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Giang, William

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Adjectival Modification in Western Old Japanese: A Synchronic Analysis

WILLIAM GIANG
Monash University

1 Introduction

Western Old Japanese (= WOJ) refers to the variety of eighth-century Japanese spoken in and around the cities of Asuka and Nara. In documents attesting WOJ, one can observe a considerable formal diversity of adjectival modification constructions. Some, such as *-ki₁* (1a), have productive cognates in Modern Standard Japanese (i.e., *-i*). Others, such as *tu* (1b), have since become unproductive in Modern Standard Japanese.

- (1) a. *-ki₁* ‘ADN’
於保吉 宇美 能 美奈曾己
opo-ki₁ umi₁ no₂ mi₁na-so₂ko₂
big-ADN sea GEN water-bottom
‘the bottom of the **vast sea**’ (*Man’yōshū* Volume 20, Poem 4491)¹
- b. *tu* ‘GEN’
多夫礼多流 之許 都 於吉奈
ta^mbure-tar-u siko₂ tu oki₁na
go.mad.INF-STAT-ADN stupid GEN old.man
‘crazy, stupid **old man**’ (*Man’yōshū* Volume 17, Poem 4011)

¹ See Appendix A for the WOJ romanization scheme and glossing conventions adopted in this paper.

This characteristic of WOJ has been extensively documented—including in the works of Yamada (1954), Martin (1987), Frellesvig (2010), and Vovin (2020), among many others—as something that sets WOJ apart from Modern Standard Japanese. The result is a list of WOJ adjectival modification constructions as in Table 1 below.

Descriptive Label	Abbreviation	Form	Example
<i>ki</i> -Marking	<i>ki</i> -M	A- <i>ki</i> ₁ N	<i>yo</i> ₂ - <i>ki</i> ₁ <i>pi</i> ₁ <i>to</i> ₂ ‘good person’
Juxtaposition	Jx		
With No Prenasalization	JxT	A-N	<i>opo</i> - <i>ki</i> ₁ <i>mi</i> ₁ ‘great lord’
With Prenasalization	JxN	A- ^{m/n/ŋ} N	<i>aka</i> - ⁿ <i>dama</i> ‘red jewel’
With Unclear Prenasalization	JxU	A-N	<i>awo</i> - <i>yama</i> ‘green mountain’
<i>si</i> -Final	<i>si</i> -Jx	A-(^{m/n/ŋ})N	<i>kupa</i> ₁ - <i>me</i> ₁ ‘beautiful woman’
<i>no</i> -Marking	<i>no</i> -M	A <i>no</i> N	<i>to</i> ₂ <i>po</i> <i>no</i> ₂ <i>mi</i> ₁ <i>ka</i> ⁿ <i>do</i> ₁ ‘distant domain’
<i>tu</i> -Marking	<i>tu</i> -M	A <i>tu</i> N	<i>po</i> <i>tu</i> <i>ye</i> ‘upper branches’
<i>si</i> -Marking	<i>si</i> -M	A- <i>si</i> N	<i>ara</i> - <i>si</i> <i>wo</i> ‘rough man’
<i>naru</i> -Marking	<i>naru</i> -M	A <i>nar</i> - <i>u</i> N	<i>tasika</i> <i>nar</i> - <i>u</i> <i>tuka</i> ₁ <i>pi</i> ₁ ‘reliable messenger’
<i>karu</i> -Marking	<i>karu</i> -M	A- <i>kar</i> - <i>u</i> N	<i>asi</i> - <i>kar</i> - <i>u</i> <i>to</i> ₂ ⁿ <i>ga</i> ‘bad fault’

Table 1: Types of Adjectival Modification Constructions in Western Old Japanese

All ‘Descriptive Labels’ in Table 1 have been formulated by the author of the current paper. They are designed solely to capture the phonological forms of each construction type and to harbor no further theoretical implications, something explicitly indicated by their capitalization, as per the conventions in Croft (2001: 51), *inter alia*. For the remainder of this study, the abbreviations in Table 1 will be utilized for the sake of space.

However, one aspect of these constructions appears yet to have been fully addressed in past research: Given the sheer formal diversity of WOJ adjectival modification constructions, what trends underly their distribution relative to one another? In other words, when and where would one construction type be used over another construction type?

Adopting a corpus-driven methodology, this study aims to provide some insights that bring us closer to answering this question. Namely, it uncovers that the constructions in Table 1 can be placed into two groups depending on how they exhibit parallels in their structural (i.e., morphosyntactic) and functional (i.e., semantic/pragmatic) properties. Principally, one group encompasses constructions that seem to contain relative clauses with adjectival predicates; these constructions exhibit a tendency towards usage in nonrestrictive modification. Meanwhile, the other group encompasses constructions that do not contain relative clauses and exhibit no comparable functional tendency towards nonrestrictive modification.

The current paper is structured as follows. First, §2 provides a brief outline of past research regarding WOJ adjectival modification constructions. Then, §3 outlines the methods and methodology adopted in this study for data compilation and analysis. Finally, the results of this analysis are outlined in §4, followed by a summary and directions for future research in §5.

2 Past Research

As noted in §1, it can be said that past research on WOJ adjectival modification constructions has tended to focus on their formal diversity. Thus, this research has been successful in exhaustively identifying the broad array of constructions seen in Table 1. Nevertheless, it appears that few works have attempted to address any synchronic trends that may underly how these constructions were distributed relative to one another.

One study that comes close to discussing something similar is Hayashi (2006). In this study, the author focusses on *ki*-M (her 連体形による修飾 *rentaikei ni yoru shūshoku* ‘modification by adnominal form’) and *Jx* (her 語幹による修飾 *gokan ni yoru shūshoku* ‘modification by stem’) and describes their distribution in the Old Japanese corpus relative to each other. This she essentially boils down to two factors, namely: (1) the semantics of the adjectival modifier (i.e. *Jx* with objective, state-denoting adjectives vs. *ki*-M with subjective, affective adjectives); and (2) the syllable count of the adjectival modifier (i.e. *Jx* with adjectives of less than three syllables; *si*-*Jx* with adjectives of less than five syllables; and *ki*-M with adjectives of more than three syllables).

Hayashi’s (2006) points are arguably valid insofar as one acknowledges that they harbor a certain degree of gradience. Moreover, they are not incompatible with the trends observed in the current study. That said, the current study aims to iterate on Hayashi (2006) by introducing a definition of the label ‘adjective’ that is more applicable for discussions of historical languages such as WOJ, and by formulating stochastic trends based not only on the semantics of the adjectival modifier but also the semantics of the modified noun (i.e., the semantics of the whole adjectival modification construction). The details of the current study’s methodology are discussed next in §3.

3 Data and Methodology

3.1 Defining ‘Adjective’

This study takes as its object of analysis ‘adjectival modification constructions’. These refer to any linguistic constructions involving the attributive modification of a noun (or noun phrase) by an adjective. This study broadly follows Dixon (2004: 4–5) in recognizing ‘adjectives’ as words with semantics belonging to one of the following classes:²

² The class TEMPORAL is my own and has been tailored to address the WOJ adjectives denoting some degree of persistence in time (e.g., *tozko* ‘constant’).

- | | | |
|----------------------|---------------------|------------------|
| 1. COLOR | 5. AGE | 9. QUALIFICATION |
| 2. PHYSICAL PROPERTY | 6. SPEED | 10. POSITION |
| 3. VALUE | 7. HUMAN PROPENSITY | 11. TEMPORAL |
| 4. SIZE | 8. DIFFICULTY | |

Dixon (2004) also recognizes the adjective semantic classes of SIMILARITY, QUANTIFICATION, and NUMBER, though due to their semantic aberrancy relative to the classes listed above, they are excluded from this study. Thus, this study could be said to recognize ‘adjectives’ as those words denoting gradable properties of unitary objects, with this definition being compatible with that of ‘adjectives’ in Haspelmath (2010: 670); ‘property words’ in Croft (2016: 388); ‘adjectivals’ in Pustet (2003: 28); and ‘quality words’ in Lehmann (2018: 4), among other similar terms.

This definition of ‘adjective’ is geared towards the analysis of data from a historical language such as WOJ. Its complete nonreliance on morphosyntactic criteria is intentional. This is due to the inherently fragmentary nature of data from historical languages, including WOJ. Consequently, any morphosyntactic definition of ‘adjective’ is potentially hampered by the paucity of strictly empirical evidence used to either positively or negatively identify a word as such. This criticism can be levelled at the traditional definition of ‘adjective’ in Hayashi (2006), for instance, but the same could be said for the labels ‘Inflected Adjective’ and ‘Uninflected Adjective’ in Vovin (2020).

In addition, the semantic definition of ‘adjective’ helps to sift out linguistic data that may interfere with the functional analysis of the current study. This is because the adjective semantic classes justify the exclusion of WOJ words such as *na* ‘not exist’, *opo* ‘many’, and so forth. These words are traditionally labelled ‘adjectives’; however, due to their semantics, they cannot be expected to exhibit behavior comparable to that of adjectives considered relevant in the current study. The semantic definition of ‘adjective’ also allows for the positive identification of words such as *ku* ‘yellow’, *i ~ yu* ‘holy’, and so forth, as ‘adjectives’ despite them being morphosyntactically indistinguishable from nouns in the WOJ corpus.

Separately, excluded from the scope of the current study are constructions containing either adjectives with incorporated nouns or gapless adnominal clauses. Both in the former case (2a) and in the latter case (2b), one has constructions which formally resemble those included in Table 1 (specifically, in (2), *ki*-M). Regardless, the adjectives in these constructions cannot be said to exhibit a straightforward attributive relationship with the following modified noun, and this warrants their exclusion from the scope of the current study.

- (2) a. Incorporated noun *pama* ‘beach’
 波麻芸欲伎 麻里布 能 宇良
pama-giyo-i-ki *maripu* *no*₂ *ura*
 beach-clean-ADN Marifu GEN bay
 ‘Marifu Bay, the **beaches** of which are clean’ (*Man’yōshū* Volume 15, Poem 3632)

- b. Gapless adnominal clause with subject *ipa^ogane* ‘great rock’
 石根 之 許凝敷 道
IPA^oGANE NO₂ ko₂^ogo₂si-ki₁ MI₁TI
 great.rock GEN steep-ADN road
 ‘a road, the **great rocks** of which are steep’ (*Man’yōshū* Volume 13, Poem 3329)

3.2 Data Compilation and Annotation

WOJ data for the current study were compiled from the *Oxford-NINJAL Corpus of Old Japanese* (= ONCOJ; Frellesvig, Horn et al. 2023). This corpus contains parsed versions of several eighth-century verse texts. The process for data compilation involved making systematic queries of the corpus via its online search platform. These queries produced tables of concordance lines, which, when combined and annotated, yielded a uniform final dataset.

To produce a maximally flexible and accessible dataset for the purposes of the current study, queries of the ONCOJ were performed in systematic sets. Each query set was designed to produce concordance lines centered around constructions of the different types in Table 1. Within each query set, individual queries would yield tables of concordance lines centered around increasingly large chunks of the same construction. For instance, take the *ki*-M construction *takuⁿduno₁ no₂ siro₁-ki₁ taⁿdamuki₁* ‘forearms white as rope made from the bark of a mulberry tree’ in (3).

- (3) 多久豆怒 能 斯路岐 多陀牟岐
takuⁿduno₁ no₂ siro₁-ki₁ taⁿdamuki₁
 mulberry-rope SEM white-ADN forearm
 ‘forearms white as rope made from the bark of a mulberry tree’ (*Kojiki Kayō* 3)

It (and other *ki*-M constructions) is captured in three different, parallel tables of concordance lines, centered around:

1. ... *siro₁-ki₁* ... ‘white’ (the adjectival modifier on its own)
2. ... *siro₁-ki₁ taⁿdamuki₁* ... ‘white forearms’ (the adjectival modifier plus the modified noun)
3. ... *takuⁿduno₁ no₂ siro₁-ki₁ taⁿdamuki₁* ‘forearms white as rope made from the bark of a mulberry tree’ (the adjectival modifier plus the modified noun and any adjuncts)

These tables of concordance lines were combined automatically using a Python script, before annotations were applied to achieve final data entries of the form in Table 2.

Source	Pre	Pre-Mod	Stem	Mod	Post-Mod	Post	StemOrth	ModOrth
KK.3	...	takudunwo no	sirwo	ki	tadamuki	...	PHON	PHON

Table 2: Example Data Entry

In Table 2, ‘Source’ = the text of origin; ‘Pre’ = the preceding context of the adjectival modification construction (abbreviated here as ‘...’); ‘Pre-Mod’ = adjuncts preceding the adjectival modifier; ‘Stem’ = the adjective; ‘Mod’ = the morphological marker on the adjective, if there is one; ‘Post-Mod’ = the modified noun (or noun phrase); ‘Post’ = the following context of the adjectival modification construction (abbreviated here as ‘...’); ‘StemOrth’ = the orthography of the adjectival modifier; ‘ModOrth’ = the orthography of the morphological marker; and ‘PHON’ = phonographically transcribed (explained below). Note that the data entry transcribes Old Japanese using

the romanization system of the ONCOJ, which differs from the one used in the current study (cf. (3) and see Appendix A).

The structure of data entries seen in Table 2 was useful to the analysis in several ways. For one, it allowed the dataset to be filtered not only by the adjectival modifier but also by the modified noun and/or by any of the other annotations. This was especially important when it came time to extract a data subset for the purposes of the current study. One justification for this subset is several entries of the full dataset containing incorporated nouns and gapless adnominal clauses, which this study would not count as instances of adjectival modification (see §3.1). The dataset also contained entries from non-WOJ varieties of Old Japanese. These also had to be excluded, given one cannot assume, *a priori*, that data from these other varieties should pattern identically to WOJ data. Duplicate instances of the same constructions arising from alternative versions of the same poems (labelled ‘a’, ‘b’, etc., in the ONCOJ) were also eliminated in the data subset.

The orthography used to render the adjectival modification construction also played a hand in curating the data subset. WOJ is notorious for its heterogeneous orthography, which primarily utilizes Chinese characters either as logograms or as phonograms. Only the latter constitutes faithful renderings of the actual forms of WOJ constructions, whereas the former routinely obscures the morphology and phonology of constructions (Frellesvig 2010).

Crucially, logograms can even leave the presence or absence of a morphological marker unclear. For instance, (4) demonstrates that the same logograms in *Man’yōshū* Volume 7, Poem 1319, <大海之水底>, can be interpreted differently by different scholars. In (4a), the ONCOJ considers the logograms to represent an instance of *ki*-M (i.e., *opo-ki_i umi_i* ‘vast sea’); meanwhile, in (4b), Takagi et al. (1959: 249) consider the logograms to represent an instance of Jx (i.e., *opo-umi_i* ‘vast sea’). These two interpretations minimally differ by the presence or absence of the morphological marker *-ki_i*, though one cannot say for certain either way due to the opaque orthography.

- (4) a. 大 海 之 水底
OPO-KI_i UMI_i *NO₂ MI_iNASO₂KO₂*
 big-ADN sea GEN seafloor
 ‘the bottom of the **vast sea** ...’ (*Man’yōshū* Volume 7, Poem 1319 in the ONCOJ)
- b. 大海 之 水底
OPO-UMI_i *NO₂ MI_iNASO₂KO₂*
 big-ADN GEN seafloor
 ‘the bottom of the **vast sea** ...’ (*Man’yōshū* Volume 7, Poem 1319 in Takagi et al. 1959: 249)

Therefore, for those constructions with overt morphological markers (viz., *ki*-M, *no*-M, *tu*-M, *si*-M, *naru*-M, and *karu*-M), inclusion in the data subset was restricted to cases where, minimally, the morphological marker was phonographically transcribed. Meanwhile, for those constructions with no overt morphological markers (viz., all Jx subtypes), both the adjective and the noun had to be fully phonographically transcribed. This was to ensure that the subtype of Jx could be accurately distinguished, and that there was no possibility of hidden morphological markers being obscured by logograms.

Ultimately, from the full dataset of 2,634 entries, a data subset of 583 entries was extracted (see Appendix B for a list of WOJ adjectives included in this subset). Data from this subset served as the main subject of analysis in the current study, and a mix of qualitative and quantitative analysis led to the formation of its core thesis, as elaborated next in §4.

4 Analysis and Discussion

Analysis of the WOJ data subset compiled from the ONCOJ began with subjecting the entries therein to a further round of annotation via qualitative tags. These tags principally identified those data entries containing instances of adjectival modification constructions with overt signs of nonrestrictivity. More concretely, they flagged when: (1) the modified noun denotes an inherently specific meaning, as in Table 3; or (2) the modified noun phrase has its meaning made specific by an intervening ‘grounding’ element, as in Table 4 (see Langacker 2008: 259 on ‘grounding’, and Sproat and Shih 1991: 582 for comparable constructions in Modern Standard Japanese).

Modified noun is/ denotes a(n)...	Example (A = ‘adjective’)
Personal pronoun	A <i>ware</i> ‘I’
Placename	A <i>sapo-yama</i> ‘Mt. Saho’
Personal name	A <i>kume</i> ₂ ‘Kume (clan)’
Inalienable possession	A <i>kami</i> _i ‘hair’
Term of address	A <i>tuma</i> ‘wife’

Table 3: Inherently Semantically Specific Nouns

Modified noun phrase contains an intervening ...	Example (A = ‘adjective; N = ‘noun’)
Pronominal possessor	A [<i>a</i> <i>ga</i> ‘my’ N]
Placename possessor	A [<i>wome</i> ₂ <i>no</i> ₂ ‘Wome’s’ N]
Nominal possessor	A [<i>imo</i> _(i) <i>ga</i> ‘beloved’s’ N]
Numeral	A [<i>ko</i> ₂ <i>ko</i> ₂ <i>no</i> ₂ <i>no</i> ₂ ‘nine’ N]
Demonstrative	A [<i>so</i> ₂ <i>no</i> ₂ ‘that’ N]

Table 4: Intervening Grounding Elements

Table 5 summarizes the frequency of instances of overt nonrestrictivity versus the remaining instances of unclear restrictivity for each of the construction types in the data subset.

Construction Type	Abbreviation	Overtly Nonrestrictive (%)	Unclear Restrictivity	Row Total
<i>ki</i> -Marking	<i>ki</i> -M	63 (51.6%)	59	122
Juxtaposition				
With No Prenasalization	JxT	46 (31.5%)	100	146
With Prenasalization	JxN	3 (6.5%)	43	46
With Unclear Prenasalization	JxU	22 (11.1%)	176	198

Construction Type	Abbreviation	Overtly Nonrestrictive (%)	Unclear Restrictivity	Row Total
<i>si</i> -Final	<i>si</i> -Jx	8 (53.3%)	7	15
<i>no</i> -Marking	<i>no</i> -M	4 (18.2%)	18	22
<i>tu</i> -Marking	<i>tu</i> -M	1 (3.3%)	29	30
<i>si</i> -Marking	<i>si</i> -M	1 (33.3%)	2	3
<i>naru</i> -Marking	<i>naru</i> -M	0 (–)	0	0
<i>karu</i> -Marking	<i>karu</i> -M	0 (–)	1	1
Column Total		148	435	583

Table 5: Instances of Overtly Nonrestrictive Modification in the Data Subset

Visible in Table 5 is that certain construction types occur more often in (overt instances of) nonrestrictive modification vis-à-vis others. More than half of all instances of *ki*-M (51.6%) and *si*-Jx (53.3%), and nearly a third of all instances of JxT (31.5%) and *si*-M (33.3%) contain overt signs of nonrestrictivity. In contrast, overt instances of nonrestrictive modification are much less common amongst instances of JxN (6.5%); JxU (11.1%) *no*-M (18.2%), and *tu*-M (3.3%), though the data for *naru*-M and *karu*-M are overly scant.

Separately, it appears that this restrictivity-based functional trend is associated with certain structural features of the construction types. For one, those construction types found comparatively frequently with nonrestrictive modification shows structural signs of being relative clauses with adjectival predicates. This is most simple to justify for *ki*-M, the adjectival modifiers in which are formally identical to the adjectival predicates in other kinds of subordinate (e.g. complement) clauses, as shown in (5).

- (5) a. *ki*-M construction (repeated from (1a) in §1)
 於保吉 宇美 能 美奈曾己
opo-ki_i umi_i no₂ mi_ina-so₂ko₂
 big-ADN sea GEN water-bottom
 ‘the bottom of the **vast sea**’ (*Man’yōshū* Volume 20, Poem 4491)
- b. Adjectival predicate in complement clause marked with *-ki_i*
 夜麻加波 乃 佐夜気吉 見都都 美知 乎 多豆祢奈
yama-kapa no₂ sayake₂-ki_i mi_i-tutu mi_iti wo taⁿdune-na
 mountain-river GEN clear-ADN see.INF-CONT path ACC seek-OPT
 ‘I want to seek the path [of the Buddha] as I look at the mountain stream **being clear**.’ (*Man’yōshū* Volume 20, Poem 4468)

The cases for *si*-M³ and *si*-Jx⁴ are similar, as the adjectival modifiers therein are formally identical to adjectival predicates in finite clauses, as shown in (6) and (7), respectively (see Martin 1987: 806–7 for more on *si*-Jx).

- (6) a. *si*-M construction with *ara* ‘rough’
 加苦思低 也 安良志 乎 須良 爾 奈氣枳 布勢良武
kaku-site ya ara-si wo sura ni na^uge₂k-i₁ puse-ram-u
 like.this-GER FOC rough-CONCL man RST ADV sigh-INF lie.down-TENT-ADN
 ‘At a time like this, even **tough** men would lie down and cry.’ (*Man’yōshū* Volume 17, Poem 3962)
- b. Finite clause with *si*-marked adjective *to₂po* ‘far’
 阿麻遲 波 等保斯
ama-ⁿdi pa to₂po-si
 heaven-path TOP far-CONCL
 ‘The path to heaven **is far**.’ (*Man’yōshū* Volume 5, Poem 801)
- (7) a. *si*-Jx construction with *yo₂ro₂si* ‘good’
 与慮志謎 鳴 阿利 等 枳枳底
yo₂ro₂si-me₁ wo ar-i to₂ ki₁k-i₁-te
 good-woman ACC exist-CONCL QUOT hear-INF-GER
 ‘Hearing there are **good** maidens, ...’ (*Nihon Shoki Kayō* 96)
- b. Finite clause with *si*-final adjective *yo₂ro₂si* ‘good’
 許 斯 與呂志
ko₂ si yo₂ro₂si
 this EMP good-CONCL
 ‘This is **good**.’ (*Kojiki Kayō* 4)

Meanwhile, in the case of *karu*-M and *naru*-M, the segment *ar-u* of their morphological markers can be identified as the verbal *ar-u* ‘be-ADN’.

In contrast, the remaining constructions—the other Jx subtypes, *no*-M, and *tu*-M—display few signs of a relative-clause status. Instead, these constructions all resemble nominal modification constructions, as exemplified in Table 6. At the same time, proportionally few instances of these construction types involve overt signs of nonrestrictivity. The one apparent exception would be JxT, though this is explainable as being due to the overrepresentation of the construction *opo-ki₁mi₁* ‘great lord’ in the data subset, which accounts for 43 of the 46 overtly nonrestrictive instances of JxT. Considering the likelihood that this frequency of *opo-ki₁mi₁* is textually conditioned, given the construction was a normal term of address for the emperor during the eighth century (Vovin

³ Past research has identified these instances of *si*-M as the adnominal/attributive usage of adjective conclusive forms, something scholars, such as Frellesvig (2012) and Vovin (2020), take to mean that the adnominal/attributive and conclusive forms of adjectives were not specialized in WOJ. However, following Choi’s (1999) study of genitive constructions in the personal names of early eighth-century household registries, there is cause to suggest that at least some of the *-si* in *si*-M are, potentially, not related to the *-si* in conclusive forms, instead being cognate with the *tu* in *tu*-M. In the context of this study, that would mean that at least some instances of *si*-M could not be said to contain relative clauses. The exploration of this possibility is left for future research.

⁴ Some cases of *si*-Jx are arguably difficult to identify as containing relative clauses. This is true for *pasi-ⁿduma* ‘beautiful wife’ in *Kojiki Kayō* 59, which exhibits prenasalization, something not observed in other instances of adjectival relative clauses. Thus, there remains the possibility that at least some instances of *si*-Jx do not contain relative clauses, though, for the sake of space, this possibility is not explored further.

2011: 20), one could justify excluding these instances of *opo-ki₁mi₁* from the discussion. Consequently, the number of overtly nonrestrictive instances of JxT falls to three, accounting for just 2.72% of the remaining 110 instances, and JxT falls back in line with the other Jx subtypes, *no*-M, and *tu*-M.

Construction Type	Example	Nominal Modification Counterpart
Juxtaposition		
With No Prenasalization	<i>opo-ki₁mi₁</i> ‘great lord’ ← <i>opo</i> ‘big’ and <i>ki₁mi₁</i> ‘lord’	<i>mi₁ya-pi₁to₂</i> ‘courtier’ ← <i>mi₁ya</i> ‘palace’ and <i>pi₁to₂</i> ‘person’
With Prenasalization	<i>aka-ⁿdama</i> ‘red jewel’ ← <i>aka</i> ‘red’ and <i>tama</i> ‘jewel’	<i>sato₁-^mbi₁to₂</i> ‘villager’ ← <i>sato₁</i> ‘village’ and <i>pi₁to₂</i> ‘person’
With Unclear Prenasalization	<i>awo-yama</i> ‘green mountain’ ← <i>awo</i> ‘green’ and <i>yama</i> ‘mountain’	<i>tama-mo</i> ‘beautiful seaweed’ ← <i>tama</i> ‘jewel’ and <i>mo</i> ‘seaweed’
<i>no</i> -Marking	<i>to₂po no₂ mi₁kaⁿdo₁</i> ‘distant domain’ ← <i>to₂po</i> ‘far’ and <i>mi₁kaⁿdo₁</i> ‘domain’	<i>mukasi no₂ pi₁to₂</i> ‘people of the past’ ← <i>mukasi</i> ‘past’ and <i>pi₁to₂</i> ‘person’
<i>tu</i> -Marking	<i>po tu ye</i> ‘upper branches’ ← <i>po</i> ‘upper’ and <i>ye</i> ‘branch’	<i>nipa tu to₂ri</i> ‘chicken’ ← <i>nipa</i> ‘garden’ and <i>to₂ri</i> ‘bird’

Table 6: Adjectival Modification Constructions and their Nominal Modification Counterparts

Therefore, one arrives at a stochastic generalization that characterizes the adjectival modification constructions of WOJ. Namely, those construction types that can be said to contain relative clauses with adjectival predicates (viz., *ki*-M, *si*-Jx, *si*-M) are generally more inclined towards overt instances of nonrestrictive modification (save for *naru*-M and *karu*-M, for which there are insufficient data); meanwhile, those constructions that cannot be said to contain relative clauses (viz., JxT, JxN, JxU, *no*-M, and *tu*-M) show no such functional tendency. Based on these parallels in structural and functional properties, one can place all WOJ adjectival modification constructions into one of two groups, as summarized in Table 7 below.

	Structural Properties	Functional Properties	Construction Types
Group 1	Contains relative clauses with adjectival predicates	Statistical inclination towards (overt instances of) nonrestrictive modification	<i>ki</i> -Marking <i>si</i> -Final Juxtaposition <i>si</i> -Marking <i>naru</i> -Marking* <i>karu</i> -Marking*

	Structural Properties	Functional Properties	Construction Types
Group 2	Do not contain relative clauses with adjectival predicates Resemble nominal modification constructions	No statistical inclination towards (overt instances of) nonrestrictive modification	Juxtaposition with No Prenasalization
			Juxtaposition with Prenasalization
			Juxtaposition with Unclear Prenasalization
			<i>no</i> -Marking
			<i>tu</i> -Marking

Table 7: Summary of Groups of Western Old Japanese Adjectival Modification Constructions

Those constructions marked with an ‘*’ in Table 7 (viz., *naru*-M and *karu*-M) have been included in the first group due to their structural properties but, because of the paucity of data, it is difficult to draw conclusions about their functional properties.

Testing for significance offers further confirmation for the proposed generalization. Combining the counts of instances of overt nonrestrictivity and unclear restrictivity by group (from Table 7) and conducting a chi-square test of independence, one sees that there is a statistically significant association between group and restrictivity, $\chi^2(1, N = 540) = 121.8, p < .001$. Furthermore, based on the Pearson residuals in Table 8, constructions in Group 1 were significantly overrepresented among instances of overtly nonrestrictive modification ($r = 8.51$), while those in Group 2 were underrepresented among instances of overtly nonrestrictive modification ($r = -5.06$), as per the discussion thus far.

		Overtly Nonrestrictive	Unclear Restrictivity	Row Total
Group 1	Observed	72	69	141
	Expected	27.4	113.6	
	Pearson Residual	8.51	-4.18	
Group 2	Observed	33	366	399
	Expected	77.6	321.4	
	Pearson Residual	-5.06	-2.49	
Total	Observed	105	435	540

Table 8: Observed and Expected Frequencies, and Pearson Residuals of Instances of Overt Nonrestrictivity and Unclear Restrictivity by Group of Adjectival Modification Construction

The observed frequencies for Group 2 have the 43 instances of *opo-ki-mi*, ‘great lord’ excluded for the reasons discussed above (cf. the row and column totals in Table 5).

5 Summary and Future Research

Using data from the ONCOJ, this study has revealed a new generalization that explains the synchronic formal diversity of WOJ adjectival modification constructions based on how these constructions exhibit parallels in their structural and functional properties. Principally, for those constructions said to contain relative clauses with adjectival predicates, a greater proportion of their instances contain overt signs of nonrestrictive modification. In contrast, those constructions that cannot be said to contain relative clauses (instead resembling nominal modification constructions) do not exhibit a functional tendency towards (non)restrictivity. The result is the classification of WOJ adjectival modification constructions into two overarching groups.

Future research could address the internal diversity of these groups, in particular, whether functional differences can be used to tease apart the individual constructions within each. Additionally, it may be possible to apply the results of the current study to comparative research involving other Japonic languages and varieties. These could include contemporaneous close relatives of WOJ such as Eastern Old Japanese, but also more distantly related Ryukyuan languages (see Figure 1).

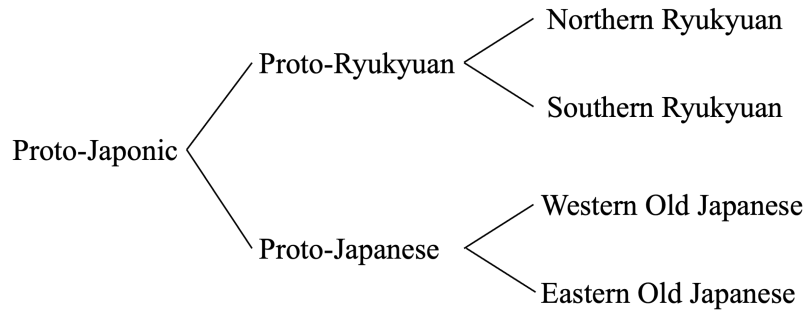


Figure 1: Abbreviated Japonic Language Family Tree

For instance, in the Irabu language (Southern Ryukyuan, Miyako), Shimoji (2008: 389–91) documents the existence of multiple, functionally differentiated adjectival modification constructions, as in (7).

- (7) a. General modification with reduplicated adjective followed by =*nu* ‘GEN’
ssuu-ssu=nu jaa=nu=du ar-Ø
 RED-white=GEN house=NOM=FOC exist-NPST
 ‘(There) is a (very) **white** house.’ (Shimoji 2008: 391)
- b. Contrastive modification with -*kar* ‘VBZ’
ssu-kar-Ø jaa=nu=du masi
 white-VBZ-NPST house=NOM=FOC better
 ‘The house that **is white** (as opposed to black) is better.’ (Shimoji 2008: 391)
- c. ‘Nonreferential’ noun formation by bare adjective stem
kari=a maada=du gaazuu-pžtu=dara=i
 3SG=TOP very=FOC selfish-man=CRTN=CNF
 ‘He’s a very **selfish** man, eh?’ (Shimoji 2008: 390)

Putting the reduplicated adjectives in (7a) aside, *-kar* in (7b) appears to be cognate with WOJ *-kar-u* (in *karu-M*), while the modification by bare adjective stem in (7c) is comparable to WOJ Jx constructions. Thus, the functionally differentiated system of adjectival modification in Irabu seemingly mirrors the groups of adjectival modification constructions posited for WOJ in the current study. Perhaps, future research could elaborate the relevance of these groups to the history of not only Japanese but also Japonic languages generally.

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Appendix A

Glossing Abbreviations

The glossing abbreviations/conventions in the current study not found in the ‘List of Standard Glossing Abbreviations’ in the Leipzig Glossing Rules are as follows:

ADN	Adnominal	GER	Gerund	STAT	Stative
CNF	Confirmative (i.e. Irabu =i)	NPST	Nonpast	TENT	Tentative
CONCL	Conclusive	OPT	Optative	VBZ	Verbalizer (i.e. Irabu -kar)
CONT	Continuative	RST	Restrictive		
CRTN	Certainty (i.e. Irabu =dara)	SEM	Semblative		

Old Japanese Romanization Scheme

	<i>a</i>	<i>i</i>	<i>u</i>	<i>e</i>	<i>o</i>
<i>k</i>	<i>ka</i>	<i>ki₁ ki₂</i>	<i>ku</i>	<i>ke₁ ke₂</i>	<i>ko₁ ko₂</i>
<i>ʎg</i>	<i>ʎga</i>	<i>ʎgi₁ ʎgi₂</i>	<i>ʎgu</i>	<i>ʎge₁ ʎge₂</i>	<i>ʎgo₁ ʎgo₂</i>
<i>s</i>	<i>sa</i>	<i>si</i>	<i>su</i>	<i>se</i>	<i>so₁ so₂</i>
<i>ʎz</i>	<i>ʎza</i>	<i>ʎzi</i>	<i>ʎzu</i>	<i>ʎze</i>	<i>ʎzo₁ ʎzo₂</i>
<i>t</i>	<i>ta</i>	<i>ti</i>	<i>tu</i>	<i>te</i>	<i>to₁ to₂</i>
<i>ʎd</i>	<i>ʎda</i>	<i>ʎdi</i>	<i>ʎdu</i>	<i>ʎde</i>	<i>ʎdo₁ ʎdo₂</i>
<i>n</i>	<i>na</i>	<i>ni</i>	<i>nu</i>	<i>ne</i>	<i>no₁ no₂</i>
<i>p</i>	<i>pa</i>	<i>pi₁ pi₂</i>	<i>pu</i>	<i>pe₁ pe₂</i>	<i>po</i>
<i>ʎb</i>	<i>ʎba</i>	<i>ʎbi₁ ʎbi₂</i>	<i>ʎbu</i>	<i>ʎbe₁ ʎbe₂</i>	<i>ʎbo</i>
<i>m</i>	<i>ma</i>	<i>mi₁ mi₂</i>	<i>mu</i>	<i>me₁ me₂</i>	<i>mo₍₁₎ mo₍₂₎</i>

	<i>a</i>	<i>i</i>	<i>u</i>	<i>e</i>	<i>o</i>
<i>y</i>	<i>ya</i>	—	<i>yu</i>	<i>ye</i>	<i>yo</i> ₁ <i>yo</i> ₂
<i>r</i>	<i>ra</i>	<i>ri</i>	<i>ru</i>	<i>re</i>	<i>ro</i> ₁ <i>ro</i> ₂
<i>w</i>	<i>wa</i>	<i>wi</i>	—	<i>we</i>	<i>wo</i> ₁ <i>wo</i> ₂

Romanized Western Old Japanese Syllables

Note some of the differences between the romanization scheme in the current study and previous popular schemes, such as that in Frellesvig and Whitman (2008). The current scheme favors indices as opposed to digraphs (viz., *i*₂ over *wi*; *e*₁ over *ye*; and *o*₁ over *wo*). For *mo*, the index is either unwritten in specific instances or otherwise parenthetical, as *mo*₁ and *mo*₂ are arguably only distinguished in particularly archaic Old Japanese texts (Bentley 1997). Meanwhile, the prenasalization reconstructed for Old Japanese (see, e.g., Miyake 2003) is written out explicitly as opposed to being assumed (viz., ⁿ*g* over *g*; ⁿ*z* over *z*; ⁿ*d* over *d*; ^m*b* over *b*). Furthermore, capitalization is used to indicate when a given word/morpheme is transcribed logographically (as opposed to phonographically), and an underline is added when there is otherwise no explicit indication of a given morpheme in the orthography.

Appendix B

Semantic Class	Adjectives
COLOR	<i>aka</i> ‘red’, <i>akara</i> ‘red’, <i>asara</i> ‘light-colored’, <i>awo</i> ‘blue, green’, <i>ka-ⁿguro</i> ₁ ‘black’, <i>ku</i> ‘yellow’, <i>kuro</i> ₁ ‘black’, <i>ma-siro</i> ₁ ‘completely white’, <i>sira</i> ~ <i>siro</i> ₁ ‘white’
PHYSICAL PROPERTY	<i>ara</i> ‘rough’, <i>arara</i> ‘scattered’, <i>ita</i> ‘painful, sick, terrible’, <i>kaku</i> ‘fragrant’, <i>kara</i> ‘salty’, <i>ki-tana</i> ‘dirty, impure’, <i>ki-^{yo}</i> ₁ ‘clear, clean, pure’, <i>mi-ⁿdu</i> ‘lush’, <i>niko</i> ₁ ‘gentle, soft’, <i>pi-pa^mboso</i> ₂ ‘weak and slender’, <i>saⁿgasi</i> ‘steep’, <i>samu</i> ‘cold’, <i>tawaya</i> ‘weak’, <i>to</i> ₁ ‘sharp’, <i>usu</i> ‘thin’, <i>usura</i> ‘thin’
VALUE	<i>asi</i> ‘bad, lowly’, <i>iyasi</i> ‘lowly, humble, poor, shabby’, <i>siko</i> ₂ ‘disgusting, unworthy’, <i>aki-rake</i> ₂ ‘brilliant’, <i>atara</i> ‘in vain, be a waste’, <i>atarasi</i> ‘precious’, <i>i</i> ~ <i>yu</i> ‘holy’, <i>itukusi</i> ‘majestic’, <i>ito-ko-ya</i> ‘lovely’, <i>kanasi</i> ‘dear, adorable, pitiful, sad’, <i>kasiko</i> ₁ ‘awesome’, <i>kupasi</i> ‘fine, beautiful, exquisite’, <i>ma</i> ‘pure, perfect, outstanding’, <i>mana</i> ‘splendid, refined, loveable, dear’, <i>masura</i> ‘great, excellent, superior’, <i>mezⁿdurasi</i> ‘dear, beloved, rare’, <i>mi-ⁿdu</i> ‘beautiful’, <i>omo</i> ₍₂₎ <i>siro</i> ₁ ‘pleasant, charming, fetching’, <i>opo</i> ‘great’, <i>pasi</i> ‘dear, beloved’, <i>po</i> ‘skilled, excellent’, <i>puto</i> ₁ ‘splendid, great’, <i>suⁿgasi</i> ‘fresh, pure’, <i>sume</i> ₁ ‘divine, imperial, exalted’, <i>taputo</i> ₁ ‘valuable, venerable’, <i>to-²mo</i> ₍₂₎ <i>si</i> ‘enviable’, <i>uⁿdu</i> ‘rare, wonderful’, <i>uma</i> ‘great, tasty’, <i>urupasi</i> ‘dear, beautiful’, <i>utukusi</i> ‘loveable, adorable, pretty, cute’, <i>wosi</i> ‘precious, dear, regrettable’, <i>yo</i> ₂ ‘good’, <i>yo-²ro</i> ₂ <i>si</i> ‘good, fitting, suitable’
SIZE	<i>asa</i> ‘shallow’, <i>isasa</i> ‘small’, <i>ko</i> ₁ ‘small’, <i>puka</i> ‘deep’, <i>mi-ⁿzika</i> ‘short’, <i>naⁿga</i> ‘long’, <i>pi-ro</i> ₂ ‘wide’, <i>opo</i> ‘big’, <i>sasara</i> ‘small, minutely divided’, <i>saⁿzare</i> ‘small, minute’, <i>taka</i> ‘tall, high’, <i>usura</i> ‘thin’, <i>wo</i> ‘small’
AGE	<i>arata</i> ‘new’, <i>mi-ⁿdu</i> ‘fresh, young’, <i>naⁿga</i> ‘long-lived’, <i>nipi</i> ₁ ‘new’, <i>oyo-²si</i> ‘old’, <i>puru</i> ‘old’, <i>waka</i> ~ <i>waku</i> ‘young’
SPEED	<i>paya</i> ‘fast, powerful’

Semantic Class	Adjectives
HUMAN PROPENSITY	<i>aka</i> ‘honest’, <i>i^mbuse</i> ‘gloomy, miserable’, <i>ko₁pi₂si</i> ‘loving, beloved, longing for’, <i>kurusi</i> ‘painful, hard’, <i>natukasi</i> ‘feeling strong affection for’, <i>omo₍₂₎posi</i> ‘desirable, which one is thinking of’, <i>opoposi</i> ‘slow, stupid’, <i>oso₂</i> ‘slow, stupid’, <i>sakasi</i> ‘clever’, <i>take₁</i> ‘manly’, <i>to₁</i> ‘sharp, fast’, <i>urame₁si</i> ‘resentful, grieving’, <i>ureta</i> ‘vexing, annoying’, <i>usu</i> ‘cold, uncaring’, <i>utusi</i> ‘real, honest’, <i>woⁿdina</i> ‘weak, unskillful’
DIFFICULTY	<i>yasu</i> ‘easy’
QUALIFICATION	<i>kusi</i> ‘mysterious’, <i>kususi</i> ‘mysterious’, <i>kusuⁿbasi</i> ‘strange, mysterious’, <i>ke₁si</i> ‘deviant’, <i>mara</i> ‘rare’, <i>muna</i> ‘empty, false’, <i>taⁿda</i> ‘precise’
POSITION	<i>po</i> ‘upper’, <i>siⁿdu</i> ‘lower’, <i>to₂po</i> ‘faraway, distant, far’, <i>to₂poⁿdo₂posi</i> ‘distant’, <i>to₂po-naⁿga</i> ‘far away’, <i>taka</i> ‘high’
TEMPORAL	<i>kari</i> ‘temporary’, <i>munasi</i> ‘transient’, <i>naⁿga</i> ‘(temporally) long’, <i>pi₁sasi</i> ‘be a long time’, <i>to₂ko₂</i> ‘constant’, <i>to₂ki₁ⁿzi</i> ‘timeless, constant, untimely’, <i>to₂ki₁ⁿziku</i> ‘constant’

Adjectives in the Data Subset

Adjective glosses are based on those in the *Oxford-NINJAL Corpus of Old Japanese*.