g. McCarthy and Prince 1993)

Assuming that prosodic words minimally contain a foot (Ft), and that feet are composed of syllables (σ) and moras (μ) (e.g. McCarthy and Prince 1986), $GrW_D = PrW_D$ requires each

⁸ Among the four examples in (25a), *ko* is somewhat more acceptable than the others, and its acceptability improves markedly with insertion of a word-final glottal stop, as in /kɔʔ/ (see also footnote 3). Inserting a glottal stop into the other three truncated adjectives in (25a) does not yield a comparable improvement. By contrast, their acceptability also increases when they occur with a preceding word, as in /met:ɛa jɔʔ/ 'extremely good!' (p.c. Jun Tamura) and /aei naʔ/ '(her) leg is gone!' (p.c. Yosuke Igarashi). The truncated adjective **i* 'so good' remains difficult to improve, unlike the other examples in (25a), possibly because it is also an /ii/-adjective.

grammatical word to project a foot, while $F_T\text{-}B_{IN}$ requires that foot to be binary. Together, these constraints enforce a minimum size of two moras for well-formed prosodic words.

The tableau in (27) illustrates how these constraints correctly block truncation of a monomoraic root adjective. Parentheses indicate foot structure.

(27)

Base: na.i	$M_{AX}L_{EX}\text{-}BT$	$G_RW_D=P_RW_D$	$F_T\text{-}B_{IN}$	$DEP\text{-}BT$	O_{NSET}	$M_{AX}\text{-}BT$
na.i (na.i)					*	
na.i		*!			*	
(na)			*!			*
na		*!				*

As shown, truncation yields outputs that violate either $G_RW_D=P_RW_D$ or $F_T\text{-}B_{IN}$, whereas the untruncated form satisfies prosodic minimality at the cost of a lower-ranked O_{NSET} violation. The analysis thus correctly predicts that truncation is blocked for monomoraic root adjectives.

3.4 Constraint 3: Unfamiliar Adjectives

As described in Section 3.1, the pilot study elicited naturalness judgments for truncated forms of familiar adjectives, less familiar adjectives, and pseudoword adjectives. The results reveal a clear gradient effect of lexical familiarity: truncated forms of less familiar adjectives are judged less natural than those of familiar adjectives, and truncated pseudowords are judged least natural of all. Representative examples are given in (28).

(28)

Familiar Adjective	Less Familiar Adjective	Pseudoword Adjective
<i>asaɪ</i>	<i>ʔitokenaɪ</i>	<i>*sekitanai</i>
‘so shallow’	‘so guileless’	

Quantitative differences among the three familiarity classes are summarized in Table 3. For each cell, the number outside parentheses indicates the mean acceptability rating, while the number in parentheses indicates the mean familiarity rating.

	/ai/	/oi/	/ui/	/ii/
Familiar	3.94 (3.00)	3.94 (3.00)	3.74 (2.94)	2.90 (2.98)
Less familiar	2.36 (1.98)	3.18 (2.70)	3.14 (2.56)	3.00 (2.20)
Pseudoword	1.40 (1.08)	1.66 (1.14)	1.44 (1.12)	1.80 (1.36)

Table 3: Mean acceptability ratings for truncated adjectives by familiarity and final vowel type.

Acceptability scale: 1 = very unnatural, 4 = very natural. Familiarity scale: 1 = unfamiliar, 3 = familiar.

To capture this familiarity effect formally, I adopt lexically indexed faithfulness constraints (e.g. Pater 2000), as defined in (29).

- (29)
- $M_{AX}\text{-}BT_{L1}$: MAX that evaluates only the lexical items indexed as L_1 .
 - $M_{AX}\text{-}BT_{L2}$: MAX that evaluates only the lexical items indexed as L_2 .
 - ...
 - $M_{AX}\text{-}BT_{Ln}$: MAX that evaluates only the lexical items indexed as L_n .

Lexically indexed faithfulness constraints are independently motivated by patterns of frequency-sensitive variation in English, such as variable *t/d*-deletion in word-final consonant clusters, where more frequent words are more likely to undergo deletion (e.g. Coetzee 2008). For example, *t* in *best* is more likely to be deleted than *t* in *nest*, as illustrated in (30).

(30) *best* egg vs. *nest* egg

Suppose that *best* and *nest* are indexed as L_1 and L_2 , respectively. Given the markedness constraint in (31), Coetzee (2008) derives the contrast in (32)–(33).

(31) *Ct#V: No word-final [-Ct]/[-Cd] followed by a [V-] initial word. (Coetzee 2008)

(32)

Base: best egg	$M_{AX-BT_{L_2}}$	*Ct#V	$M_{AX-BT_{L_1}}$
best _{L₁} egg		*!	
bes _{L₁} egg			*

(33)

Base: nest egg	$M_{AX-BT_{L_2}}$	*Ct#V	$M_{AX-BT_{L_1}}$
nest _{L₂} egg		*	
nes _{L₂} egg	*!		

In an analogous way, the familiarity effect observed in Japanese adjective truncation can be captured by ranking lexically indexed faithfulness constraints. Tableau (34) illustrates well-formed truncation of a familiar adjective (e.g. *asa* ‘so shallow’), while (35) illustrates the degraded status of truncation in a less familiar adjective (e.g. *itokena* ‘so guileless’). Constraints irrelevant to the familiarity effect ($M_{AX_{LEX-BT}}$, $GRWD=PRWD$, F_T-B_{IN} , $DEP-BT$) are omitted for clarity.

(34)

Base: a.sa.i	$M_{AX-BT_{L_2}}$	ONSET	$M_{AX-BT_{L_1}}$
a.sa.i _{L₁}		**!	
a.sa _{L₁}		*	*

(35)

Base: i.to.ke.na.i	$M_{AX-BT_{L_2}}$	ONSET	$M_{AX-BT_{L_1}}$
i.to.ke.na.i _{L₂}		**	
i.to.ke.na _{L₂}	*!	*	

These tableaux show that truncation is tolerated when it affects a highly familiar lexical item but is blocked when faithfulness to a less familiar item is protected by a higher-ranked lexically indexed constraint. The analysis thus derives the observed difference in acceptability as an interaction between general markedness pressures and familiarity-sensitive faithfulness.

4 Conclusion and Remaining Issues

This paper has shown that Japanese adjective truncation is subject to systematic restrictions. Three classes of adjectives were identified as resisting truncation: adjectives ending in /ii/ (e.g. *utukusii* ‘beautiful’), adjectives with monomoraic roots (e.g. *yoi* ‘good’), and unfamiliar adjectives, including pseudowords (e.g. *itokenai* ‘guileless’). These findings demonstrate that the availability of truncation is sensitive to phonological structure and lexical familiarity.

These empirical patterns were shown to be derivable within Optimality Theory (OT) without introducing novel theoretical machinery, by appropriately ranking independently motivated constraints. Truncation is driven by O_{NSET} , which penalizes vowel hiatus, in interaction with faithfulness constraints. $M_{\text{AX-BT}}$ militates against segment deletion in general, while $M_{\text{AXLEX-BT}}$ specifically protects lexical (root) material. When hiatus arises at the root–suffix boundary, the ranking $M_{\text{AXLEX-BT}} \gg O_{\text{NSET}} \gg M_{\text{AX-BT}}$ ensures that deletion targets the suffixal *-i* rather than the root-final vowel. By contrast, the resistance of /ii/-adjectives follows from $M_{\text{AX-BT}}$, which blocks deletion when *-i* does not induce hiatus. The blocking of truncation in monomoraic root adjectives is captured by prosodic constraints such as $G_{\text{RW}_D} = P_{\text{RW}_D}$ and $F_{\text{T-BIN}}$, while the resistance of unfamiliar adjectives is modeled using lexically indexed faithfulness constraints ($M_{\text{AX-BT}_{\text{Ln}}}$). Overall, Japanese adjective truncation emerges from the interaction of general phonological constraints, prosodic well-formedness, and lexical familiarity.

Despite the clear empirical patterns reported here, several issues remain for future research. First, the present study should be regarded as a pilot investigation. The dataset involved only five participants, which is insufficient for assessing by-participant variability or establishing the statistical robustness of the proposed constraints. A larger-scale experiment will be necessary to determine whether the effects attributed to the /ii/ constraint, prosodic minimality, and lexical familiarity reach statistical significance. Moreover, while the pilot study directly tested the /ii/ and familiarity-based constraints, it did not systematically probe prosodic minimality; future work should explicitly manipulate word length to evaluate the contribution of prosodic constraints independently and in interaction with other factors.

Participant selection and stimulus design also require refinement. Tighter control of dialect background will be crucial: As noted in Section 3.2, some speakers of Kansai and Oita dialects reported greater acceptability of truncated /ii/-adjectives than suggested by the present results, and the presence of Kansai speakers among the participants is expected to have attenuated the /ii/ effect. The rating scales should also be reassessed, and the stimulus set further balanced. In particular, the category of “less familiar adjectives” included items of varying familiarity, making it difficult to distinguish them from familiar adjectives and pseudowords; a more carefully curated stimulus set would allow a more precise assessment of familiarity effects.

Beyond experimental design, several theoretical issues remain open. Although /ii/-adjectives generally resist truncation, some (e.g. *tanosii* ‘fun’, *uresii* ‘happy’, *oisii* ‘tasty’) appear to allow truncation in restricted discourse contexts associated with a warm, reflective affect rather than surprise. This observation may help explain why truncation is less natural for adjectives such as *atarasii* ‘new’, for which such contexts are difficult to construct. By contrast, non-/ii/-adjectives appear to allow truncation in both surprise-based and reflective contexts. While this discourse sensitivity is robust in introspection, it requires confirmation from a broader range of speakers, and it remains an open question how such effects should be formally represented within OT.

Finally, further morphological environments merit investigation. Section 3.2 showed that for /ii/- or /ee/-adjectives derived via vowel coalescence, truncation depends on whether the utterance is reflexive, a pattern not yet formally captured. Moreover, desiderative adjectives formed with *-ta* (e.g. *nomi-ta-i* ‘want to drink’) resist truncation even when their stems end in /a/, unlike underived adjectives such as *asa-i* ‘shallow’. These cases suggest that derivational structure interacts with truncation in ways that go beyond the constraints discussed here, pointing to a richer interaction between morphology, prosody, and meaning.

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