

# ORIGINS OF THE VERBALIZER AFFIXES IN THE JAPONIC LANGUAGES

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May 1<sup>st</sup>, 2012

## ABSTRACT

The affix that verbalizes adjectives in the Japonic languages is traditionally viewed as deriving from one of two constructions: \*ku a(r)-, an adverbializer + existential verb, or \*-sa a(r)-, a nominalizer + existential verb (Martin 1987, Bentley 2001, Chamberlain 1895, etc.). However, Izuyama (1997) argues that this view is taken at face value and ignores phonological correspondences with the southern Japonic languages, notably Yaeyama and Yonaguni. She argues instead that the form originates in the completive forms of three or four reconstructed verbs \*s(u), \*k(u), \*i(r ~s), all meaning ‘to do’.

In my work, I gathered comparative morphological and phonological evidence from wordlists, grammars and my own fieldwork with a speaker of Okinawan, to test these hypotheses. However, my findings also lead me to reject Izuyamas reconstruction of \*i(r~s) as a valid reconstruction of ‘to do’ or as relevant to the verbalizer affix. Rather, I establish its origins in a Proto-Ryukyuan verb \*er- ‘to get,’ descending from Proto-Japanese \*e- that grammaticalized to attach to consonant-stem verbs, to create an inchoative or valency-changed class of vowel-stem verbs. I also tentatively reconstruct the verb ‘to do’ as \*as-, a transitive form of the verb \*ar- ‘to exist.’ In agreement with Izuyama, however, I found that there is ample evidence supporting the hypothesis that the verbalizer affix originates in the completive and/or past form of verbs meaning ‘to do’ and provide both comparative and theoretical evidence for this claim. Such findings have various implications for the reconstruction of the Proto-Japonic adjectival and verbal systems.

## Acknowledgements

I would like to first thank my advisors, Claire Bower and Stephen R. Anderson, for helping me throughout my senior thesis project. Claire Bower has especially been a large influence on my decision to focus on historical linguistics from the first field methods class I took with her and has provided me endless advice throughout my undergraduate career as a linguistics major. I would also like to thank Jelena Krivokapić and Raffaella Zanuttini for guiding the senior thesis classes and giving me advice during my process of finding and modifying my topic and presenting my research. The other undergraduate linguistics majors of the graduating class of 2012 have also been very helpful in this process.

My Japanese teachers Michiaki Murata and Masahiko Seto have helped me by offering grammatical judgments on Japanese and by checking my sentences. I am particularly grateful to Michiaki Murata for introducing me to my Shuri-Naha Okinawan language consultant, Eitetsu Yamaguchi, who I must also thank for being a wonderfully helpful source alongside Chamberlain's 1895 grammar for my understanding of Okinawan. I also thank Edward Kamens for recommending me sources on Old and Classical Japanese.

For sources on the Ryukyuan languages, I would like to thank Patrick Heinrich for pointing me towards sources on the Ryukyuan languages and putting me in contact with other Ryukyuan linguists, including Thomas Pellard and Michinori Shimoji. I thank Thomas Pellard for sending me *An Introduction to Ryukyuan Languages*, compiled by him and Michinori Shimoji, while I waited for the hard copy of the book to arrive from Japan by boat, and Michinori Shimoji for sending me his article on the Irabu dialect of Miyako that I could not access elsewhere.

All of the above people have been crucial to my process of writing this paper and without them I would not have been able to carry out this task. I thank them all sincerely.

## § 1 Introduction

The adjectival system is an understudied area in the field of Japonic linguistics. The Japonic languages comprise two classes of adjectives—an ancient layer of inflecting adjectives and a younger layer of non-inflecting adjectives. While there has been extensive work done on the verbal system of Japanese and comparisons made with the Ryukyuan languages, how the suffixes that attach to adjectival stems came to form is still a mystery.

The inflecting adjectives in the Japonic languages inflect as verbs after taking a verbalizer affix. The traditional account states that all the verbalizer affixes in the Japonic languages derive from one of two constructions. I will denote the first one as the *k*-system, which is believed to have descended from a \*-ku adverbializer with an existential \*a- verb that was originally a copula. The second construction, which I will term the *s*- system, consists of a nominalizer \*-sa with the same \*a- verb (Chamberlain 1895, Martin 1987, Izuyama 1997, Bentley 2001).

This paper will first survey the adjective class across the Japonic languages and summarize and evaluate the views of previous linguists. The minority view of the verbalizer affixes deriving from a completive form of verbs meaning ‘to do’ is then tentatively accepted, with a number of revisions based off lexical and morphological data. A reconstruction of the form and function of the verbalizer affix and the relevant related forms will then be attempted through a comparative look between the languages and with the diachronic data that is available.

Chapter 1 consists of a background of the Japonic languages and Chapter 2 provides a brief overview of the Japonic adjectival systems. In Chapter 3, I give previous diachronic analyses of the adjectival systems in Japanese and the Ryukyuan languages, including Izuyama’s 1997 minority view. This is followed in Chapter 4 by my critique of the past views and analysis of comparative data among the Ryukyuan languages. My analysis is supplemented by data from a speaker of Shuri-Naha Okinawan. I end the chapter by providing a revised reconstruction of Izuyama’s proposal. Chapter 5 explores theoretical support for my analyses and ends with a speculative foray into data on Old and Classical Japanese. Finally, Chapter 6 provides the closing remarks.

While this paper will not make a fully adequate claim as to the adjectival system in Proto-Japonic, it is hoped that a more unified understanding of the development of the heterogeneous adjective classes will be gleaned.

### § 1.1 Data Sources

Data from Japanese is cited if taken from a source and uncited if the sentence is my creation. Data from the Shuri-Naha dialect of Okinawan is cited if taken from a source and uncited if elicited from my consultant, Dr. Yamaguchi, or formed by me and confirmed with Dr. Yamaguchi. The two Korean phrases are my creation. The following is a list of sources for data. Languages are bolded and followed by the dialects belonging to the language group. Although Yonaguni likely has dialect divisions as well (Izuyama mentions one dialect, Higawa), they do not appear to be distinguished in the sources given.

Chamberlain (1895)	<b>Okinawan</b>	Shuri-Naha
Hirayama (1983)	<b>Miyako</b>	Hirara, Ikema, Irabu, Tarama
Hirayama (1986)	<b>Amami</b>	Wadomari, China, Tokunoshima
Hirayama (1988)	<b>Yaeyama</b>	Ishigaki, Hateruma
	<b>Yonaguni</b>	
Hirayama & Nakamoto (1964)	<b>Yonaguni</b>	
	<b>Yaeyama</b>	Ishigaki, Iriomote, Hatoma, Kabira, Kohama
	<b>Miyako</b>	Tarama
Izuyama (1997)	<b>Amami</b>	Naze
	<b>Okinawan</b>	Shuri-Naha, Nakachi
	<b>Yaeyama</b>	Miyara, Kuroshima, Kohama
	<b>Yonaguni</b>	Higawa, unspecified dialects
Lee (1961)	<b>Middle Korean</b>	
Miyara (1995)	<b>Yaeyama</b>	Ishigaki
Morphy (1983)	<b>Djapu</b>	(language in Yolŋu subgroup of Pama-Nyungan)
Nakamatsu (1962)	<b>Okinawan</b>	Kunigami Nakijin, Yonamine, Izena
	<b>Miyako</b>	Irabu, Hirara
	<b>Yaeyama</b>	Iriomote, Kohama, Ishigaki, Hateruma, Kuroshima, Taketomi, Kabira
Pellard & Shimoji (2010): Includes sketches by:		
Shigeno, Hiromi	<b>Amami</b>	Ura
Niinaga, Yuto	<b>Amami</b>	Yuwan

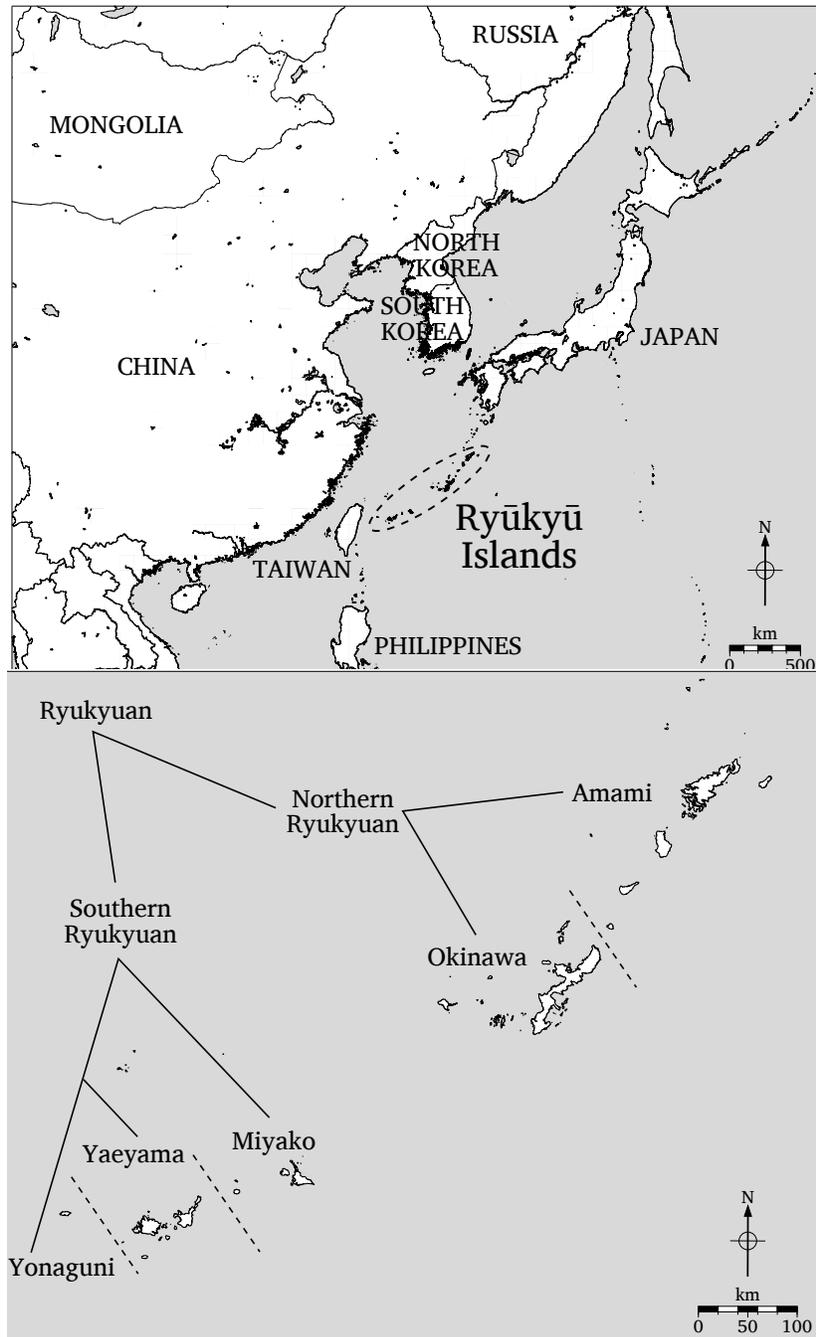
Matayoshi, Satomi	<b>Okinawan</b>	Tsuken
Hayashi, Yuka	<b>Miyako</b>	Ikema
Pellard, Thomas	<b>Miyako</b>	Ōgami
Aso, Reiko	<b>Yaeyama</b>	Hateruma
Sakihara (2006)	<b>Okinawan</b>	Shuri-Naha
Shimoji (2009)	<b>Miyako</b>	Irabu
Uchima (2001)	<b>Amami</b>	Koniya, Yuwan
	<b>Okinawan</b>	Izena, Sesoko, Henza, Noha,
		Kumejima
	<b>Miyako</b>	Yonaha, Ōgami
	<b>Yaeyama</b>	Kabira, Ishigaki

## § 1.2 The Background of the Japonic Languages

The Japonic language family is generally divided into two branches. Japanese is spoken all throughout Japan by over 121 million speakers (Shibatani 1990, 89), while the Ryukyuan languages<sup>1</sup> are spoken on the Ryukyu archipelago that stretches from the south of Japan to the east of Taiwan (Russell 2006, 3, following Hattori 1959). I will make no detailed discussion of the difference between dialect and language for the Japonic languages, but, as Japanese speakers cannot generally understand the Ryukyuan languages (Russell 2006, 11), I will take the view that the two constitute different languages. Whether the subvarieties are separate dialects or languages is a discussion beyond this paper. However, by Hockett’s dialect-chain definition (Hockett 1958, ch. 38), there are five different languages. The dialects of each language decrease in mutual intelligibility as they increase in geographical distance (Serafim 2008, 80). Pellard & Shimoji (2010, 3) divide these languages into two subfamilies—Northern Ryukyuan, consisting of Amami and Okinawan, and Southern Ryukyuan (or Sakishima), consisting of Miyako, Yaeyama, and Yonaguni.

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<sup>1</sup> The number of speakers is uncertain, due to the lack of statistical information. The total population on the Ryukyus is 1,452,288 (as of 2005), but since it is only the older generation that is proficient, the number of speakers is far fewer (Pellard & Shimoji 2010, 2).



**Figure 1: Geographic Distribution of the Japonic Languages (Pellard & Shimoji 2010, 3)**

Hattori 1959 suggests that Japonic speakers migrated to Kyushu, the southernmost island of the Japanese mainland, from the Korean peninsula around 300BC. A more recent estimate based off a Bayesian phylogenetic analysis places the ancestor around 2400 years before present, supporting Hattori's view (Lee and Hasegawa, 2011). The first written evidence of Japanese, however, does not appear until the Nara period in the 8<sup>th</sup> century,

when Chinese characters were adopted. The stages of Japanese can be divided into Old Japanese (710-1185), Middle Japanese (1185-1603), Early Modern Japanese (1603-1868), and Modern Japanese (1868-Present).

The settlement of the northern Ryukyu Islands by early Japonic speakers from the Japanese mainland is believed to have occurred either between the 2<sup>nd</sup> and 6<sup>th</sup> centuries (Pellard & Shimoji 2010, 2, following Uemura 1997) or between the 8<sup>th</sup> and 9<sup>th</sup> centuries (Pellard & Shimoji 2010, 2, following Serafim 2003). There is no claim as to whether Proto-Ryukyuan developed on the mainland or on the Ryukyu archipelago; however, Japanese and Ryukyuan had become clearly distinct by the time Japanese developed a writing system (Heinrich 2004, 154). Movement from Okinawa to the southern Ryukyu islands (known as the Sakishima islands) has been shown to have occurred in the 13<sup>th</sup> century (Pellard & Shimoji 2010, 3, following Asato and Dohi 1999). Contact with mainland Japan then remained limited until the 17<sup>th</sup> century, when the Ryukyus were conquered by the Satsuma domain of Kyushu, (Pellard & Shimoji 2010, 4).

Beginning from the assimilation of the Ryukyu Islands into the Japanese nation-state in 1872, attempts were made to spread the use of Standard Japanese, but it was not until Japan's war with China in 1937 that the Ryukyuan language began to be actively suppressed. Notable punishments for not speaking in Standard Japanese included the wearing of a "dialect card," refusal of service, and fines. With the end of World War II came the occupation by American forces of the Ryukyus. Although there was an attempt to support the usage of Ryukyuan (and English) and to write textbooks in Ryukyuan, the lack of a standard writing system and the replacement of Okinawan by Standard Japanese as the lingua franca of the Ryukyus quickly ended the enthusiasm for language planning. Due to anti-American sentiment, a feeling of unity with the mainland, and beliefs that co-usage of Ryukyuan and Standard Japanese in schools led to poor achievement, the usage of Ryukyuan was once again condemned. By the 1950s, Ryukyuan was no longer passed on to the younger generation. Japanese had become the compulsory language of education and Ryukyuan languages marginalized to "irrelevant" or "unimportant" matters. As a result, the Ryukyuan languages are bound for extinction if the reversal of language shift cannot be achieved (Heinrich 2004, 156-172).

The Japonic languages are characterized by the existence of pitch accent, SOV word order (with the verb strictly in final position), and by agglutination of various suffixes, especially to verbs and inflecting adjectives. Due to the relatively long isolation of the Ryukyuan languages from Japanese, various features have come to diverge between the sister languages. A notable difference that will be explored in this essay is that between the adjectival systems.

## **§ 2 Adjectives in the Japonic Languages**

Japanese and the Ryukyuan languages share many similarities in their adjectival systems. Both subfamilies involve suffixing extra morphological information to a bound adjectival root to make a verbal stem that can take most inflectional affixes. There is also a shared class of inflecting adjectives in both subfamilies that contain semantically basic adjectival meanings and thus is representative of an ancient commonly inherited layer. This section briefly explores the adjectival systems of both subfamilies and analyzes similarities and differences between them.

### **§ 2.1 The Dual Adjective Classes in Japanese**

Japanese has two classes of adjectives—inflecting and non-inflecting. The inflecting class morphologically resembles verbs while the non-inflecting class morphologically resembles nouns, but syntactically tends to pattern similarly to inflecting adjectives (Backhouse 2006). This section compares and contrasts the two classes and provides examples of usage.

#### *§ 2.1.1 Inflecting Adjectives*

The inflecting adjective class in Japanese is closed, consisting of around 600 tokens in the modern language (Backhouse 1984, 181, following Nishio 1972, 11). The conjugation paradigm for inflecting adjectives is given below, with comparison to the verbal conjugation paradigm, based off Backhouse (2006, 52) (with different verbs).

**Table 1: Comparison of Adjectival and Verbal Inflection**

<b>Form</b>	<b>Inflecting Adjective</b>	<b>Verb (Vowel-Stem)</b>
Non-past	<i>ama-i</i> 'to be sweet'	<i>tabe-ru</i> 'to eat'
Infinitive (Adverbial)	<i>ama-ku</i>	<i>tabe</i>
Past	<i>ama-kat-ta</i>	<i>tabe-ta</i>
Provisional	<i>ama-ke-reba</i>	<i>tabe-reba</i>
Conjunctive	<i>ama-ku-te</i>	<i>tabe-te</i>
Conditional	<i>ama-kat-tara</i>	<i>tabe-tara</i>
Representative <sup>2</sup>	<i>ama-kat-tari</i>	<i>tabe-tari</i>
Imperative	-	<i>tabe-ro</i>
Hortative	-	<i>tabe-joo</i>
Formal	<i>ama-i desu</i>	<i>tabe-masu</i>
Negative	<i>ama-ku na-i</i>	<i>tabe-na-i</i>
Causative	<i>ama-ku suru</i>	<i>tabe-sase-ru</i>
Passive/Malefactive	-	<i>tabe-rare-ru</i>
Potential	-	<i>tabe-rare-ru/tabere-ru</i>

As can be seen, with the exception of four forms, adjectives are compatible with verbal conjugations. These forms will be explored in §5.1. One will also notice that the adjectival endings closely resemble the verbal endings, with extra morphological information. The extra intervening morpheme appears to be *-kar*, a contraction of the conjunctive *-ku* and the conjugated forms of the verb *aru* 'to exist,' with the exception of the non-past form, which appears suppletive. This analysis will be expanded upon in a later section.

The phonological properties of inflecting adjectives include

- (1) The following stem endings: /a, u, o/ or /i/ (those ending in /i/ are almost always forms with the fossilized adjectivalizer /si/), never /e/
- (2) Native phonological shape
  - (a) Preferred (C)V(C)V syllable structure
  - (b) No long vowels, syllable final /N/, palatal /y/, or geminate /Q/
  - (c) No /r/ or /p/ word-initially

Interestingly, some of the commonest and most basic vocabulary violates some of these rules (*ooki-i* 'big,' *ciisa-i* 'small,' *oo-i* 'many,' and *too-i* 'far,' for example). Furthermore,

<sup>2</sup> The representative is used when expressing representative items in a non-exhaustive list. For example, *tabe-kat-tari jomi-kattari su-ru* eat-REP read-REP do-NPST 'to eat or read (etc.)' or *ama-kat-tari su-ru* sweet-REP do-NPST 'to be sweet (and such).'

some Sino-Japanese words that fit the phonological criteria have entered the inflecting class (*sikaku-i* 'square' and *kawai-i* 'cute,' for example) (Backhouse 1984, 180).

Compared to nouns and verbs (and non-inflecting adjectives), the pitch accent of inflecting adjectives is rather simple. Adjectival roots comprise merely four tonic classes and one atonic class, analyzed as oxytonic by Martin (1967, 264). Once the non-past form is added, only one accent pattern is permitted through shifting (or adding) of the accent to the syllable preceding *-i* (Martin 1967, 257-258). The mechanisms of adjectival pitch accent are described in more detail in Martin (1967).

Much like verbs, inflecting adjectives also function as the head of predicates and as modifiers in noun phrases (this attributive form is the same as the non-past or past form).

(1) **Predicative usage**

*Adjectival:*

kono eega=wa	tsumarana-i	/	tsumarana- <b>kat-ta</b>
this movie=TOP	boring-NPST		boring-VLZ-PST
'This movie is/was boring.'			

*Verb:*

Taroo=wa	kuruma=ni	nor-u	/	not- <b>ta</b>
Taroo=TOP	car=LAT	ride-NPST	/	ride-PST
'Taroo gets/got in the car.'				

(2) **Attributive usage**

*Adjectival:*

naga-i	hon=wo	jom-i-ta-ku	na-i
long-NPST	book=ACC	read-INF-want-CNJ	NEG-NPST
'I don't want to read a long book.'			

atsu- <b>kat-ta</b>	gohan=wa	tsumeta-ku	nat-ta
hot-VLZ-PST	food=TOP	cold-AVLZ	become-PST
'The hot food became cold.'			

*Verbal:*

arui-te	ik-u	mici=wa	sema-i
walk-CNJ	walk-NPST	road=TOP	narrow-NPST
'The road we are walking on is narrow.'			

kinoo	uke- <b>ta</b>	siken=ni	oci-ta
yesterday	receive-PST	test=LAT	fail-PST
'I failed the test I took yesterday.'			

### § 2.1.2 Non-inflecting Adjectives

Unlike inflecting adjectives, non-inflecting adjectives take forms of the copula *da*. Backhouse 2006 (57) provides the following forms. I add a few more forms and an example of a noun for comparison.

**Table 2: Comparison of Forms of Non-Inflecting Adjectives and Nouns**

Form	Non-Inflecting Adjective	Noun
Non-past predicative	<i>rippa da</i> 'impressive'	<i>sensee da</i> 'is a teacher'
Non-past attributive	<i>rippa na</i>	<i>sensee no</i>
Past	<i>rippa dat-ta</i>	<i>sensee dat-ta</i>
Non-past formal	<i>rippa desu</i>	<i>sensee desu</i>
Past formal	<i>rippa desi-ta</i>	<i>sensee desi-ta</i>
Adverbial <sup>3</sup>	<i>rippa ni</i>	( <i>sensee ni</i> )
Conjunctive	<i>rippa de</i>	<i>sensee de</i>

Except for the attributive, the non-inflecting forms are shared with nouns. It must be noted, however, that some non-inflecting adjectives attribute with *no* and others that take either *no* or *na*, with the usage of *no* seemingly related to a nominal usage (Uehara 2003, 367). The Ryukyuan languages seem to use these adjectives exclusively with *no/nu*, so morphologically, there is little difference from nouns.

The non-inflecting adjective class is open and contains native, Sino-Japanese, and other loan adjectives (Backhouse 1984, 180). Non-inflecting adjectives have the same number of pitch patterns as nouns—the number of morae plus one<sup>4</sup> (Martin 1967, 250). Among the native adjectives in this class, a large number end in /e/, filling in the gap in the inflecting system. Many also end in *-ka*, *-jaka*, or *-raka*, which seem to have been verb adjectivalizers that formed the earliest non-inflecting adjectives (Backhouse 1984, 181).

<sup>3</sup> The noun example is analogous to the non-inflecting example, in that both can be used as a lative (for example, *rippa/sensee ni naru* 'to become impressive/a teacher.' However, the non-inflecting adjective can also use this form as an adverbial whereas the noun cannot.

<sup>4</sup> Martin describes the number of pitch patterns as the number of syllables plus one, but since the accent can lie on the moraic nasal /N/, the mora is a better unit of choice.

§ 2.1.3 Derivational Processes of Japanese Adjectives

The following charts illustrate the lexical derivational processes of inflecting and non-inflecting adjectives. The charts are partially modified.

**Table 3: Derivational Processes of Inflecting Adjectives (Backhouse 2006, 54)**

Process	Suffix	Productivity	Example
Adverbialization	<i>-ku</i>	Productive	<i>naga-ku</i> 'for a long time, etc.'
Nominalization (Conversion)	-∅	Restricted	<i>warui</i> 'bad' > <i>waru</i> 'rogue' <i>cikai</i> 'near' > <i>cika-ku</i> 'area nearby'
Reduplication (Adverbialization)	-RED	Restricted	<i>naga-naga</i> 'at great length'
Nominalization	<i>-sa</i>	Productive	<i>naga-sa</i> 'length'
Nominalization	<i>-mi</i>	Somewhat restricted	<i>ama-mi</i> 'sweetness'
Use with the third person	<i>-garu</i>	Productive with emotion adjectives	<i>samu-garu</i> 'show signs of feeling cold'
Excessive	<i>-sugiru</i>	Productive	<i>naga-sugiru</i> 'to be too long'
Evidential	<i>-soo, -ge</i>	Productive	<i>naga-soo/naga-ge</i> 'appears long'
"Rather"	<i>-me</i>	Productive if gradable	<i>naga-me</i> 'on the long side'

**Table 4: Derivational Processes of Non-inflecting Adjectives (Backhouse 2006, 58)**

Process	Suffix	Productivity	Example
Nominalization	<i>-sa</i>	Productive	<i>rippa-sa</i> 'impressiveness'
Nominalization	<i>-mi</i>	Restricted	<i>sinken-mi</i> 'earnestness'
Use with the third person	<i>-garu</i>	Productive with emotion adjectives	<i>zannen-garu</i> 'show signs of finding regrettable'
Excessive	<i>-sugiru</i>	Productive	<i>kiree-sugiru</i> 'too beautiful/clean'
Evidential	<i>-soo</i>	Productive	<i>z'oobu-soo</i> 'sturdy-looking'

Many of the derivational processes of non-inflecting adjectives are shared with inflecting adjectives, rather than with nouns. As can be seen, however, the number of derivational affixes that can be used with non-inflecting adjectives is more limited than that of the inflecting class. Thus, while the non-inflecting class is gradually beginning to share more features with the inflecting class, the incompatibility with many of the same affixes as the inflecting class shows that the transition from nouns is still in process (see §3.1).

## § 2.2 Adjectival Behavior in the Ryukyuan Languages

The following overview of Ryukyuan adjectival behavior is paraphrased from Pellard & Shimoji 2010 (9-10). Nouns and verbs are easily distinguished in the Ryukyuan languages by inflectional marking on verbs and lack thereof on nouns. Adjectives appear to generally function as verbs, just as in Japanese. Non-inflecting adjectives also exist across the Ryukyuan languages, just as in Japanese but these are not discussed as a class of their own in the literature. This section will describe forms and usages of both classes.

### § 2.2.1 Inflecting Adjectives in the Ryukyuan Languages

Inflecting adjective constructions consist of a bound morpheme that is termed a “property concept” by many Ryukyuan linguists, followed by a suffix that bestows syntactic properties (Pellard & Shimoji, 2010 et al.). I will refer to such “property concepts” as adjectival roots in this paper. The word formation processes are fairly parallel to Japanese.

In contrast to Japanese, compounding of adjectival roots with nominal roots is a rather productive strategy in most of the Ryukyuan languages. The compounding is often accompanied by voicing of the first consonant of the noun component. Whether this process can truly be called compounding is difficult to say, as it is fairly productive with some common nouns and adjectives, and thus could simply be a process of modification.

**Table 5: Adjective-Noun Compounds in Japonic<sup>5</sup>**

Language	Adjectival Root	Nominal	Compound
<b>Amami (Yuwan)</b>	k <sup>h</sup> ura-‘beautiful’	?kin ‘kimono’	k <sup>h</sup> ura-gin ‘beautiful kimono’
<b>Miyako (Ikema)</b>	imi- ‘small’	ffa ‘child’	imi-ffa ‘small child’
<b>Yaeyama (Hateruma)<sup>6</sup></b>	busa- ‘big’	sara ‘plate’	bu-zara ‘big plate’
<b>Okinawan (Shuri-Naha)</b>	siru- ‘white’	hana ‘flower’	siru-bana ‘white flower’
<b>Japanese</b>	jasu- ‘cheap’	mono ‘thing’	jasu-mono ‘cheap/poor quality article’

<sup>5</sup> The first three examples are from Pellard & Shimoji (2010, 10), while the Okinawan and Japanese examples are from my recordings and knowledge.

<sup>6</sup> The phonological processes in Hateruma appears to be different, as can be seen in the dropping of a syllable in this example, or the voicing of the first, rather than second, component in *aga-pana* ‘red flower’ (*aka* = red).

This type of compounding is no longer productive in Japanese and is generally limited to proper nouns, such as the surname *Taka-ki* (lit. tall-tree) or the place name *Naga-no* (lit. long-field), and some nominals, which can take a limited number of adjectival roots. Rather, the attributive form is usually required to broaden the scope to a general referent (*taka-i ki* = tall-ATT tree ‘a/the tall tree’). Conversely, both processes appear to be acceptable in many of the Ryukyuan languages. In Okinawan, the usage is more extensive than in Japanese and the resultant form can denote a general referent (Chamberlain 1895, 117), as seen above. Although the compounding appears to be somewhat limited to certain common nouns, the adjectival roots that can be attached do not appear limited.<sup>7</sup>

What is termed “verbalization” by Ryukyuan linguists is the process by which a verbalizing morpheme is suffixed to an adjectival root to allow the attachment of inflectional affixes. This construction parallels the Japanese adjectival paradigm (except the suppletive non-past form). In the Ryukyuan languages, this verbalizer generally takes the form of either *-kar*<sup>8</sup> or *-sar*; allophones include forms with *w* or *j* and forms with *h* appear in a minority of varieties—a form that will be discussed in §3.4. The morphemes have traditionally been analyzed as originating from \**ku* + *ari* (an adverbializer and ‘to be/exist’) or from \**sa* + *ari* (a nominalizing suffix and ‘to be/exist’), with the minority examples postulated as originating from one of the two systems (Izuyama (1997, 2), Hirayama (1964, 146)). This theory will be expanded upon in §3. Once attached to the adjectival root, the new stem can then take most of the same inflectional affixes as verbs.

Adjectival paradigms for each language are given below. For simplicity, only the predicative, attributive, and negative of the non-past, as well as the adverbializer<sup>9</sup> and nominalized forms will be presented (the abbreviations are explained in Appendix A). Furthermore, the list of dialects is not exhaustive (as there are multitudes of dialects for each language). Some dialects also have a “class” of *-s<sup>j</sup>* adjectives that adopt the same endings as the *-s* forms (with *s<sup>j</sup>* replacing *s*). See §4.2 for more discussion of this “class.”

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<sup>7</sup> I have not tested a large number of adjectival roots with these nouns (it is possible that some longer adjectives cannot be compounded), so I do not claim this statement to be unconditional. As an example, the noun *cin* ‘clothing, kimono’ can be attached to various adjectives, including colors, *mii*- ‘new’, *huru*- ‘old’, *taka*- ‘tall’, and *jasu*- ‘cheap.’

<sup>8</sup> This final phonemic /r/ is affected by processes of deletion, assimilation, or lenition depending on the language, generally before nasals, *t*, or high vowels.

<sup>9</sup> The Ryukyuan languages seem to distinguish between the adverbializer and infinitive forms.

**Table 6: Adjective Paradigms in the Ryukyuan Languages**

Language	Dialect	PRED	NEG	ATT	AVLZ	NMZ
Amami	Ura	-sa-i	-sa ne-N	-sa-N	-ku	-
	Yuwan	-sa(a)-i	-	-sa-N -sa-ru	-ku	-sa
	Wadomari	-sa-N -sa-mu	-sa/ku na-N	-sa-nu -sa-ru	-ku -sa	-sa
	China	-sa-N -sa-mu	-sa/ku na-N	-sa-nu -sa-ru	-ku -sa	-sa
	Tokunoshima	-∅-i -∅-N	-ku nee	-∅-N -∅-ru -ka	-ku	-sa
	Koniya	-sa-r -sa-m	-	-sa-r -sa-N	-k	-
Okinawan	Tsuken	-ha <sup>10</sup> -N	-ku na-N	-ha-ru	-ku	-
	Sesoko	-s <sup>j</sup> ee-N	-	-s <sup>j</sup> ee-ru -s <sup>j</sup> ee-nu	-ku -s <sup>j</sup> ee	-
	Shuri-Naha	-sa-N	-koo nee(ra)-N	-sa-nu -sa-ru	-ku	-sa
Miyako	Hirara	-ka-i	-	-ka-nu -ka-i	-fu	-
	Ikema	-ka-i	-f-fa njaa-N	-ka-i	-fi	-
	Irabu	-ka-(r)m	-kar-a-N -f-fa njaa-N	-ka-r	-fi	-
	Tarama	-s <sup>j</sup> aa-r	-s <sup>j</sup> a na-r	-	-fu	
	Ōgami	-ka-u	-f-fa-nεε-N	-ka-u	-f	-sa
	Yaeyama	Ishigaki	-saa-N	-saa ne-nu	-saa-ru	-
Hateruma		-ha-N	-ha ne-nu -h-en-(u <sup>11</sup> ) -s-aN-(u) <sup>12</sup>	-ha-ru	-	-
Kabira		-saa-N	-	-saa-ri	-saa	-
Yonaguni		-∅-N	-gu minu-N	-∅-nu	-gu	-sa

<sup>10</sup> The *-har* morpheme has allophones *-sar* and *-war* depending on the preceding phoneme (Matayoshi, 94).

<sup>11</sup> Glossed as “non-perfect” by Aso (p. 212)

<sup>12</sup> Aso does not discuss the allophonic relation, which is possibly related to the Miyara and Kuroshima forms (see §3.4). There is also one peculiar example on page 222 (T.16) *ma-ha-s<sup>j</sup>a-ru* which is glossed as ‘delicious-VLZ-VLZ-?-PRF.NPST [sic]. There is likely a mistake here, but for this paper, we will ignore this example. Hirayama (1964) records the above *-ha ne-nu* as the negative, so it is curious whether the negative form has changed or whether these are instances of harmony or further dialectal variations.

The existence of two attributives<sup>13</sup> in some of the languages begs explanation. Some of the Ryukyuan languages preserve a construction that was present in Classical Japanese known as *kakari-musubi*. Under this system, when certain particles, such as the focus markers *-zo* and *-namu/-nan* (Japanese) or *-du* or *-ru* (various Ryukyuan languages) or the question markers *-ka* and *-ja* (Japanese), are used, the sentence is ended with the attributive form rather than the predicative form (Vovin 2003, 208). In some of the Ryukyuan languages, there is a distinction between which attributive form is used for modification and which is used for predication. However, this is unclear in many of the languages as a difference is not mentioned in all the grammars, so I provide both forms. It would appear, from inference of the grammar charts, particularly of Uchima (2001, 259) or of Hirayama (1986), that the *r*-type (*-r* or the high vowels *i*, *ɨ*, or *u*) form is generally the *kakari-musubi* form while the *n*-type form is attributive.

- (3) kakar-u      miti=fa      ikade **ka**      imas-**uru**      Japanese  
 be.such-ATT road=TOP how Q be-HON-ATT  
 'How [did you happen] to be on such a road?'  
 (Vovin 2003, 209, quoting Ise Monogatari VI:114.5)
- sikucee      uri-ga-**ru**      **su-ru**      Okinawan  
 work.TOP 3SG-NOM-FOC do-ATT  
 'He will do the work.'

Example sentences that use the verbalizer form are provided below. An example is pulled from a dialect of each Ryukyuan language.

- (4) an      kii=ja      taa-**sar-oo**      Amami: Yuwan  
 that tree=TOP tall-VLZ-SUPP  
 'That tree is supposed to be tall.' (Niinaga 2010)
- uri      saa      anci      usu-**ha-ru**      Okinawan: Tsuken  
 this tea so.much thin-VLZ-NPST  
 'This tea is really thin!' (Matayoshi 2010)

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<sup>13</sup> Interestingly, the Tokunoshima dialect of Amami has three. See footnote 58 in §5.2 for more information.

aks- <b>kau</b> -ke	num-i-ra	Miyako: Ōgami
hot-VBZ-when	drink-IMP-DSC	
'Drink while it's hot!' (Pellard 2010)		
go- <b>h</b> -en-u-∅		Yaeyama: Hateruma
scary-VLZ-neg-NPRF-NPST		
'(I am) not scared.' (Aso 2010)		
kunu agami nasi-gara=ja	kwa-∅-aru	Yonaguni
this child give.birth-ABL-TOP	low-VLZ-ATT	
duguru=gara=du	miigu-i	hi-rari-taru
place=ABL=FOC	return-CNT	go-POT-PST.ATT
'After I gave birth to this child, I was able to return from the low place (refers to a place called Utimiti).' (Hirayama & Nakamoto 1964)		

The verbalizers take a variety of heterogeneous forms in these languages. The derivational processes seem to be less numerous than in Japanese (possibly from poor recording), but they include the following (examples from Shuri-Naha Okinawan).

**Table 7: Derivational Processes in the Ryukyuan Languages (Okinawan)**

Process	Suffix	Example
Nominalization	-sa	<i>mizira-sa</i> 'strangeness'
Reduplication (Intensifier, Similitive)	-RED	<i>sabi-sabii=tu s-oo-N</i> <sup>14</sup> 'very lonely'
Evidential	-gisa-	<i>iiriki-gisa-N</i> 'interesting-looking'

Nominalization and reduplication is certainly productive in many of the Ryukyuan languages. From my brief overview of the Ryukyuan languages, I have not yet found the evidential suffix in the other Ryukyuan languages.

### § 2.2.2 Non-Inflecting Adjectives in the Ryukyuan Languages

At least some of the Ryukyuan languages also have a non-inflecting adjective class like Japanese. I have not come across any accounts of the languages that seem to treat this class as special or noteworthy, however, unlike most accounts of Japanese. As in Japanese,

<sup>14</sup> =tu is an adverbializer (generally used with reduplicated adjectives, as in Japanese) and s-oo-N is the present progressive form of su-N 'to do.'

the Ryukyuan non-inflecting adjectives are followed by the copula in the predicative. Following are examples from some Ryukyuan languages.

(5) **pataka**-N    nar-i-tu-u    Amami: Ōgami  
 naked-DAT    become-CVB-FOC-IMPF  
 ‘He’s naked.’ (Pellard 2010, 155)

**gaabaa**    nasi-gii=ja    mm<sup>ja</sup> sidati=du    Miyako: Ikema  
 big    pear-tree=TOP    DSC    raise.CVB=FOC

mm<sup>ja</sup>  
 DSC  
 ‘A man has grown a big pear tree.’ (Hayashi 2010, 183)

sooiu    **sizen**=no    munu-∅    Yaeyama: Hateruma  
 like.that    nature=APP    thing-CORE

sikec-i=ru    h-e    bir-ja-∅=gara  
 make-CVB=FOC    eat-CVB    PROG-PRF-NPST-RES  
 ‘(Because we) plant natural (vegetables) like that and eat...’ (Aso 2010, 217)

*pataka* and *sizen* also exist in Japanese. *pataka* is cognate with *hadaka* (and appears to be of native stock) while *sizen* is borrowed from Chinese. Both attribute with *no* in Japanese. The first example can be seen as an analog for the fientive (ADJ-ni naru) form. It could be argued that the non-inflecting adjective class is borrowed from Japanese, but the word *gaabaa* in the second example does not appear to be cognate with any Japanese word. It is also interesting to note that the genitive affix/noun linker *nu/no* is not required there. Below are further examples of non-inflecting adjectives that I have elicited from Shuri-Naha Okinawan.

(6) aree    **mattobaa**=ru<sup>15</sup>    ja-N  
 3SG.TOP    honest-FOC    COP-RLS  
 ‘He is honest.’

**mattobaa**    ja-ru    ccu  
 honest    COP-ATT    person  
 ‘An honest person.’

<sup>15</sup> This focus marker is in free variation between =*du* and =*ru* in modern Shuri-Naha Okinawan.

**mattobaa**    nay-u-n  
honest        become-NPST-RLS  
'(Someone) became honest.'

**ooruu=nu**    magi-buni  
blue=APP     big-ship  
'A blue big ship.'

The most striking difference from the Japanese system of non-inflecting adjectives is the lack of usage of any cognate form of the reduced copular *na* in the attributive construction, as in Japanese.<sup>16</sup> Instead, the noun linker *no* (or *nu*, depending on the language) is ubiquitously used as the connector. When it can be omitted (as seen in the second example in (5)), however, is unclear, although Japanese appears to have one adjective, *onazi* 'same,' that requires no additional markers, like *gaabaa*. An interesting point to note is that the non-inflecting adjectives native to the Ryukyuan languages also violate Backhouse's criteria of no geminate consonants or long vowels for Japanese non-inflecting adjectives. Examples include *gaabaa* 'big', *mattobaa* 'honest', and *ooruu* 'blue' as shown above and *dat-teen* 'big', *kuu-teen* 'small', *mat-teen* 'round', which appear to be intensive adjectives, according to Dr. Yamaguchi. The root of *mat-teen* appears to be *maru* 'round,' but those of the other two are unclear. *pataka* 'naked' does not violate the phonological rules but seems to be derived from *pata* (not listed in Sakihara's 2006 dictionary, but cognate with Japanese *hada* 'skin, body') with an ancient locative derivational suffix *-ka* (see §3.1 for more details). The usage of non-inflecting adjectives in the Ryukyuan languages must be explored in further detail.

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<sup>16</sup> There are two example sentences from Chamberlain 1895 (123) *ja na kagii/dinci* 'an ugly face/bad weather' but this is the only example. Furthermore, *dinci* is underlyingly /tinci/ and voicing of an underlying voiceless phoneme (known as *rendaku*) only occurs in the second component of some compounds (Chamberlain 1895 (23) states: "during the process of word-building"), implying that *ja-na-dinci* is seen as a single word and thus likely a borrowing from Japanese *ija (na)* 'bad.'



however, we note in Shimoji's examples that either the animate copula *ur* or inanimate copula *ar* may be used.<sup>18</sup>

- (9) kunu pito:                    **takaa-taka** ja-tai                    Hirara  
 this person-TOP high-RED COP-PST  
 'This man was tall.' (Koloskova & Ohori 2008, 616)
- Ikima=a            irau=nse=ε                    **upu-upa**=a                    Ōgami  
 Ikema=TOP    Irabu=CMP=TOP            RED-big=TOP
- ur-a-N                    suma  
 be.ANIM-IRR-NEG    island  
 'Ikema is an island not as big as Irabu.' (Pellard 2010, 141)
- uri=a                    **takaa-taka**=du            a-tar                    Irabu  
 3SG=TOP            RED-tall=FOC            COP-PST  
 'He was tall.' (Shimoji 2009, 42)
- hira, kama=a                    **imii-imi**=du                    ur-∅-ri                    Irabu  
 INTJ that.place=TOP            RED-small=FOC            PROG-NPST-eh  
 'You see, that place is small, eh?' [lit. you see, that place is small-ing.]  
 (Shimoji 2009, 43)

The difference in usage of these different adjectival forms is dependent on pragmatic factors. The nominalized *-munu* forms and reduplicated forms are used in predicate-focus constructions while the verbalized forms are used in argument-focus constructions. See Shimoji (2009, 43) for frequency statistics for each form and Koloskova & Ohori (2008) for the full argument of this distribution of usage.

Apart from Miyako's unique system, the Ryukyuan adjectival system appears rather uniform. Direct attachment of the adjectival root to some nominals is common and the usage of a verbalizer to allow inflectional affixes is ubiquitous. Non-inflecting adjectives also appear to exist, although it is currently unclear if they constitute a salient class as they resemble nouns more than Japanese non-inflecting adjectives do. The following section outlines commonalities with the Japanese system.

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<sup>18</sup> The difference in usage is unclear. Shimoji glosses the *ur* form as a grammaticalized progressive form, which is cognate with Okinawan's *-(ti)-oo-n* and analogous to Japanese's *-(te)-i-ru* form (the true cognate, *-(te)-or-u* is only used as a humble form in modern Japanese). However, the progressive, being an inflectional affix, should be bound, so it is unclear why Shimoji glosses it as the progressive.

### § 2.3 Similarities Between the Japonic Adjectival Systems

Although there seems to be a clear divide between Japanese and the Ryukyuan languages in the non-past attributive/predicative forms (both suppleted by *-i* in Japanese), the remaining forms all seem to share a rather clear *k* or *s* (or *h*, though this will be discussed in more detail later) colored verbalizer affix.

**Table 8: Comparison of Non-Past and Past Adjectival Forms with ‘to be bad’**

Language	Non-Past	Past
Japanese	<i>waru-i</i>	<i>waru-kat-ta</i>
Okinawan: Shuri-Naha	<i>waru-sa-N</i>	<i>was-sa-ta-N</i> <sup>19</sup>

In all the Japonic languages, this verbalizer affix allows the adjective to take most of the verbal suffixes. Incompatibilities seem to appear with some aspectual markers, such as the inchoative or progressive, most likely for semantic reasons (although we see a possible exception in Irabu Miyako). As in the Japanese paradigm, the imperative, hortative, passive/malefactive, causative and potential suffixes are incompatible with adjectives in the Ryukyuan languages.<sup>20</sup> The same incompatibilities seem to generally occur with verbal negatives<sup>21</sup> and the inanimate stative verb *-ar* ‘to exist’. The shared incompatibility may be due to the fact that adjectives, stative verbs, and negatives are interpreted as stative and thus semantically cannot take these forms. Important to note is that certain non-volitional verbs also lack some of these forms (Backhouse 2006, 51). Putting aside these semantic holes, then, adjectives appear to be very similar to verbs.

The exception to what was stated above is that the potential suffix is indeed compatible with ‘to exist.’ In Japanese, vowel-stem verbs take *-rare-ru* (homophonous with the passive suffix for vowel-stem verbs) while consonant-stem verbs take *-e-ru*. However, *ar-* takes *ar-i-e-ru* instead of the expected *ar-e-ru*. Okinawan has homophony for the

<sup>19</sup> Dr. Yamaguchi sometimes pronounces the *-sa-ta-N* suffix as *-sat-ta-N*, but it appears to only crop up in elicitation through Japanese and not in his free speech, nor in Chamberlain’s 1895 grammar, leading me to suspect this gemination is interference from Japanese.

<sup>20</sup> This is certainly the case in Shuri-Naha Okinawan. Whether it is missing in records of the other languages because of incompatibility or because of the forms not being elicited is unclear.

<sup>21</sup> Interestingly, Japanese verbal negatives conjugate like adjectives, while Ryukyuan verbal negatives conjugate like verbs.

potential and passive suffixes, both surfacing as *-(r)ari*<sup>22</sup> (Chamberlain 1895, 98). Dr. Yamaguchi notes the potential form of *a-* ‘to exist’ as *a-i=du su-ru* = exist-INDF<sup>23</sup>=FOC do-ATT. The example sentence is as follows:

- (10)    *zin-muc-aa=nu*                      *ufu-sa-ru*                      *sima=N*  
           money-hold-NMZ<sup>24</sup>=NOM    much-VLZ-ATT                      island=also
- a-i=du*                                  *su-ru*  
           exist-INDF=FOC                  do-ATT  
           ‘There can also be islands with rich people.’

Thus, the potential form for Shuri-Naha appears to be a periphrastic syntactic phrase, but maintains the usage of the verb *a-*. The apparent hole in the potential form of the adjectival paradigm will be addressed in §5.1.

What is also notable is that negation of adjectives is often formed by the syntactic construction ‘ADJ-AVLZ + to.not.exist.’ It appears that some of the languages require the topic marker to follow the adverbializer (note Naha/Shuri Okinawan *-ko-o*, phonologically derived from *-ku-ja*, and Miyako *-f-fa*). Other languages use the nominalizer *-sa* instead of the adverbializer. Interestingly, Irapu Miyako appears to have another negative form in which the negation is morphological rather than syntactic (*-kar-a-n* = VLZ-IRR-NEG<sup>25</sup>). I infer this gloss from the structure of verbal negatives in Irapu Miyako. Verbs are negated by *-a-n*, an irrealis marker followed by the negative suffix. The Hateruma negative *-h-en(-u)/-s-an(-u)* also appears to mimic the verbal negative *-a-nu*, but as this ending is taken from Aso’s 2010 source and there is the other ending *-ha ne-nu* ending from Hirayama’s 1964 source, this is likely a later analogy from the verbal paradigm or a contraction of *-ha ne-nu*.

With such parallelisms occurring between the various Japonic languages, one begins to wonder whether the adjectival forms descended from a uniform system in Proto-

<sup>22</sup> The *r* appears after vowel stems. Chamberlain notes these suffixes to be different in the negative: *-(r)a-ra-n* for the negative potential and *-(r)ari-ra-n* for the negative passive (Chamberlain 1895, 99). Dr. Yamaguchi does not distinguish the negative forms at all and notes the former form as a contraction of the latter form, so the passive and potential suffixes may have completely converged for modern Shuri-Naha speakers.

<sup>23</sup> What Chamberlain glosses as an “indefinite” is a base for some endings (such as the conditional) and *kakari-musubi* particles such as the question particle *ga* and the focus particle *du*.

<sup>24</sup> This affix nominalizes verbs. The resultant meaning is an agent that performs the verb.

<sup>25</sup> My gloss is inferred from the fact that *-a-* seems to be ubiquitously a Japonic irrealis marker used with negatives and that *-n* is a negative for verbs in many of the languages.

Japonic; particularly notable are the similarities between the verbalizers *kar* ~ *sar* ~ *har*. The following section presents some historical background of Japanese and the Ryukyuan languages in preparation for diachronic analysis.

### § 3 A Diachronic Perspective on the Japonic Adjectival Systems

In order to understand the striking similarities between the adjectival systems of the Japonic languages, we must employ tools of historical reconstruction. As philological analyses about and texts in Classical and Old Japanese abound, much can be gleaned about the diachronic history of Japanese. Unfortunately, due to the lack of a consistent written history in the Ryukyuan languages and generally sparse records, much reconstruction is based off synchronic data. I provide historical background on the languages in this chapter in preparation for analysis of the adjectival systems in the following section.

#### § 3.1 The Origin of Japanese Non-Inflecting Adjectives

In characterizing Japanese adjectives, Backhouse notes that most inflecting adjectives are gradable rather than complementary (Backhouse 2006, 65-66, following Nishio 1972, 160) and that they semantically span all of Dixon's basic adjective types. Dixon's notes the basic types, which are all gradable, as "dimension" (big *ooki*-, small *ciisa*-, etc.), "age" (new *atarasi*-<sup>26</sup>, young *waka*-, etc.), "value" (good *jo*-, bad *waru*-, etc.), and "color" (black *kuro*-, white *siro*-, etc.) (Dixon 2006, 3-4). On the other hand, non-inflecting adjectives are concentrated in complementary "human propensity" adjectives (Backhouse 1984, 179), which Dixon notes as less basic characteristic of larger adjective classes (Dixon 2006, 4). As mentioned in §2.1, all loans fall into the non-inflecting class. Furthermore, 200 out of the 264 most common non-inflecting adjectives are of Chinese origin (Uehara 2003, 378), suggesting that the original native stock of non-inflecting adjectives was much smaller (or possibly replaced). Noting this dichotomy between the two classes, it appears

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<sup>26</sup> Note that this form contains a now fossilized adjective formant *-si* and so is probably not original, but the corresponding words in some of the Ryukyuan languages are *ara*- (Miyako, Yaeyama) or *mii*- (Okinawan, Miyako, Yaeyama), which appear underived and thus original.

likely that the inflecting class is original. The origin of the non-inflecting class will be discussed first.

Uehara (2003) provides a compelling argument for the development of the non-inflecting adjective class in Japanese. He claims that this class developed from a metaphorical interpretation of container-based locational expressions, accompanied by a shift in the semantics of “things” to “properties.” Uehara observes that the majority of non-inflecting adjectives can be traced back to regular nouns and that only a few are of unknown origin. These include words that have a fossilized suffix *-ka* (such as *sizu-ka* ‘quiet’ and *atata-ka* ‘warm’), derived from a morpheme that meant ‘place’ in Old Japanese (ex. *sumi-ka* = live-place = ‘house/residence,’ *ari-ka* = exist-place = ‘location/hiding place’) according to Sakakura (1966, 323). Meanwhile, sixteen of the most common non-inflecting adjectives have no noun-like behavior at all (Uehara 2003, 379). Upon noting that many of these non-inflecting adjectives were originally nouns or spatial nouns, he then notes that spatial concepts are often a source domain for semantic extension and that an adjectival meaning can arise from a metaphorical interpretation of container-based locational expressions. He cites English phrases such as ‘in good health,’ ‘in luck,’ and ‘in love’ as examples of stative adjectival expressions and then describes a path for the morphosemantic change (Uehara 2003, 381).

The copula *da* (noted before as being used with non-inflecting adjectives) is a shortened form of *de aru*<sup>27</sup> (which still exists in formal writing). This construction is literally a locative marker and the verb ‘to be/exist,’ and was used interchangeably with *nar-i* in Old Japanese (Uehara 2003, 383). This word itself is a shortening of *ni ari* (another locative marker and ‘to be/exist.’ The linker *na* (used in the attributive construction) can be traced to Middle Japanese as a shortening of *naru* (the attributive form of the then copula *nari*). Notable is the usage of *naru* for both nouns and nominal adjectives in Middle Japanese. Examples comparing both usages follow.

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<sup>27</sup> The originally used form was most likely *de ari*, itself derived from *nite ari*, a marked variant of *ni ari*. The *-u* ending is derived from *kakari-musubi*, which will be explained diachronically in §3.2.

- (11) Komoro        nar-u        yama  
 Komoro        be-ATT      mountain  
 ‘The mountain (which exists) in Komoro.’ (Uehara 2003, 387)
- sizuka        nar-u        yama  
 quiet         be-ATT      mountain  
 ‘The quiet mountain.’ (Uehara 2003, 387)

For the full account, see Uehara (2003).

Due to the lack of a cognate for *na* in the Ryukyuan languages, this pathway appears to be an independent innovation of Japanese. The place morpheme that Uehara mentions seems to be rare in Ryukyuan non-inflecting adjectives<sup>28</sup> so the grammaticalization of CONTAINER > STATE appears to have not occurred in the Ryukyuan languages. Rather, the linker *nu* (or *no*) appears to be used in constructions that would call for *na* in Japanese. See §2.2.3 for more details. As noted in §2.2.3, the Ryukyuan non-inflecting adjectives also appear to violate phonological rules (such as *gaabaa* or *mattobaa*), so the origins of these adjectives are unclear. The roots for the Shuri-Naha intensified adjectives *dat-teen* ‘big’ and *kuu-teen* ‘small’ are also unclear, as they cannot be used on their own, but they share a semantic space with the inflecting adjectives *magi-* ‘big’ and *guma-* ‘small.’ The non-inflecting adjectives are also incompatible with the nominalizer *-sa* (at least in Shuri-Naha Okinawan). This fact, in combination of the usage of *nu/no*, as with nouns, suggests that it is possible that this class may still classify as nominals. Although many non-inflecting adjectives can be traced back to borrowings or derivations from nouns, the source of the original non-inflecting adjectives is unclear. We may have to surmise an original (albeit small) class of non-inflecting adjectives in Proto-Japonic that admitted adjectives phonologically unfit for the inflecting class.<sup>29</sup>

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<sup>28</sup> I attempted to search for three common *-ka* adjectives—*sizuka* ‘quiet,’ *jawaraka* ‘soft,’ and *atataka* ‘warm’ but the only example that appeared similar was Kunigami Nakijin (a dialect of Okinawan) *sizika-sen*, which appears to have been borrowed wholesale as an inflecting adjective. The roots appear to be, respectively, *tur-* (which may be a verb, due to endings such as *-i*, an infinitival suffix in the Japonic languages, or *-oo-n*, a progressive suffix in various Ryukyuan languages), *japara-*, and *nuku-* (or reflexes, such as *jafara*, *nuhu*, etc.). Elicitations from Dr. Yamaguchi for ‘quiet’ and ‘soft’ yielded *sizika* and *jaaraka*, but these are likely influences from Japanese due to the overwhelming counterexamples from other Ryukyuan languages. The adjective *pataka* ‘naked,’ which was in example (5) may be an example with the *-ka* suffix.

<sup>29</sup> Alternatively, Dr. Claire Bowers suggests these original forms may be sound symbolic. Words such as Japanese *oo(kii)-* ‘many (big),’ *cii(sa)-* ‘small’ (*kii* and *sa* are in parentheses as they were likely added later, since they are written in *hiragana* rather than Chinese characters, suggesting they are derivational

### § 3.2 Inflecting Adjectives in Old and Classical Japanese

Traditional Japanese grammars distinguish between two conjugation classes of adjectives in Classical Japanese, a *-ku* class and a *-siku* class. The three morphemes that could attach to the adjectival root are given below.

Table 9: Adjectival Suffixes in Classical Japanese (adapted from Bentley 2001, 138)

Class	-ku	-siku
Root	taka- 'to be tall'	tada-si- 'to be correct'
Imperfective $\alpha$ <sup>30</sup>	taka-ku	tada-si-ku
Infinitive $\alpha$	taka-ku	tada-si-ku
Attributive $\alpha$	taka-ki	tada-si-ki
Imperfective $\beta$	taka-kar-a	tada-si-kar-a
Infinitive $\beta$	taka-kar-i	tada-si-kar-i
Attributive $\beta$	taka-kar-u	tada-si-kar-u
Conclusive	taka-si	tada-si

The *-siku* class originates from a set of roots taking the now fossilized suffix *-si*, which tends to mark emotional or psychological subjective adjectives (Martin 1987, 807). To call this a separate class, however, appears to be unnecessary, due to the fact that every ending is the identical except the conclusive ending. The inexistence of *-si-si* however, can be explained by a rule of haplology, also mentioned by Martin (1987, 807), as well as Bentley (2001, 140) and Vovin (2003, 187) both following Yuzawa (1943, 56). It is then more parsimonious to propose only one class and to see *-si* as purely lexical.

The  $\beta$  forms noted by Bentley transparently shows the verbalizer *-kar*. Due to its rarity in Old Japanese (Shirafuji (1987, 157) only notes six examples, all from the *Man'yōshū*<sup>31</sup>), it is likely a later innovation. Verbal suffixes attach only to the  $\beta$  forms, while the  $\alpha$  forms have no verbalizer and so only have three forms (*-ku*, *-ki*, and *-si*) (Bentley 2001, 138-139). The *-kar* forms are a clear combination of *-ku* and the verb *aru*, evidenced further by the fact that the classical ending was *-kar-a-nu/-kar-a-zu* (with *ar-a-nu* and *ar-a-*

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morphemes), Okinawan *dat-* 'big (?),' *kuu-* 'small (?),' and Ikema *gaabaa* 'big' appear to conform to universal tendencies for words meaning 'big' to have low vowels and 'small' to have high vowels (Tsur 2006, 905).

<sup>30</sup> Bentley uses  $\alpha$  and  $\beta$  to distinguish two competing forms of adjectives, with  $\beta$  appearing to be class innovated some time recently before the first Japanese texts. These forms are further discussed below.

<sup>31</sup> Literally "Collection of Ten Thousand Leaves," this is the oldest existing collection of Japanese poetry.

*zu* being the attributive and predicative forms, respectively, of *aru*). The modern polite negative adjectival ending, *-ku ar-i-mase-n* maintains the old attributive ending (with the final *u* cut off) (Martin 1987, 803).

In modern Japanese, the attributive and predicative suffixes have collapsed in both the verbal and adjectival systems. In western Japan, intervocalic *-k-* was lenited in the adjective endings, leaving *-i* and *-u* (Martin 1987, 127). As the *kakari-musubi* final attributive form was increasingly used beginning in the 1300s, the usage of the predicative *-si* ended, leaving *-i* in both attributive and predicate position (Martin 1987, 806). Why the modern standard Tokyo dialect lenited *-ki* but not *-ku* is unclear—perhaps only one form was borrowed or there was a phonological rule that lenited *-k-* only before the front high *i*. Hendriks, however, argues that the collapse of the predicative and attributive forms of verbs was not a result of increasing usage of the *kakari-musubi* form, as the percentage of predicative-ending sentences was always much greater than that of attributive-ending sentences. He also notes that most verb classes did not differentiate between the attributive and predicative endings—the ones that did had attributive *-uru* and predicative *-u* (Hendriks 2000, 163-164). If this lack of distinction is taken to be the reason for collapse, then, it is likely that the collapse for the adjectival system was due to analogy with the verbal system, although why *-i* dominated over *-si* may be explained by the increasing usage of *kakari-musubi*.

The suppletive form *-i* is then explained by this historical data. Bentley's  $\alpha$  forms appear to have won out in competition against the  $\beta$  forms, though the  $\beta$  verbalizer *-kar* seems to have survived as a base for verbal suffixes. The origin of *-ku* is uncertain but, following Martin (who notes Ōno Susumu as the first proponent of the theory), it is likely related to the bound noun *\*aku* 'what exists', which would nominalize a verb or adjective by attaching to its attributive form. Examples are *kataraku* 'what it tells (is...)' (Man'yōshū 852) < *katar[u] aku* and *aku*, *ukyeku*<sup>32</sup> 'what is sad' (Man'yōshū 897) < *u-kyi*<sup>33</sup> *aku*. *\*aku* itself would be the nominalizer *\*-ku* attaching to *\*a-* (a reconstruction of the verb *ar-* 'to exist'). Martin, however, notes that many Japanese scholars reject Ōno's theory and leave –

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<sup>32</sup> <yi> (and <ye>) represent two vowels in Old Japanese distinct from *e* and *i* whose phonetic value is debated.

<sup>33</sup> In pre-Old Japanese, *\*i + a* was contracted to /ye/ by Old Japanese and then simplified to /e/ by Classical Japanese (Vovin 2003, 224).

*ku* as unexplained (Martin 1987, 805). The issue, however, is that although this explanation provides an origin for the attachment to adjectival stems, it does not provide an actual meaning for \*-*ku*.

The *-kar* verbalizer suffix is in clear parallel with the Miyako suffix, except Tarama, which uses *-s<sup>i</sup>aar*, a possible borrowing from Yaeyama *-s<sup>i</sup>aar*, due to Tarama's geographical location, which is almost equidistant between Ishigaki, the easternmost Yaeyama island, and Irabu, the westernmost Miyako island. However, they are unlikely to have the same origin, as Bentley notes that this suffix was very rare in Old Japanese so it was probably young at the time. It is possible that the Miyako *-kar* suffix is borrowed from Japanese, but at such a distance, and the short time frame of 200 years that the Ryukyu Islands have been absorbed into Japan, it seems strange that Miyako dialects would have borrowed the system while few dialects in the other Ryukyuan languages have. Rather, it may be more appropriate to suggest that Miyako *-kar* is a parallel development from \*-*ku ar-*. As such, both Japanese and Miyako appear to fall into the *-k* subsystem.

### § 3.3 The Traditional Account of the Verbalizer Suffix in Japonic

The traditional view finds the origins of the Japonic *-k* and *-s* adjectival systems in *-ku ar-i* (Izuyama (1997, 2), Martin (1987, 803), Bentley (2001, 139)) and *-sa ar-i* (Izuyama (1997, 2), Martin (1987, 803), Chamberlain (1895, 117)). *-ku* is an adverbializer (see the above section) while *-sa* is a nominalizer for adjectives and *ar-i* is the older predicative form of *ar-u*. The adjectival conjugations in Japanese and Okinawan appear to support these reconstructions. Martin also cites Miyako *takakaz* as deriving from *taka-k[u] a[r]i* and the emphatic version *takaftu az* from *taka-k[u] zo a[r]i* as another example of the *-ku ar-u* system. Martin even goes as far as to reconstruct the attributive *-ki* and predicative *-si* in Old Japanese as originating from these two systems, using the competition between the two forms as evidence (Martin 1987, 806-807), but this still appears dubious for a number of reasons. First, the fact that *ar-i* is an infinitival or conclusive ending makes it strange that it would surface as an attributive form for adjectives. Second, because *-ku ar* and its contracted form *-kar* exist in Old and Present Day Japanese, it would have been strange for

a third fused form to exist (Pellard 2008, 151). Also, why the adverbializer would be used for the attributive while the nominalizer would be used for the predicative is unclear.

Chamberlain’s argument relies on the fact that virtually every adjectival conjugation is parallel to the conjugations of *a-* ‘to exist (the cognate of Japanese *ar-u*) with a preceding *s*. I provide some forms for comparison below. Forms that differ are bolded.

**Table 10: Comparison of Adjective and *a-* Conjugations  
(Collected from speaker and compared with Chamberlain 1895 (115))**

Form	<b>tuu-</b> ‘to be far’	<b>a-</b> ‘to exist’
<b>Non-past Predicative</b>	tuu-sa-N	a-N
<b>Attributive</b>	tuu-sa-ru/ <b>tuu-sa-nu</b>	a-ru
<b>Past Predicative</b>	tuu-sa-ta-N	a-ta-N
<b>Interrogative</b>	tuu-sa-mi	a-mi
<b>Past Interrogative</b>	tuu-sa-tii	a-tii
<b>Negative</b>	tuu-koo nee(ra)-N	nee(ra)-N
<b>Negative Past</b>	tuu-koo nee(ra)-N-ta-N	nee(ra)-N-ta-N
<b>Negative Question</b>	tuu-koo nee(ra)-ni	nee(ra)-ni
<b>Conjunctive</b>	<b>tuu-sa-nu</b>	<b>a-ti</b>
<b>Contrastive</b>	tuu-sa-si-ga	a-si-ga
<b>Hypothetical</b>	tuu-sa-ree/raa	a-ree/raa
<b>Conditional</b>	tuu-sa-i-nee	a-i-nee
<b>Concessive</b>	tuu-sa-ti-N	a-ti-N
<b>Reason</b>	tuu-sa-kutu <sup>34</sup>	a-kutu
<b>Representative</b>	tuu-sa-tai	a-tai

The only forms to explain are the conjunctive and one of the attributive forms. The origin of the conjunctive form has yet to be explained, but it would appear related to the attributive form. Chamberlain does not note the *-sa-nu* form for the attributive. However, as this form exists in many other Ryukyuan languages as well, it was likely glossed over by Chamberlain. The inexistence of such a form suggests the possibility that the form was originally conjunctive, especially because this attributive form does not seem to be permitted in *kakari-musubi* constructions, which appear sentence-finally.

<sup>34</sup> Chamberlain notes a difference between *-kutu* and *-gutu*, the latter expressing ‘in the manner of.’ However, Dr. Yamaguchi does not distinguish the two and uses both forms for both usages, so it appears that the distinction may be disappearing in modern Shuri-Naha.



### § 3.4 Izuyama’s Argument for a Different Origin

While the argument for the *s* verbalizer originating in *-sa + a-* is synchronically sound, comparative evidence shows this analysis to be flawed. Izuyama (1997) states that this analysis is highly dependent on evidence from Japanese and Shuri Okinawan and disregards phonological correspondences with the southern Yaeyama and Yonaguni languages. Rather, she derives the adjectival suffixes from three different verbs meaning “to do,” which she reconstructs as \*k(u)-, \*s(u)-, and \*i(r~s)-. This section summarizes her argument.

As noted in §2.2, the verbalizer suffix surfaces as *-har* in some of the dialects. Izuyama provides some forms from Nakachi Okinawan and Miyara and Kuroshima Yaeyama.

**Table 11: Ryukyuan Dialects with a -har Verbalizer (Adapted from Izuyama 1997, 4)**

Dialect	Predicative	Conjunctive	Negative
<b>Japanese</b>	taka-i ‘tall’ uresi-i ‘happy’ tuyo-i ‘strong’ suzusi-i ‘cool’	taka-ku uresi-ku tuyo-ku suzusi-ku	taka-ku na-i uresi-ku na-i tuyo-ku na-i suzusi-ku na-i
<b>Shuri</b>	taka-san us-san cuu-san	taka-ku us-si-ku cuu-ku	taka-koo neen us-si-koo neen cuu-koo neen
<b>Miyara</b>	taka-han sane-hen coo-hon pirige-hen	taka-ha sane-he - -	taka-ha neenu sane-he neenu - -
<b>Kuroshima</b>	taka-han sani-jan su:-wan pi:rake-hen	taka-ha sani-ja - -	taka-ha naanun sani-ja naanun - -
<b>Nakachi</b>	taʔa-haM <sup>35</sup> - cuu-kaM sid <sup>1</sup> aa-si-kaM	taʔa-fu (naru) - cuu-fu~ku sid <sup>1</sup> aa-(si)fu	taʔa-ffa niin - cuu-ffa niin sid <sup>1</sup> aa-(si)ffa niin

<sup>35</sup> I am unsure what this M notates, but it is possibly a placeless nasal that surfaces as /m/ in certain environments, similarly to how a capital N expresses a placeless nasal.

The *k* ~ *h* variation in Nakachi Okinawan suggests a phonological rule at work. Izuyama states that /k/ becomes [h] following a short vowel, with the exception of *sid<sup>i</sup>aa-si-kaM*. Perhaps the fact that Izuyama notes *si* in parentheses for the other forms shows that this morpheme is falling out of use, which may account for the preservation of [k] in the predicative form. Alternatively, the rule may be morphophonological, with the long vowel influence spreading from the base. Either way, it can be seen that the Nakachi morpheme falls into the *k* family of verbalizers. On the other hand, the Miyara and Kuroshima endings have traditionally been grouped under the *s* family. Izuyama shows that these Yaeyama dialects show an *s* : *s* correspondence throughout, however, with the exception being the verb ‘to do’ and the transitive and causative suffixes, which show an *s* : *h* correspondence for Miyara, but *s* : *s* for Kuroshima.

**Table 12: s : h Correspondences (Adapted from Izuyama 1997, 9)**

<b>Dialect</b>	<b>To do</b>	<b>To cause</b>	<b>To make write</b>
<b>Japanese</b>	su-ru	oko-su	kak-a-se-ru
<b>Shuri</b>	su-N	uku-su-N	kak-a-su-N
<b>Miyara</b>	hu-N	uka-hu-N	kak-a-hu-N
<b>Kuroshima</b>	siiru-N	huka-su-N	hak-a-su-N

Shibatani notes that transitives and causatives are crosslinguistically closely related (Shibatani 1990, 236), so it is unsurprising that the affixes should look similar, if not the same. It is also likely that they are derived from the verb ‘to do,’ a common grammaticalization path (Heine and Kuteva 2002, 117-118), noting the similarities to it here. Izuyama then provides various forms of the verb *hu-* ‘to do’ in Miyara, revealing that only the conjunctive *si*, prohibitive *si-na*, and past *si-ta* begin with *s* (note that the prohibitive and past are derived from the conjunctive), while the other forms maintain the *h* seen in the other dialects. In searching for a *k* : *h* correspondence, Izuyama finds that Miyara and Kuroshima both underwent a *\*k* → *h* sound change before *u*, and that Kuroshima underwent the same sound change before *a* as well. She also notes evidence of a *\*k* → *s* sound change before the narrow vowel *i* through comparative evidence with other Yaeyama dialects. With these two important sound changes, Izuyama concludes that the verb *hu-* can be reconstructed as *\*ku-*.

Returning to the adjectival forms, Izuyama provides the following suffixes from Miyara and Kuroshima:

**Table 13: Miyara Adjectival Suffixes**

<b>Final Vowel in Root</b>	a	u/o	i/e	ɨ	i:
<b>Suffix</b>	-han	-hon	-hen	-san	-sʲan

**Table 14: Kuroshima Adjectival Suffixes**

<b>Final Vowel in Root</b>	a/a:	o/o:	e	i/i:	(u:)³⁶
<b>Suffix</b>	-han	-hon	-hen	-jan	(-wan)

Izuyama notes that the vowel harmony in the *-han* ~ *-hen* ~ *-hon* endings is also seen in the Kuroshima particles *-ha* ~ *-he* ~ *-ho* (cognate with Japanese *e* < *je* < \**he* < \**pe*, a lative marker) and *-hara* ~ *-hera* ~ *-hora* (cognate with Japanese *kara*, an ablative marker), which she suspects has undergone the \**k* > *h* sound change<sup>37</sup>. *-san*, *-sʲan*, and *-jan* are to be explained later.

Izuyama then provides the conjugations of two verbs in the Yonaguni language meaning ‘to do,’ *kirun* and *irun*. She defines the *kirun* as used for an action’s taking place while *irun* is used for concrete actions.<sup>38</sup> *kirun* has two different forms for the infinitive, conjunctive, past, and completive forms. The conjugations are provided below, with parallel forms between *irun* and the *kirun* conjugations bolded.

**Table 15: Conjugations of Two Verbs Meaning 'to do' in Yonaguni (Adapted from Izuyama 1997, 17)**

PRED	NEG	HOR	IMP	PRH	ATT	INF	CNJ	PST	CMP
irun	iranun	iru:	iri	inna	iru	<b>isʲi</b>	<b>isʲi(ti)</b>	<b>itan</b>	<b>isʲan</b>
kirun	kiranun	kiru:	kiri	kinna	kiru	ki	ki(ti)	<b>kitan</b>	kʲan
“	“	“	“	“	“	<b>kisʲi</b>	<b>kisʲi(ti)</b>	kisʲitan	<b>kisʲan</b>

<sup>36</sup> *-wan* is not consistently the marker that follows *u:* and there are also problems with what the morpheme is that follows *u*. Izuyama offers a rather convoluted explanation—see Izuyama 1997 (12).

<sup>37</sup> The relation to the lative marker is clear, but I do not see a connection to an original \**k*.

<sup>38</sup> Whether this is truly the division is not fully clear due to few examples. An example with *irun* is <*anga irun*> ‘I will do it.’ Examples with *kirun* include actions such as tilling a field, digging out a potato, urinating, dancing, singing, and smelling (Izuyama 1997, 17).

Izuyama uses this parallelism to argue that two verbs she reconstructs, *\*irun* and *\*isun*, became confused over time, leaving the inconsistency in the modern *irun* forms. She then reconstructs the original completive of *\*irun* as *\*i-a-n* (a completed or resultative state) or *\*i-u-n* (judgment or recognition of a completed or resultative state), based off the completive form *is<sup>j</sup>an* in comparison with the other verbs. She then conjectures that *kirun* was formed from *\*k(u)* agglutinating to *\*irun*, with its completive form being *\*k(u)-a-*. Remarking that consonants in Yonaguni have undergone many sound changes, Izuyama finds two examples of a *ku- : hu-* correspondence between Yonaguni and Miyara Yaeyama (*kudi : hun* ‘nail (spike)’ and *kuci : hutsi* ‘comb’). She notes also that *kirun* is pronounced close to [χirun] in the Higawa dialect of Yonaguni, supporting the *\*k > h* sound change.

Returning to the adjectival endings in Kuroshima, Izuyama compares the completive form<sup>39</sup> of verbs with adjectival forms.

**Table 16: Kuroshima Completive Verb Forms and Adjectival Forms (Adapted from Izuyama 1997, 21)**

Japanese/English Gloss	Verbs		Japanese/English Gloss	Adjectives
	Predicative	Completive		Predicative
<b>kaku</b> ‘to write’	hakun	hake-hen	<b>kawaii</b> ‘cute’	abare-hen
<b>kau</b> ‘to buy’	haun	haya-han	<b>takai</b> ‘tall’	taka-han
<b>okiru</b> ‘to get up’	hukirun	huki-jan	<b>kitanai</b> ‘dirty’	jani-jan

A clear parallel exists between the endings, including the vowel harmony phenomenon. The *-jan* ending also follows vowel-stem verbs ending in *-i*. She entertains the idea of an *\*s > j* or *\*s > \*h > j* sound change, but dismisses it based on lack of phonological correspondences or a reason for such lenition, as well as the lack of vowel harmony. I have not seen either of these changes in the Japonic languages and while *j* could have emerged to break the hiatus formed by *\*h > ø*, it is unclear why “following *i*” would be the only environment for the disappearance of *\*h*. While Japanese does have an *\*h > ø* sound change, it occurs not only after *i*, but also between any vowels. Also, it surfaces as a *w* rather than *ø* before *a*. Thus, I agree with Izuyama that this scenario is less plausible.

<sup>39</sup> Kuroshima also shows a distinction for some verbs (for example, alongside *huki-jan* exists *huke-hen*) between the completed state and judgment of the completed state, as in Yonaguni.

In Miyara, the completive suffix is invariably *-Ta*<sup>40</sup>. She notes that this form historically derives from a ‘verb-stem + past form of *hun*’ construction. Thus, *uki-Ta* (the completive form of ‘to get up’) is derived from *\*uki + \*sita*. The form in Kohama Yaeyama, which follows the same system as Miyara, is *ukisita*, providing solid evidence for this analysis. Izuyama uses this fact to question whether *-hen ~ -han* in Kuroshima derive from *hun*, noting that the Miyara resultative form of *hun* is *he:N*. If so, Kuroshima should be expected to have an *h : k* correspondence with Yonaguni, just like Miyara. Indeed, Izuyama finds six examples (*hata : kataburuci* ‘shoulder,’ *hazji : kadi* ‘wind,’ *ha : : ka*: ‘(a) well,’ *hakun : kagun* ‘to write,’ *hun : kudi* ‘nail (spike),’ and *huci : kuci* ‘comb’) and uses this to argue for grammaticalization of *hun*.

Izuyama then explains *-jan* as deriving from *\*i-an (> \*i-yan)*, the completive form of Yonaguni *\*irun*, *-san* to be derived from *\*i-s<sup>j</sup>an* (the completive form of *\*isun*, and *-san* unexplained. However, she surmises the possibilities of an *\*isun* form, some sort of vowel harmony, or a *\*k → s* sound change that could be triggered by the *i*, in relation to the *\*k → s / \_i* change noted earlier.

Izuyama concludes by reconstructing the completive affix of consonant-stem verbs as deriving from *\*k(u)-* and that of vowel-stem verbs as deriving from *\*i(r~s)*, with the adjectival system of Kuroshima and Miyara Yaeyama mimicking the pattern. She also reconstructs a possible *\*s(u)- verb*<sup>41</sup> that could be related to *\*is-*. Using examples from Japanese *s-uru* ‘to do’ that appear archaic, Izuyama reconstructs the following meanings for the forms.<sup>42</sup>

*\*k(u)-*: The realization of an object or state.

*\*s(u)-*: The realization of a person’s action.

*\*ir-*: For an action or state to occur.

*\*is-*: To cause an action or state to occur.

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<sup>40</sup> The capital T likely indicates an underlying /t/ that assimilates depending on the final phoneme of the root.

<sup>41</sup> This form is to account for the *s* systems that have not yet been shown to be derived from *\*k*. Izuyama states, however, that she has not found more direct evidence for its existence.

<sup>42</sup> I am uncertain how Izuyama distinguishes between *\*k(u)-* and *\*s(u)-*. The *\*k(u)* meaning seems to be derived from the modern Yonaguni meaning of *kirun*. Her citations of archaic-seeming uses of *su-ru* (such as *nioi-ga suru* ‘to smell (like),’ which is a stative usage) suggests that she perhaps sees *\*k(u)-* and *\*s(u)-* as having collapsed in Japanese, but I am uncertain whether this is her assumption. The meaning of *\*ir-* appears to have been derived from the modern meaning of *irun* in Yonaguni and *\*is-* as a transitive form of that.

Through this detailed analysis, it is easy to see why the verbalizer affixes could have arisen from verbs corresponding to ‘to do.’ In the following sections, I attempt to search for evidence in the other Japonic languages that might support Izuyama’s proposal.

#### **§ 4 Evidence in Other Japonic Languages for the Origins of the Verbalizer Affixes**

While Chamberlain’s argument for the origin of the verbalizer suffix lying in *-sa + an* appears to be the simplest solution, Izuyama’s detailed study of the Sakishima languages suggest an alternate origin. Martin quotes Sakurai<sup>43</sup> in saying that adjectival stems were free in Proto-Japanese, as also suggested by compounded forms; however, as adjectival suffixes had clearly appeared by the earliest texts of Japanese (dated to the 8<sup>th</sup> century), and migration to the Ryukyu Islands is dated between the 2<sup>nd</sup> and 9<sup>th</sup> centuries, it is likely that the adjectival systems are closely related. As such, there should be relics of such a system, and we must accept the possibility that reanalysis of the verbalizer as a combination of *-sa* and *an* and subsequent leveling is the reason for phonological similarity. A comparative look at the other Japonic languages should provide a wealth of information that could support the theory of the development of the verbalizer affixes from the past or completive form of the verb ‘to do,’ ultimately tied to the verb ‘to exist/be.’ This section will provide some dialectal data on these constructions and attempt to search for evidence that Izuyama’s theory can be extended to the remaining Ryukyuan languages and perhaps to Japanese as well. It should also provide clues as to whether the affixes can be unified under a single origin.

##### **§ 4.1 Fieldwork with a Speaker of Shuri-Naha Okinawan**

In order to gather more data on Okinawan, I met with Eitetsu Yamaguchi, a 74-year-old native of Naha, the capital of the Okinawa Prefecture. Dr. Yamaguchi moved to the United States at age 25 and currently resides in Hamden, Connecticut with his wife. He rarely uses Okinawan these days but is able to when he visits Naha around once a year. Dr.

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<sup>43</sup> Martin lists multiple references by Sakurai Shigeharu, but does not mention in which one this argument is made.

Yamaguchi is linguistically well-informed, having translated Chamberlain’s 1895 Okinawan grammar into Japanese<sup>44</sup> and also having been a language consultant for Leon Serafim, a Ryukyuan linguist. The data was collected over nine one and a half to two-hour sessions and compared to Chamberlain’s grammar.

In comparing the conjugations of *SUN* ‘to do’ with the conjugations of the adjectival affix, there is a parallel between the past forms of *SUN*, based off *sa*, and the present forms of the adjectives. The non-matching are bolded.

**Table 17: Comparison of Past Forms of *SUN* with Adjectival Present Forms**

Form	mii- ‘to be new’	Form	s-un- ‘to do’
Non-Past Predicative	<i>mii-sa-N</i>	Past Predicative	<i>sa-N</i>
Attributive	<i>mii-sa-ru/mii-sa-nu</i>	Past Attributive	<i>sa-ru</i>
Verbal Noun	<i>mii-sa-si</i>	Past Verbal Noun	<i>sa-si</i>
Reason	<i>mii-sa-kutu</i>	Past Reason	<i>sa-kutu</i>
Hypothetical	<i>mii-sa-ree/raa</i>	Past Hypothetical	<i>sa-ree/raa</i>
Contrastive	<i>mii-sa-si-ga</i>	Past Contrastive	<i>sa-si-ga</i>
Negative	<b><i>mii-koo nee(ra)-N</i></b>	Past Negative	<b><i>sa-N-ta-N</i></b>
Question	<b><i>mii-sa-mi</i></b>	Past Question	<b><i>sa-tii</i></b>
Conjunctive	<b><i>mii-sa-nu</i></b>	Conjunctive	<i>si-i</i>
Conditional	<b><i>mii-sa-i-nee</i></b>	Conditional	<b><i>si-i-nee</i></b>
Concessive	<b><i>mii-sa-ti-N</i></b>	Concessive	<b><i>si-i-N</i></b>
Representative	<b><i>mii-sa-tai</i></b>	Representative	<b><i>sa-i</i></b>

All the past forms of *SUN* are built off the base *sa-*, which matches the shape of the verbalizer. The negatives do not match up, as the negative adjective form fits into the *-k* system instead. The reason for the question forms not matching can be explained by the fact that this morpheme is a later development. Chamberlain suggests the origin to be in the combination of the realis marker *-N* (which he reconstructs as \*mu) with the question marker *?ji* to form *-mi*. The past question marker he reconstructs as a combination of the past predicative *-ta* (which he reconstructs as \*ti a-, a conjunctive particle with the verb ‘to exist’) with the same particle *?ji* to form *-tii*. He surmises that the lack of any semblance of *a-* is due to the question particle being added directly to the conjunctive particle

<sup>44</sup> Yamaguchi, Eitetsu. 2005. *Ryūkyū no bunpō to jiten: Nichi-Ryūgo hikaku no kokoromi [A Ryukyuan Grammar and Dictionary: A Comparison of Japanese and Ryukyuan]*. Naha: Ryūkyū Shinpōsha.

(Chamberlain 1895, 85-87). As Japanese lacks this form, it is likely a later development than the grammaticalization of the verbalizer suffix.

Much as adjectives were restricted to the predicative and attributive in Old Japanese before the development of the *karu* forms, it is possible that the *-sa* (and perhaps also *-sa-ru*) suffix was original, and once reanalyzed to be *-sa + aN*, further suffixes could have been attached, leading to the adjectival past forms and so on. The remaining forms that do not match up between *s-u-n* and the adjective endings are the concessive, conditional, and conjunctive. All these forms, however, exist only in non-finite clauses, so the verb *s-u-n* can only take a tenseless form. Once reanalyzed as *sa + aN*, these non-finite markers could then have been taken.

We are left with the representative as a problematic case. Comparing with the Japanese *-tari* form, there appears to be a relation to the past morpheme *-ta* (*-Ta*<sup>45</sup> in Okinawan). While in Japanese, the past *-ta* has become a sentence-final morpheme, suffixes such as the realis *-n* and attributive *-ru* can be attached to *-Ta* in Okinawan, supporting the relation to *-tari*. The shortening of the Okinawan representative form of ‘to do,’ *s-ai*, appears to be related to the shortening of the past form *s-a*. If these two morphemes are indeed related, it is surprising that the adjectival representative would become *sa-tai*. Perhaps this was due to the attachment of *tai* after reanalysis, particularly because the representative is a rarely used construction (it is not even mentioned in Chamberlain’s grammar). It should be noted as well that the representative is also tenseless (the tense is encoded in the conjugation of ‘to do,’ used as a proverb following the representative construction). Thus, while the representative can only be left as a problematic case, because it is unclear whether it fits into the past paradigm, the disparity may be due to reanalysis just like the other tenseless forms.

## § 4.2 The Grammaticalization Pathway

I agree with Izuyama that the *sa-* nominalizer suffix is unlikely to be the origin of the *s-* adjectival system and that a derivation from the verb ‘to do’ is the more likely candidate.

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<sup>45</sup> The default phonetic realization of *T* is [t], but often partial or complete assimilation occurs.

However, the conjugational similarities to *a(r)*- ‘to be/exist’ appear to be due to *a(r)*- having played a role in the grammaticalization of the past and completive/resultative affix. The past form *-ta* (previously perfective in Classical Japanese) appears to be derived from the conjunctive marker *te + ar-* (< *\*a-*) in Japanese (Martin 1987, 151). In the modern Japanese language, the *te + aru* construct is a resultative expression, closely parallel to the progressive construction, formed instead with the animate ‘to exist’ verb *te + i-ru*.

- (14) heja-no        denki-wo        kes-i-**ta**  
 room-GEN      light-ACC      turn.off-INF-PST  
 ‘(Someone) turned off the light in the room.’
- heja-no        denki-wo        kes-i-**te**                      **i-ru**  
 room-GEN      light-ACC      turn.off-INF-CNJ          exist.ANIM-NPST  
 ‘(Someone) is turning off the light in the room.’
- heja-no        denki-ga        kes-i-**te**                      **ar-u**  
 room-GEN      light-NOM      turn.off-INF-CNJ          exist-NPST  
 ‘The light in the room is turned off.’

The corresponding forms in Okinawan are the past *-Ta* formed from *ti* (< *\*te*) + *a-* (Chamberlain 1895, 86), the resultative *-Tee* from *-ti + a-*, and the progressive *-Too* from *-ti + wu-* ‘to exist (animate).’ As RESULTATIVE (or COMPLETIVE) > PAST (or PERFECTIVE) is a common grammaticalization process (Heine & Kuteva 2002, 138), occurring in multiple Romance languages (Pinkster 1987, 194) and Korean (Lee 1961, 206) as well, it is unclear whether the developments in Japanese and Okinawan are parallel or commonly inherited. As Okinawan long *e:* comes from *\*i + \*(j)a* (evidenced also by the formation of *-ee* from nouns ending in *-i* combining with the topic marker *-ja*), it is likely that the current resultative construction was not formed until after raising of *\*e* to *i*. Thus, the formations of the resultative construction appear to be parallel rather than inherited.

- (15) nz<sup>j</sup>ana-a                      cura-a-ku                      cic-**ca**-N  
 bitter.herb-TOP              pretty-EMP-AVLZ              cut-PAST-RLS  
 ‘(Someone) neatly cut the bitter herb.’
- nz<sup>j</sup>ana-a                      cura-a-ku                      cic-**coo**-N  
 bitter.herb-TOP              pretty-EMP-AVLZ              cut-PROG-RLS

‘(Someone) is neatly cutting the bitter herbs.’  
 n<sup>1</sup>ana-a cura-a-ku cic-**cee**-N  
 bitter.herb-TOP pretty-EMP-AVLZ cut-RES-RLS  
 ‘The bitter herb was neatly cut.’

This Okinawan example provides an interesting case of two different particles grammaticalizing from the same origin. Thus, there is clearly a tight connection between the resultative/completive ending and the past ending. How the verbalizer affix came to form in Okinawan, then, appears to have been indirectly related to *a-*. A possible pathway for the grammaticalization in Okinawan is sketched below.

1. A construction exists involving the conjunctive affix *-te* and *a-* ‘to be/exist’
2. The two morphemes agglutinate to form the past suffix *-Ta*
3. *si-ta* ‘did’ is attached to adjectival stems for predication<sup>46</sup>
4. Lenition eventually leads to the modern past *sa-* ‘did’—a possible pathway is *\*sita-* > *\*sica-* > *s<sup>j</sup>a-* > *sa-*
5. Reanalysis of *sa-* as *sa-* + *a-* brings in further conjugations of *a-* as *a-* becomes the core of the analysis (the past suffix, etc. can then be introduced)

Izuyama also suggests that there is a distinction between the *s* and *s<sup>j</sup>* classes in Okinawan that corresponds to the *-ku* and *-siku* classes traditionally proposed (Izuyama 1997, 3). Dr. Yamaguchi, however, uses *s* and *s<sup>j</sup>* in free variation—the only exceptions being in Chinese loanwords (such as *s<sup>j</sup>umuci* ‘book’), which appear to have both phonemes distinct. Chamberlain also notes that these phonemes are in free variation (Chamberlain 1895, 119). In fact, the phonological rule *s* → *s<sup>j</sup>* / <sub>[+front]</sub> was lost after the merging of *i* to *i*, just before the arrival of Westerners around 1800, leading to free variation between the phonemes (Serafim 2008, 87). While most forms are indistinguishable, the adverbial *-ku* form preserves the extra *-si* morpheme. Compare the non-past *waka-sa-n* ‘young’ and *sida-sa-n* ‘cool’ with the adverbial, *waka-ku* and *sida-si-ku*. As mentioned in §3.2, this difference is merely lexical in Japanese, but Shuri-Naha appears to have developed these two classes in the synchronic analysis. The Japanese data suggests, however, that historically, there was simply attachment of a derivational morpheme *-si*. We can then posit that the

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<sup>46</sup> Izuyama notes that there are multiple dialects that use the verb ‘to do’ with the adjective stem, Naze Amami being one example (Izuyama 1997, 24).

similarity and proximity of the *s* phonemes in the *-si* and the *-s<sup>j</sup>a/-sa* verbalizer led to deletion of the original *-si*, similar to the Japanese haplology rule (see §3.2) allowing it only to surface before the phonetically dissimilar *-ku*. Thus, rather than positing two classes in earlier Ryukyuan, I also posit a mere lexical difference, as in Japanese. The attachment of *-si* is likely inherited from Proto-Japonic.

Diachronic data would help to tease apart the order in which such changes may have happened (and reveal whether the past tense *s-a-N* of *s-u-N* was derived as I have surmised). Regardless, the reason for the paradigm of the verbalizer being parallel to that of *a-* appears to be due to the past tense itself also originating from *a-*.

### § 4.3 An Argument For Parsimony

Izuyama sheds light on a long-accepted reconstruction by showing that it is not consistent with comparative data and providing an alternative plausible scenario. Her proposals unify the adjectival conjugation system as having formed out of a semantically unified meaning of ‘to do.’ However, her reconstructions are not without flaw. Although the existence of three or four verbs meaning ‘to do’ is not impossible, I argue in this section that there were only two verbs at most that meant ‘to do.’ I offer *\*e-* as an alternate reconstruction for *\*ir-* that meant ‘to get’ rather than ‘to do,’ link together *\*is-* and *\*s(u)-* into a unified form *\*a(s)-* that meant ‘to do,’ and accept Izuyama’s *\*k(u)-* form.

#### § 4.3.1 The Reconstructed Verb *\*ir* and its Reflexes

The verb *\*ir* that Izuyama reconstructs as a form of ‘to do’ looks suspiciously similar to the verb ‘to get, obtain’ which surfaces as *e-ru* in Japanese and *jii-N*<sup>47</sup> ‘to receive’ in Okinawan. The homophones of the *jii* syllable correspond to Japanese *e* or *i*. As *jee* is an acceptable syllable in Okinawan, the vowel-raising rule must have occurred before vowel

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<sup>47</sup> Strangely, this word does not show up in Sakihara’s 2006 dictionary or Chamberlain’s (albeit short) 1895 wordlist. Instead, *ukii-N* or *uki-tui-N* is used (cognate with Japanese *uke-ru/uke-tor-u* ‘to receive’). Dr. Yamaguchi always used *jii-jun* in elicitation for the Japanese words *mora-u* ‘to receive’ and *e-ru* ‘to get.’ Furthermore, there are cognates in other Ryukyuan languages.

lengthening<sup>48</sup>. Thus, we can consider these two stems to be cognates. As Izuyama’s reconstruction is based off the Yonaguni form *irun* and Yonaguni only has three vowels *a*, *i*, and *u*, *irun* is also probably a cognate that semantically shifted from ‘to get’ to ‘to do’ (perhaps due to mixing with the transitive \**isun*). Miyako and Yaeyama also offer cognates.

**Table 18: Sound Correspondences Between Japanese *e*, Okinawan *i*, and Yonaguni *i***

Word	Japanese	Okinawan	Miyako	Yaeyama	Yonaguni
Wind	kaze	kazi	kad(ʲ)i	kad(ʲ)i	kadi
Money	zeni	ziN	ziN/diN	ziN/diN	diN
Rice (uncooked)	kome	kumi	kumi	kumi <sup>49</sup>	nni
To be narrow	sema-i	iba-sa-N	siba-ka-i	iba-sa-N sipa-ha-N	siba-N
To choose	erab-u	irab-u-N	irab-i irav-u	irab-u-N	irabu-N
To open	ake-ru	aki-i-N	aki-i	aki-ru-N agi-ru-N	agiru-N
To clear (weather)	hare-ru	hari-i-N	pari-i	pari-ru-N	hariru-N
To receive	e-ru	jii <sup>50</sup> N	i-i-i i-i-r <sup>51</sup>	ii-ru-N	iru-N ‘to do’

This non-exhaustive list of correspondences shows a clear *e* : *i* correspondence between Japanese and the Ryukyuan languages. The exception is Miyako, in which the reflex is *i*. We must question why it surfaces differently—this may be indicative of the verb ‘to get’ going back to \**i-*, as that vowel has disappeared in the rest of the languages.<sup>52</sup> This discrepancy should be explored further.

<sup>48</sup> Martin notes a rule of “indigenous lengthening” (Martin 1987, 806), but does not describe the rule. Serafim (2008) does not mention this rule in his list, so I am unsure of the mechanisms behind the rule. Examples include *kii* ‘tree,’ *tii* ‘hand,’ and *kaamii* ‘turtle,’ respectively *ki*, *te*, and *kame* in Japanese. Yaeyama also seems to have undergone this lengthening rule—the three examples from Okinawan are the same as Yaeyama, phonetically (although *tii* surfaces as *sii* in Hateruma Yaeyama). Yonaguni does not have long vowels.

<sup>49</sup> This word does not show up in Hirayama’s 1988 vocabulary, but I infer it from the various compound words under the entry for *kome* (*nu-gumi*, *pana-gumi*, *bari-gumi*, etc.) and assuming *rendaku* lenition has occurred. Even if the word is *gumi*, Japanese *e* still corresponds to Yaeyama *i*.

<sup>50</sup> The underlying form is likely /jii-i-N/ but as extra long vowels are not permitted in Okinawan, it reduces to [jiin].

<sup>51</sup> Note that the realis can surface as *r* or *i* in Miyako.

<sup>52</sup> Amami and Hateruma Yaeyama still have the vowel *i*, but there are no cognates of this verb in the dictionaries, so it is uncertain whether those words would also have the root *i-*.

It can be further noted between the three verbal examples (among others) is that the *-i-NPST-(RLS)* construction appears in the analogues of the vowel-stem verbs in Japanese, which end in either *-e-ru* or *-i-ru*. The morphophonological correspondences appear to support the hypothesis that *irun*, glossed as ‘to do’ in Yonaguni, is cognate with the Japanese and other Ryukyuan forms of ‘to get.’ I preliminarily reconstruct the Proto-Japonic form as \**e*, as vowel lowering was not a sound change that occurred in Japanese, while vowel raising from \**e* > *i* did occur in the Ryukyuan languages.

There are a few questions to answer then. First, what is the extra material that is attached to the *i-* root in Yonaguni? In comparing the form to Okinawan, we see that the reflex in Okinawan is *jii-n*. This form, however, is derived from *jii-jun* (Chamberlain 1895 marks them in free variation, Nakamatsu 1964 does not have the contracted form), which is still in use according to Dr. Yamaguchi (though perhaps less so, as this form is unmentioned in Sakihara’s 2006 dictionary and is not the default form Dr. Yamaguchi uses). Assuming the *-n* to be a realis marker in Yonaguni, as it is in Okinawan, we are left with a Jp. Ya. Yo. *ru* : Mi. *i/r/u* : Ok. *ju* correspondence. This segment appears to be the non-past marker. Okinawan verbs that are analogues to Japanese verbs ending in *-r* also have the *ju* syllable<sup>53</sup>. Examples include *hazimaj-u-n* ‘to begin’ (Jp. *hazimaru*) and *sij-u-n* ‘to know’ (Jp. *siru*). These are consonant-stem verbs but still undergo the same phonological change. Because of this uniform change, there seems to be some common quality between the sequences, despite the difference in morphological boundary. The chart below compares consonant-stem and vowel-stem verbs. Note the phonological similarities despite the morphological boundaries.

**Table 19: Comparison of r-Stem and Vowel-Stem Nonpast Forms**

Gloss	Japanese	Amami <sup>54</sup> (China)	Okinawan (S-N)	Miyako (Irabu)	Yaeyama (Ishigaki)	Yonaguni
To take	tor-u	tuj-u-N	tuj-un	tur-m	tur-u-N	tur-u-N
To give	age-ru	uʔi-ju-N	agi-jun	uki-r-m	uki-(ru)-N	aŋi-ru-N

<sup>53</sup> The *r* surfaces when followed by *t* (in which case it assimilates and creates a geminate) or when followed by the subjunctive/irrealis *-a-*.

<sup>54</sup> While Amami did not have examples for ‘to get,’ due to the commonality across the rest of the Japonic languages, it is likely important to the reconstruction of \**e* as well.

The sound change takes place across the boundary, suggesting a commonality in the *ju* syllable. We may expect the sound change to have been \*r → j / \_u, but many words have the *-ru* sequence, regardless of existence of a morphological boundary, such as *muru* ‘all,’ *hiru* ~ *firu* ‘midday,’ and *ziiru* ‘ritual hearth for woman to warm herself in week after giving birth’ (note that this would also eliminate the possibility of an *iru* > *iju* sound change). For comparison, the sound sequence *ru* in Japanese verb or adjectival stems assimilates to the following obstruent and causes gemination in Okinawan. Examples include *was-san* ‘bad,’ *kas-san* ‘light (not heavy),’ and *accu-n* ‘to walk,’ likely derived from \**waru-san*, \**karu-san*, and \**aruc-un* < \**aruk-un*. The *r* in the *-ru* non-past suffix following vowel-stem verbs would appear to be epenthetic to prevent hiatus; however, the data here suggests that it could be more key to the reconstruction of \**e*.

We now turn to Old Japanese for comparative evidence of inheritance from a common Proto-Japonic ‘to get’ verb. Whitman notes that the verb *e-* ‘to get’ is rarely attested except in its infinitive form *e*. The predicative *u* is not attested in Old Japanese and only appears later in the Heian era (Early Middle Japanese), while the attributive *u-ru* is very rare. Whitman attributes the rarity to lack of transparency, as the stem is completely eliminated (Whitman 2008, 168). The following basic forms are provided.

(16)	<b><i>e-</i> ‘to get’</b>		Whitman 2008 (166)
	Predicative	* <i>e-u</i> > <i>u</i>	
	Irrealis	* <i>e-a</i> > <i>e</i>	
	Infinitive	* <i>e-i</i> > * <i>ey</i> > <i>e</i>	

The reduced forms above are achieved by phonological constraints; namely, preventing hiatus and avoiding diphthongs. Whitman reconstructs the predicative verbal ending *-u* as deriving from the predicative form *u* and vowel-stem verbs as deriving from the irrealis/infinitive *e* (Whitman 2008, 168). CV- *i*-stem verbs are noted as deriving from *wi* < *wo-* ‘to exist (animate)’ + *e*. Whitman notes that the vowel-stem verbs fall under transitive<sup>55</sup>, unaccusative inchoative, and achievement meanings, which fall neatly into the grammaticalization of ‘get,’ as noted crosslinguistically by Heine and Kuteva (2003, 144-

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<sup>55</sup> Sometimes they are intransitivized forms, so it may make more sense to note the attachment as a valency changing morpheme rather than just transitivizing.

145, 149). While Frellesvig (2008) agrees on most of Whitman’s reconstruction, he proposes that the *i*-stem verbs are derived from a separate formant \*i distinct from the infinitive *-i*, for which he finds no meaning yet. The two reasons are the phonological implausibility of *i* < \*-u-e or \*-i-e, a rule that Whitman proposes for the formation of VCV- *i*-stem verbs, and the distinct semantic group formed by the *i*-stem verbs—inchoatives formed from adjectival stems (ex. *aka* + \*i = red + \*i = ‘to dawn’) (Frellesvig 2008, 180). However, I believe Whitman’s proposal of *wi* can simply be extended to the VCV verbs as it is phonologically plausible (the modern animate existential verb *i*- < *wi*- can then be analyzed as deriving from *wo*- ‘to exist, animate) + *e*) and semantically, the verb ‘to exist’ appears to be compatible with an inchoative meaning. One issue, however, is why the infinitive form specifically would be chosen for forming this semantic group of verbs.

Now that we have evidence from both sister families of Japonic for \*e, we can return to exploring the question of why *r* turned to *j* regardless of whether *r* was part of the stem or not. In the Ryukyuan languages, *r* appears in the negative forms of vowel-stem verbs (Irabu is an exception, but we see *r* in the non-past preceding *-m*). Meanwhile, to negate in Japanese, vowel-stem verbs take *-na-i* while *r*-stem verbs take *-a-na-i* as other consonant-stem verbs do.

**Table 20: Comparison of Negative r-Stem and Vowel-Stem Verbs**

<b>Gloss</b>	<b>Japanese</b>	<b>Amami (China)</b>	<b>Okinawan (S-N)</b>	<b>Miyako (Irabu)</b>	<b>Yaeyama (Ishigaki)</b>	<b>Yonaguni</b>
<b>Not take</b>	tor-a-na-i	uʔi-ra-N	tur-a-N	tur-a-N	tur-a-nu	tur-a nu-N
<b>Not accept</b>	uke-na-i	tur-a-N	uki-ra-N	uki-N	ukir-a-nu	ugi-ra nu-N

Barring the Irabu example, the phonological shape of the end of *r*-stem and vowel-stem verbal negatives are identical—both end in *ra-N*, *ra-nu*, or *ra nu-N*. It is doubtful that the Ryukyuan languages lost a distinction between the *r*-stem and vowel-stem verbs, as the underlying *r* still causes phonological changes in other forms. I propose that while the verb may have originated in \*e-, there may have been the addition of an *r* formant to both lengthen the one-consonant root and to level the consonant-final verbal system. This idea is consistent with the fact that the root \*a-, which was a copula, gained the formant *ra*-

(Martin 1987, 805)<sup>56</sup> likely in Proto-Japonic. It would not be implausible to believe that both verbs underwent the same process to lengthen the root and to level the consonant-final system. Thus, we can propose an original \*e- verb that later lengthened to \*er- in Proto-Ryukyuan (and perhaps simplified once again to *i-* < \*e- once a vowel-stem class was established).

This \*e- reconstruction would accord with the \*ir- form that Izuyama reconstructs, taking into account the addition of *r* at a later time and the vowel shift from \*e to *i*. I disagree, however, with Izuyama's semantic reconstruction of \*ir- as a verb meaning 'to do.' Rather, the Okinawan and Japanese meaning of 'to get, receive' appears more plausible, particularly because of the compatibility with the grammaticalization to form inchoatives and valency changed verbs. The opposition with \*is- that Izuyama reconstructs, however, could be telling. This form will now be explored.

#### § 4.3.2 *The Reconstructed Verb \*is- and a proposed relation to \*s(u)-*

While more evidence for the \*is- form is wanting, Izuyama does suggest a possible connection with \*s(u)- 'to do.' As \*s(u)- is well attested among the languages, we might wonder whether the initial vowel dropped out and whether \*s(u)- < \*es- 'to do' is the transitive analogue to the intransitive \*er- 'to get.' Miyako offers some evidence for possible apheresis. While *s* shows up as the initial phoneme for 'to do' in all the languages except Yonaguni, Hirara and Ikema Miyako show *as-* or *ss-* and Irabu shows *as-* as the root for 'to do.' Furthermore, the conjunctive form of 'to do' in Shuri-Naha Okinawan and in Tokunoshima Amami are *ss-i* and *ss-í*, respectively. Such forms may be archaisms preserving a phoneme that preceded the *s* that is generally posited as the root of 'to do.' Bentley 2008 notes that Uchima 1984 reconstructs \*ase- as the root of 'to do' in Proto-Miyako, based on data from Ōgami, but he disagrees and reconstructs \*s- instead. For Proto-Sakishima (Proto-Southern-Ryukyuan), Uchima reconstructs an \*afī form as one of

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<sup>56</sup> Martin reconstructs *ar-* as deriving from the copula \*a- and the suffix/bound noun *-ra* 'quantity, group,' although I am unsure how he arrives at this reconstruction. I think it is more plausible to introduce an *r* formant as a verb-stem extender.

the infinitive forms of ‘to do’ but Bentley once again takes \*s- as the reconstructed form and asserts that Uchima reconstructs too many forms for ‘to do.’

I believe that it is not implausible to posit \*as- as a reconstructed form of ‘to do.’ First, the causative suffix in Japanese and Okinawan (and likely other Ryukyuan languages as well) is *as-*, and we have proposed a connection to the verb ‘to do.’ Second, the passive suffix is *ar-*. We may wonder whether *ar-* is derived from the verb ‘to exist.’ Perhaps, then, \*as- ‘to do’ could be the transitivized form of ‘to be,’ formed by the transitivizer affix \*-s attaching to the original \*a- root (-r appears to have been attached to \*a- later on). Now, Martin (1987, 681) proposes that the verb *e-* ‘to get’ is derived from contraction of \*a- ‘to exist’ with the infinitive \*-i, so it is possible that there is a connection between these three verbs that originated in the copular \*a- verb. If this is the case, it must have been a very ancient development. The only example Japanese *s* : Miyako *as/ss* correspondence I could find was the word for ‘cough,’ which is *seki* in Japanese, *isaku* in Hirara, *isagu* in Ikema, and *ssaku* in Irabu. Along with this lexical evidence, Izuyama’s noting of the two conjugations for *kirun* and inferred two conjugations for *irun* (one with an *r* ending and one with an *s* ending) provide some morphological evidence for an ancient intransitive/transitive opposition for \*er- with \*es- and/or \*ar- with \*as-.

#### § 4.4 A Revised Reconstruction of the Verbalizer Affixes

I revise Izuyama’s proposal by changing \*ir- to PR \*er- < PJ \*e- \*a-i- and noting no importance to the verbalizer affixes. The origin of *-jan* in Miyara Yaeyama will then have to be re-explored. I currently do not have an explanation, although the appearance of the glide may suggest a phonological relation to *-wan*, as *-jan* follows i(:) and *-wan* seems to follow u(:). I combine Izuyama’s reconstructions of \*is- and \*s(u)- into \*as- and propose that that is one of the verbs ‘to do.’ More work must be done on the *-k* system of verbalizers to see whether they also derive from another verb (or even possibly the same verb) ‘to do.’ As *-ku* or its reflexes appear in every language as an adverbializer and *-kar* as a verbalizer in Miyako and Japanese (and some dialects of other languages), and Izuyama shows phonological correspondences deriving *-har* from *-kar* in some Yaeyama dialects, a more careful study of the verb *kirun* ‘to do’ in Yonaguni is deserved.

In summary, I propose:

PR *er- < PJ *e- < *a-i	'to get' < 'to get' < infinitive form of copula
*as- < *a- + *-s	'to do' < copula + transitive suffix
sar < *(a)s-i-te + *ar- < *a- + *-r	verbalizer affix < do-INF-CNJ + copula < copula

The construction following 'to do' in the third reconstruction above became a past/completive/resultative or any combination of the above at different times. Which meaning the verbalizer affix derives from is unclear as the data from different languages is mixed as to whether the verbalizer affix resembles the past or completive/resultative more. I also accept Izuyama's \*k(u)- reconstruction tentatively, as it would seem strange for the adverbializer to uniformly come from this form of 'to do' while the other forms come from the other form of 'to do' \*s(u)-. The phonology seems correct, but the semantics of the reconstruction remain tentative.

## § 5.0 Theoretical Support for the Grammaticalization of 'to do'

Various theoretical reasons support the grammaticalization of 'to do' into the verbalizer suffix for adjectives. I explore these reasons below.

### § 5.1 A Hole in the Adjectival Paradigm

The first theoretical issue to tackle is the holes in the adjectival paradigm. As seen in Table 1 in §2.1.1, the adjectival paradigm in Japanese (and also in the Ryukyuan languages, as far as can be determined) does not allow for the passive, hortative, imperative, and potential forms. The passive is incompatible with adjectives, which are intransitive and thus cannot increase in valency. While the hortative and imperative can be compatible with certain adjectives in English ("Be nice!" "Let's be more interesting."), a look at the types of compatible adjectives reveals that they are of the class that Dixon (2006, 4) terms "human propensity" adjectives (examples using the more basic lexicon such as "be tall!" "let's be old." are clearly marked), which are less core and only present when an adjective class is very large. In fact, the majority of human propensity adjectives lie in the non-inflecting class. Most of the ones that do fall into the inflecting class are derived with the *-si* emotive

suffix, thus representing a younger class than the basic adjectives. Removing those, there remain a few inflecting class human propensity adjectives, such as *kasikoi* 'clever' and *zurui* 'sly' (Backhouse 1984, 178). For such adjectives to be made hortative or imperative, a periphrastic expression using an adverbializer and the verb 'to do' must be used, just as with the periphrastic causative expression for adjectives (*sizuka ni si-ro* 'be quiet,' *jasasi-ku si-joo* 'let's be kind')<sup>57</sup>. The same periphrastic constructions exist in Okinawan (*sizika ni s-ee* 'be quiet' *ufujaa-si-ku s-a* 'let's be kind'). Although this data does not necessarily imply the usage of 'to do' with adjectives, it can be seen why the inflecting class is naturally incompatible with the imperative and hortative.

The potential form, however, provides us an interesting hole. There is nothing semantically preventing an adjective from being potential, and, as mentioned in §2.3, the verb *aru* indeed has a potential form *ar-i-eru*,<sup>58</sup> so it is strange that the form should be missing for adjectives (as mentioned in §2.3, Okinawan also uses an expression for the potential form of *a*-). Instead, the potential form of 'to do' in the Japonic languages is suppletive, replaced by *deki-ru* in Japanese or *dikii-n*, meaning 'to be able to do' in Shuri-Naha and Izena Okinawan and forms of the word 'to become' *nar-* in the other Ryukyuan languages. The exception is Miyako, which does have non-suppletive potential forms of 'to do,' surfacing as *(a)si-ra-*. This fact is possibly a reanalysis that was permitted later, but the reason for the discrepancy is uncertain. The hole in the paradigm of both 'to do' and the adjectives provides circumstantial evidence for the verb 'to do' being the main constituent of the verbalizer affix.

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<sup>57</sup> In consulting with my Japanese professors Michiaki Murata and Masahiko Seto, the inflecting adjectives may take an inflecting form *jasasi-ku ar-e*. This is, however, considered a very formal expression, so I have doubt that it is natural, while the contracted form *jasasi-kar-e* has an alternate meaning. It appears to be some sort of third person desiderative, similar to the sentence *jo-kare-to omot-te* = good-DES-QUO think-CNJ 'I thought it would be good for him.' Their opinions are divided as to the acceptability of the hortative *jasasi-ku ar-oo*, although *jasasi-kar-oo* is unacceptable.

<sup>58</sup> This form is irregular, as it is built from the continuative *ar-i* instead of the stem, as regular verbs are.

## § 5.2 A Comparison of the Verbalizer Affixes with Other Affixes

The following chart compares the verbalizer affixes in various dialects of Ryukyuan languages with the past and completive and/or resultative forms of ‘to do’. Similar forms are in bold.

**Table 21: Comparison of the Verbalizer Affix with the Past/Completive/Resultative Forms of ‘to do’**

Language	Dialect	Verbalizer	Past	Completive
<i>Amami</i>	<i>Wadomari</i>	-sa, - <b>s<sup>j</sup>a</b>	<b>s<sup>j</sup>-a-n</b>	-
	<i>China</i>	-sa, - <b>s<sup>j</sup>a</b>	<b>s<sup>j</sup>-a-n</b>	-
	<i>Tokunoshima</i>	-ha/-ø/-a/-ka <sup>59</sup>	s-a-n	-
<i>Okinawan</i>	<i>Shuri-Naha</i>	-sa, (-s <sup>j</sup> a)	<b>s-a-n</b>	s-ee-n
	<i>Sesoko</i>	- <b>s<sup>j</sup>een</b>	hatʃ-a-n	<b>hats<sup>j</sup>-ee-n</b>
<i>Miyako</i>	<i>Tarama</i>	-s <sup>j</sup> aa	s-ii-ta-r	-
<i>Yaeyama</i>	<i>Hateruma</i>	-ha	s <sup>j</sup> aa-n	-
	<i>Ishigaki</i>	-saa, - <b>s<sup>j</sup>aa</b>	si-ta, si-da, suu-da	s-ii-ta/ <b>s<sup>j</sup>-ee-n</b>
	<i>Kabira</i>	-saa	si-ta	s <sup>j</sup> -ee-n
	<i>Iriomote</i>	-ha(a), -sa, - <b>s<sup>j</sup>a</b>	<b>s<sup>j</sup>-a-n</b>	
	<i>Kohama</i>	-ha(a)	si-ta	haij-aa-n <sup>60</sup>
<i>Yonaguni</i>		-ø	kis-i-ta-n/i-ta-n	kis <sup>j</sup> -a-n/is <sup>j</sup> -a-n

As can be seen, there is much concordance between the verbalizer affix and either the past or completive affix in most of these languages. As such, it is not implausible to believe that the verbalizer affix originates in the past, completive, and/or resultative forms of ‘to do.’ Furthermore, in all the dialects that I could find a nominalizer affix for, the affix was uniformly *-sa*. If the verbalizer affix were derived from this nominalizer affix in combination with *a-* ‘to be,’ we would not expect so much heterogeneity in the realization of the phoneme, which appears variably as *h, s, s<sup>j</sup>, ø*, etc. As this heterogeneity is reflected in

<sup>59</sup> The Tokunoshima dialect of Amami has a *k > ø / a\_a* rule. For example, *taka-* ‘tall’ and *kakar-* ‘to hang’ in Japanese (and many other Japonic languages) are *taa-* and *kaa-* in Tokunoshima, suggesting that the verbalizer may have originally been *-kar*, thus fitting into the *-k* system. Examples of the allophones of the null verbalizer are *garo-ha-i* ‘light (not heavy),’ *ubu-ha-i* ‘heavy,’ and *usi-a-i* ‘thin (liquid).’ However, a *k > [h, ø]* / *[u, o]\_a* rule is not attested (though neither is an *s > [h, ø]* change in the same environment), so the derivation from *-k* may not be straightforward. However, there is an attributive form that surfaces as *-ka*, providing further evidence for derivation from the *-k* system.

<sup>60</sup> A [φoon] form is also given. This is likely the progressive form (*-oo-* is the progressive marker in various Ryukyuan languages). The *h-* there can then possibly be related to the verbalizer.

the verb ‘to do’ as well, which has undergone many sound changes over Japonic language history, a connection to the verbalizer affix is well-merited.

### § 5.3 Crosslinguistic Evidence

Crosslinguistic data also provides examples of verbalizers formed from the past tense of the verb ‘to do.’ Because adjectives represent states, a past form or the completive (or resultative) form that Izuyama suggests is semantically valid. A class of Korean adjectival and verb stems are attached to the verb *ha-ta* ‘to do’ to inflect. Both conjugate to *he* in the predicative present and *he-ss* in the predicative past. However, when attributive, the adjectival present conjugates to *ha-n* while the verbal present conjugates to *ha-nun*. The ending *-n* for the adjectival present is identical to that for the verbal past (*ha-n*). Yolŋu, a subgroup of the Pama-Nyungan family, has also grammaticalized ‘to do’ \*DHu > *thu* to a verbalizer for adjectives, emerging as the past form in the attributive, just as in Korean.

- (17) **Korean**  
 kkekkuut-**ha-n**                      paŋ  
 clean-do-ATT.PST                      room  
 ‘A clean room.’
- c<sup>h</sup>Λŋso-**ha-n**                      paŋ  
 clean(V)-do-ATT.PST                      room  
 ‘The room I cleaned.’
- (18) **Yolŋu (Djapu)**  
 wuŋjay            marrtji-nya                      ŋunhi-ny-dhi                      yolŋu-n  
 honey.ABS        go-PST-NIND                      that.ABS-PRO-ANA                      person-ACC
- wapiti-warrtju<sup>61</sup>-na-puyŋu-nha-ny                      weka-nha  
 stingray-spear+PL-NMZ-INHAB-ACC-PRO                      give-PST NIND  
 ‘(We) would go and give honey to those people who were spearing stingrays.’  
 [Lit. ‘to those stingray-spearing people.’] (Morphy 1983, 110)
- wiripu-ny            ŋanapur                      ŋuli            baymat**thu**-na                      mulmu-lil  
 also-PRO            1.PL.EXC.NOM                      IRR            collect-PST NIND                      grass-ALL  
 ‘Also, we might have (gone to) collect grass.’ (Morphy 1983, 72)

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<sup>61</sup> This is an allophone of *thu*.

The first example for each language is the adjectival present. The second example is the verbal past. These crosslinguistic examples show that the grammaticalization of the past or completive/resultative form of ‘to do’ into a verbalizer affix is a plausible pathway.

### § 5.3 Clues in Japanese

The *karu* conjugation class in Japanese, apparently very young at the time of the oldest Japanese texts available, gives us pause as to whether there is a relation to the *k* or *s*-type verbalizer affixes of the Ryukyuan languages. However, the fact that the older attributive and predicative adjective affixes, *-ki* and *-si*, phonetically fit into the *k* and *s* paradigm may be more than pure coincidence.

Unfortunately, Martin finds no convincing analogues of *-ki* or *-si* in the Ryukyuan languages. The few possibilities he finds are from sources between the 16<sup>th</sup> and 19<sup>th</sup> centuries (among them Chinese works, Okinawan dictionaries, and collections of Ryukyuan poems and dance performances). These examples are rare, coexist with *-sa-* adjectival forms, and are virtually phonetically identical to the Japanese cognates, suggesting borrowing and/or literary influence (Martin 1987, 806). Martin seems to note no examples from other Ryukyuan languages, however. While Martin calls his examples “Ryukyuan,” it is likely that only Okinawan is represented, as “Ryukyuan” was a blanket term for the then-considered “dialects” of Japanese and because the examples most resemble Okinawan. For example, one might question whether the similative suffix *-ki* in Miyako is related to the Japanese *-ki*. However, nothing can be considered more than speculation at present.

These older adjectival suffixes are also reminiscent of the attributive and predicative forms of an affix considered a retrospective by “scholarly consensus” (Bentley 2003, 156) but as a perfect by Martin (1987) in Old and Classical Japanese.

**Table 22: The Old Japanese Retrospective Affix (based off Bentley (2003, 156) and Vovin (2003, 225))**

Verb	Predicative	Attributive	Imperative	Conditional (Bentley) Evidential (Vovin)
Regular Verbs	-ikyī	-isi	-ise	-sika
To do	s-iki	se-si	?	se-sika
To come	-	ko-si / k-isi	?	ko-sika / k-isika

The forms for the verbs *se-* 'to do' and *ko-* 'to come' are irregular (also note that neither Vovin nor Bentley note the imperative forms). Vovin (2003, 225) notes that a predicative form for *ko-* such as \**ko-ki* or \**k-iki* does not appear in the texts. There is no consensus, however, of the origins of these markers or whether they are related to the adjectival forms (Martin 1987, 808). The phonological similarities are striking; however, because the functions of attributive and predicative are switched for these morphemes, there may be no connection at all. Martin does note, however, that Japanese literature does not consistently use the adjectival *-ki* and *-si* in their respective functions and that there is evidence that they were in competition for both functions (Martin 1987, 806-807), which could explain the disparity with the perfect/retrospective. Being a perfect or retrospective marker, such forms fit into semantic sphere of the completive and past affixes.

Another question that may be asked is whether the adjectival affixes *-ki* and/or *-si* are related to the adverbializer *-ku*. The *-ku* suffix is certainly older and therefore more closely agglutinated than the *-ki* and *-si* suffix, as evidenced by the differences in the pitch accent (Martin 1987, 127). Both suffixes caused a change of accent, but while *-ki* and *-si*, which both have an accent, changed in pitch depending on the pitch accent of the stem, *-ku* changed the pitch of the final syllable of low-initial stems from low to high (Martin 1987, 215-216). In trying to reconstruct the phonological shape of *-ki*, the dialects of Hachijō Island in the east provide clues. The adjectival attributive form is *-ke* while the predicative is *-k<sup>h</sup>a* (both geminate for a monosyllabic stem). The attributive form for eastern Old Japanese is also *-ke*, evidence that has been used to reconstruct the proto-form as \**-ke*, rising to *-ki* for central dialects. Martin asserts that if this \**-ke* is diphthongal, it would provide evidence for *-ke* and *-ki* being competing forms derived from *-ku ar-yi* (*-ku ar-yi* > *-ka yi* > *-key* as opposed to *-ku ar-yi* > *-kyi*) (Martin 1987, 810-812). As noted in §3.3, however, this idea appears tentative at most. It remains unclear, then, whether *-ki* and *-si* are in any way related to *-ku* and whether they have any connection to the Ryukyuan verbalizers.

These examples seem highly speculative, and as of yet, it seems difficult to find any relation to the completive form of 'to do.' Whether there is a relation between the Japanese and Miyako *-k* system forms and whether they go back to a verb meaning 'to do' or if they

have any relation to the *-s* system remains to be explained, although the dichotomy of *s* and *k* even in the Japanese and Miyako systems seems suspect.

## § 6 Conclusion

While I have not argued for a unified origin for the verbalizer affixes, I have shown convincing evidence for the *-s* system deriving from the past and/or completive/resultative form of 'to do.' I have also argued that the similarities to the conjugations the copula/existence verb *a(r)-* are merely from the fact that the grammaticalization of the past and completive/resultative affixes involved *\*a-*. In addition, I have provided speculative evidence for the verb 'to do' originating in the transitive form of the verb 'to be' *\*as-*, although this line of argument requires more rigorous research into the Japonic system. Finally, I have traced the formation of the vowel-stem verbs back to Proto-Japonic, rather than Proto-Japanese, as has been previously noted, and shown that the Ryukyuan forms may have originated in *\*er-* and that both the Ryukyuan and Japanese forms descend from the common verb *\*e-* 'to get.' The adjectival system reveals much about the verbal system and especially the verb 'to do,' and due to the similar nature of adjectives and verbs in these languages, it is easy to see why the two systems are closely intertwined. More research should be done into the development of the verbalizer affix in Proto-Japonic. Furthermore a more in-depth exploration on the *-k* subsystem is vital to a full picture of the Proto-Japonic adjectival system.

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## APPENDIX A: Glossing

Below is a list of the abbreviations used in glossing. The glosses of the sources have been followed as closely as possible, with some changes made for uniformity. For example, as there is controversy over whether Japanese (and perhaps the Ryukyuan languages) have a dichotomous past/non-past tense system or an imperfect/perfect aspect system, I try to keep consistent the usage of the Japanese affixes by marking them as past and non-past for convenience. As I am less familiar with the Ryukyuan languages, those glosses are followed more faithfully. I also consistently gloss what is considered “conclusive” by traditional Japanese linguists as “predicative” for convenience.

ABS	Absolutive	IRR	Irrealis
ACC	Accusative	INTJ	Interjection
ANA	Anaphor	INF	Infinitive
ANIM	Animate	INHAB	Inhabitant
APP*	Appositive	LAT	Lative
ATT	Attributive	NOM	Nominal
AVLZ	Adverbializer	NEG	Negative
CMP	Comparative	NIND	Non-Indicative
CMPL	Completive	NMZ	Nominalizer
CNJ	Conjunctive	NPST	Non-past
CNT	Continuative	PL	Plural
COP	Copula	PRED	Predicative
CORE	Core Argument	PRF	Perfective
CVB	Converb	PRH	Prohibitive
DAT	Dative	PRO	Pronoun
DSC	Discourse Particle	PROG	Progressive
DES	Desiderative	PST	Past
EMP	Emphasis	Q	Question Particle
EXC	Exclusive	QUO	Quotative Particle
FOC	Focus	RED	Reduplication
GEN	Genitive	REP	Representative
HON	Honorific	RES	Resultative
HOR	Hortative	RET(1/2)	Retrospective
IMP	Imperative	RLS	Realis
IMPF	Imperfect	SIM	Similative
INDF	Indefinite	TOP	Topic

\* Homophonous with the genitive, this morpheme is used to show an appositive relation and also links a non-inflecting adjective with a noun it modifies.

## APPENDIX B: Japonic Phonology

Proper nouns (and the bibliography sources) are Romanized under the Hepburn system. Long vowels are indicated by a macron except for well-known names, such as Tokyo and Kyoto (which would otherwise be Tōkyō and Kyōto). Excluding proper nouns, the following principles apply. First, I have adhered to the phonemicization used by the sources as closely as possible. Second, Phonetic transcription is generally used over phonemic transcription, as much phonetic information can be lost in the agglutination of suffixes. Finally, I use the IPA system for uniformity between all the languages, with a few exceptions noted below. The following lists notable points about the transcription system.

1. *s* is consistently the alveopalatal fricative [ç] before [i] in all the languages. Some of the languages have free variation between *s* and *s*<sup>*j*</sup>.
2. In most of the languages (if not all), *h* is [ç] before [i] and [ɸ] before [u].
3. *f* represents the bilabial fricative [ɸ]. In Okinawan (and possibly some of the other languages) it is phonemically distinct before certain environments (before *a*, *e*, and *i* in Okinawan).
4. *u* and *i* are the same vowel in the Miyako language, but the realization differs by transcriber and dialect.
5. *e* and *ɛ* are the same vowel, but the realization differs by transcriber and dialect.
6. *n* represents a placeless nasal that is close to the uvular nasal [ɴ] but is not quite a stop. It generally assimilates before stops.
7. *j* represents palatalization. In some of the Ryukyuan languages, *s* is in free variation with *s*<sup>*j*</sup>.
8. *c* represents the alveopalatal affricate [tç] rather than the palatal stop [c].
9. *z* is consistently the alveopalatal voiced affricate [dz] before [i] in all the languages.
10. In some (perhaps all) of the Ryukyuan languages, there is a phonetic glottal stop before initial vowels.

## APPENDIX C: Map of Japonic Dialects

The maps below, generated by Google Earth, depict the Japanese mainland and the Ryukyuan Islands. The pushpins point out the geographical location the name of the dialect refers to. Old and Classical Japanese are likely to have been based off the western dialects as Kyoto was the political center of Japan from around 1200 years before present (around the time of the first Japanese texts) until the Tokugawa military regime moved the government to Edo (present day Tokyo) around 407 years before present (Lee & Hasegawa, 2011). The one location I am uncertain of is Nakachi, as there are two places named Nakachi in Okinawa and Izuyama (1997) does not specify which one it is. I infer the location to be the one on Kumejima rather than the one on the Okinawan mainland as the few examples of morphology Izuyama provides seem quite different from Shuri-Naha and also appear more similar to Miyako, which is closer to Kumejima than to the Okinawan mainland.

### Legend:

White: Geographical Areas

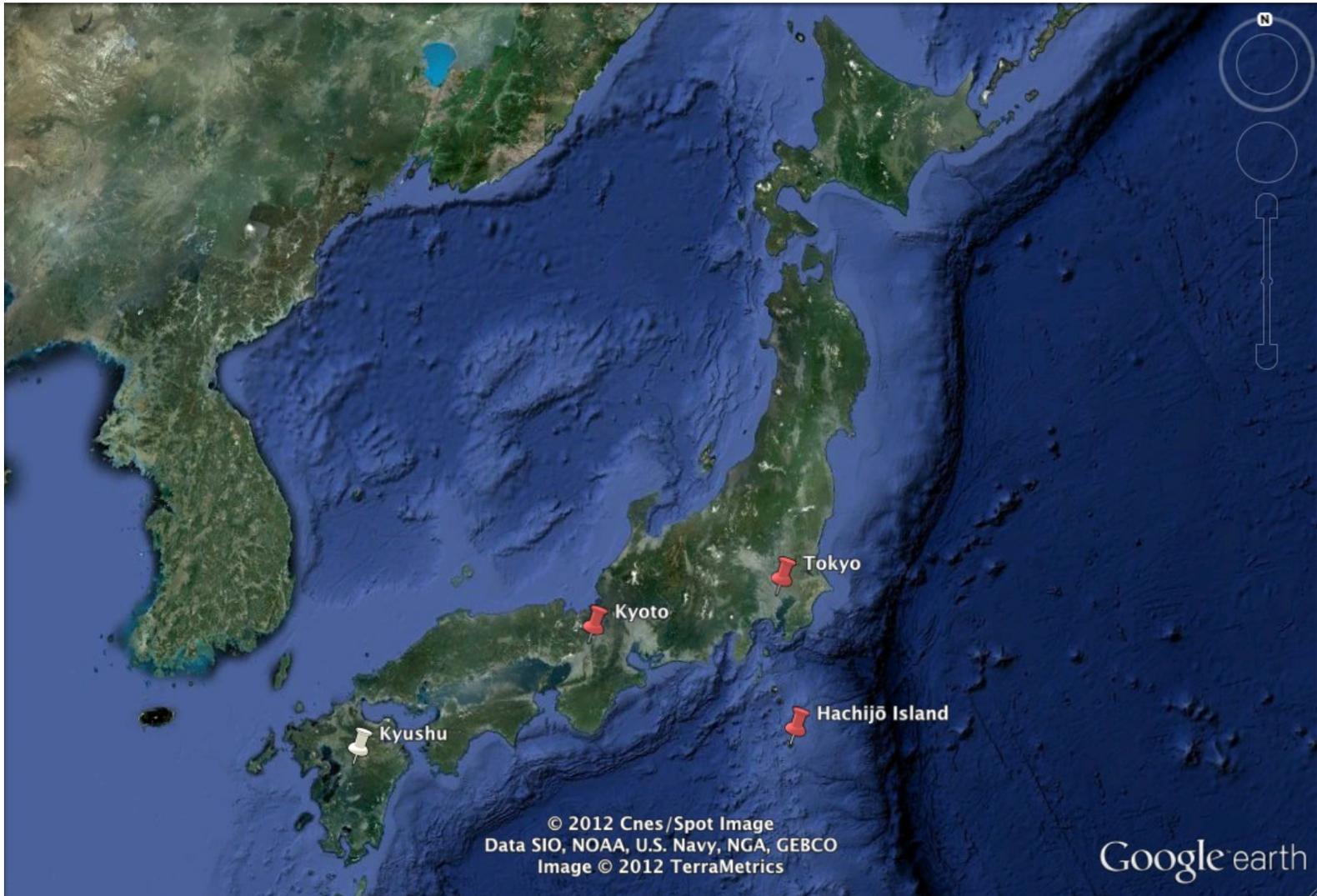
Red: Japanese Dialects

Orange: Amami Dialects

Yellow: Okinawan Dialects

Green: Yaeyama Dialects

Blue: Yonaguni Dialects



**Figure 2: Japanese Dialects**

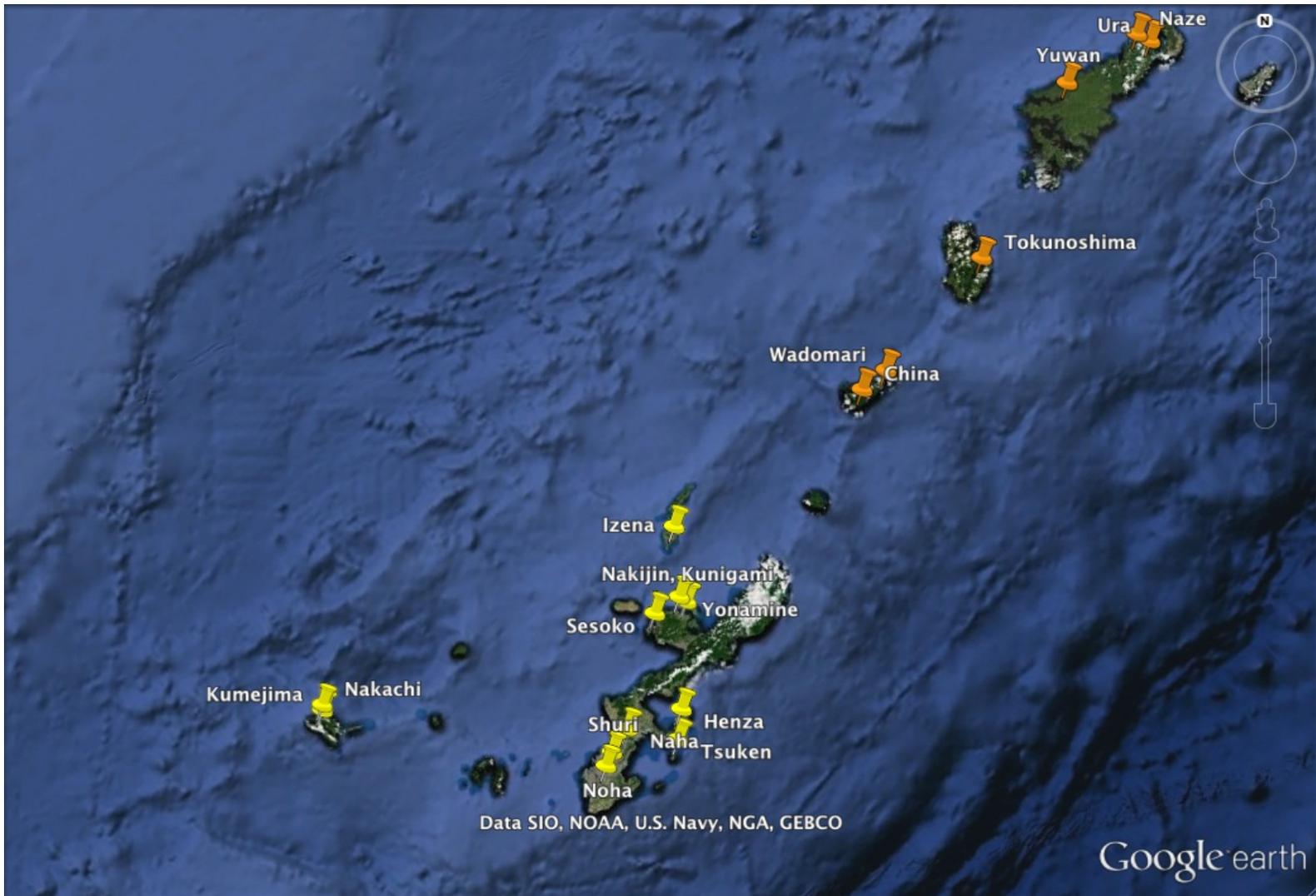


Figure 3: Northern Ryukyuan Languages



Figure 4: Southern Ryukyuan/Sakishima Languages

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