

Irabu Ryukyuan

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Introduction

Irabu Ryukyuan (henceforth Irabu) is a Southern Ryukyuan language of the Japonic family. Because it is Japonic, Irabu shares numerous major phonological and morphosyntactic features with Japanese: a moraic rhythm, agglutinative and suffixing morphology, a verb-final and modifier-head constituent order, a nominative-accusative case system, and a rich inventory of dependent clause markers as verb inflection (converbial inflection, medial verb inflection, etc.). However, Irabu also shows an inter-

esting divergence from Japanese, and some of its features are highly noteworthy from the cross-linguistic perspective. This paper describes some of these features. First, Irabu has a hierarchical organization of rhythm, in which the mora is the basic rhythmic unit on the basis of which bi-moraic feet are created, and the /H/ tone is assigned to every other foot to produce an alternating rhythm of tone features. Second, Irabu has two accusative markers (accusative and second accusative). The latter is almost restricted to occurring in clause-chaining constructions; it marks the non-sequential function of the chained clause in which it occurs. Third, a given property concept is expressed by a bound root, from which an adjective, nominal, verb, or adverb is formed.

1 Overview

Irabu is spoken on Irabu Island, which is part of the Ryukyu Archipelago at the extreme south of Japan (see Figure 1). Irabu Island is a part of an island group called the Miyako Islands, which are a subgroup of the Sakishima Islands.

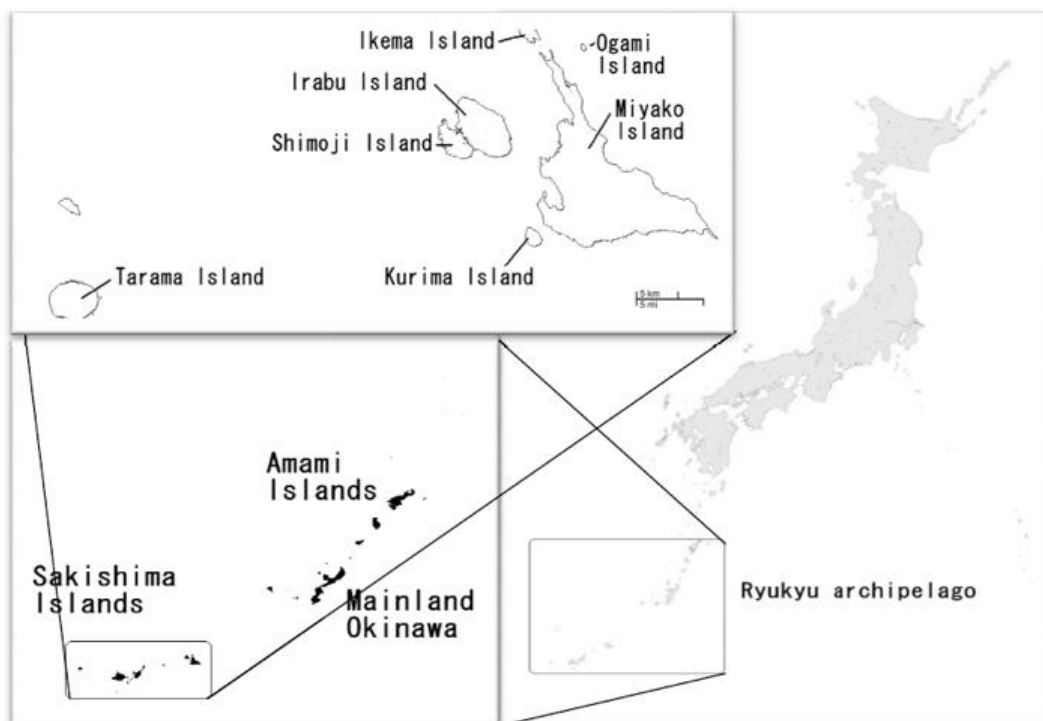


Figure 1 Ryukyu archipelago and Miyako Islands

All the languages and dialects spoken in the Ryukyu Islands form a major subgroup of the Japonic language group Ryukyuan. Ryukyuan is divided into two lower-order subgroups, Northern Ryukyuan and Southern Ryukyuan. Irabu belongs to the latter. The number of Irabu speakers is unknown, as no official data are available for this information. The local population is 6,660 (data from 2004), and the number of Irabu speakers is likely to be much smaller than this, as proficient speakers are mostly in their fifties and older.

Four distinct dialects are spoken on Irabu Island: Sawada-Nagahama, Kuninaka, Irabu-Nakachi, and Sarahama. There is a high degree of mutual intelligibility among these four dialects across the genealogical membership. In this paper, I will sketch out a grammar of the Sawada-Nagahama dialect, unless otherwise specified.

A detailed grammar is available for Irabu (Shimoji 2008), and a comprehensive dictionary is in preparation by Sadayoshi Tomihama, a retired teacher and a native speaker of Irabu (Nakachi). Shibata (1972) is a collection of short texts of Irabu (Nagahama).

2 Phonology

2.1 Inventory of phonemes

Table 1 below shows the inventory of consonant phonemes. There are three phonemic places of articulation (labial, alveolar/palatal, and velar (/glottal)) and four phonemic manners of articulation (stop, fricative, resonant, and glide).

Table 1 Inventory of consonant phonemes

		LABIAL	ALVEOLAR/PALATAL	VELAR/GLOTTAL
STOPS	voiceless	p	t	k
	voiced	b	d	g
FRICATIVES	voiceless	f	s	c (h)
	voiced	v	z	
RESONANTS	nasal	m	n	
	approximant		ʒ	
	tap		r	
GLIDES		(w)	j	

The resonant /ʒ/ includes allophones ranging from [z] with less friction to

an approximant version of [z] ([z̥]). Due to assimilation, it is sometimes realized as a voiceless allophone, as in /pžtu/ [pʂtu] ‘man’ (see Section 2.2.2 for cases in which /ž/ carries an onset). I represent these allophones as [z] and [s]. /r/ is realized as [r] when it occurs as a single onset, and as [ʀ] otherwise. Thus, /urir/ ‘descend’ is realized as [uriʀ].

Stops and fricatives have voicing opposition. /c/ [ts] and /z/ [dz] are phonemically classified as fricatives because of their phonotactic and morphophonemic behaviours (for example, /c/ and /z/ behave as fricatives according to the rules noted in Sections 2.2.3 and 2.2.4). Glide phonemes comprise /w/ and /j/. /j/ plays a major role in Irabu, whereas /w/ is peripheral, occurring only syllable-initially in the syllable /wa(V)/ (e.g. /waisi/ [waiʃi] ‘onomatopoeic expression’ and /niwaa/ [niwa:] ‘garden’) and only occasionally, between /k/ or /g/ and a vowel (e.g. /kwaas/ [kʷa:s] ‘snack’).

The inventory of vowel phonemes is given in **Table 2** below. /u/ is phonetically [ʊ] or [ɯ], i.e., a slightly lower and/or fronted version of cardinal [u]. The mid vowels are rare in native roots. Long vowels (e.g., [i:]) are phonemically treated as vowel sequences (e.g., /ii/).

Table 2 Inventory of vowel phonemes

	FRONT	CENTRAL	BACK
HIGH	i		u
MID	(e)		(o)
LOW		a	

2.2 Syllable structure and phonotactics

2.2.1 Syllable structure

A syllable has the basic structure of ((O_i)O_i)N₁(N₂)(C), where O, N, and C are abbreviations of onset, nucleus, and coda respectively. Filling the N slot is obligatory. As will be noted in the following sections, the N may be a consonant. When both N slots are filled by vowels, the complex N may be long (/aa/, /ii/, /uu/, /ee/, and /oo/) or diphthongal (/ai/, /au/, and /ui/). When both N slots are filled by consonants, the complex N must be a sequence of identical consonants, as in /mm/ [m:] ‘potato’ (see 2.2.4 for more detail).

Syllable margins consist of an (geminate) onset and a coda. Syllable margins are optional, but medial syllables usually carry a single, non-geminate onset. A syllable that has a geminate onset usually occurs root-initially, as in /ffa/ [ffa] ‘child’, /ssam/ [ssam] ‘louse’, /mma/ [mma] ‘mother’, etc. or only occasionally, when preceded by a syllabic consonant, as in /v.cca/ [vtsa] ‘quail’. The geminate onset must be fricative or resonant. However, as an exception, /t/ may be geminated, although occurrences of this are found only in a limited number of roots such as /ttjaa/ [ʔttʰa:] ‘then’ or in morpheme boundaries, as in /ttar/ [ʔtta] ‘came’ (*t-tar*: come-PST). The coda may be a single fricative or resonant word-finally, and any consonant other than a glide medially.

The glide does not have a particular position within the syllable. I interpret it as a phoneme that fills the onset slot that is not filled by other consonants. For example, in /jaa/ [ja:] ‘house’, the glide is analyzed to fill the onset slot, as this slot is not filled by any other consonant. If the onset slot is already filled, then the glide does not have its own position in the syllable, and it is phonetically realized as palatalization of the onset. In /kjuu/ ‘today’ [kʰu:], for example, the onset slot is already filled by /k/, and thus, /j/ cannot fill the other onset slot, because the two must be filled by a geminate.

2.2.2 Nucleic resonants

Whereas vowels are inherently nucleic (i.e. they only occur as syllable nuclei), resonant consonants are *contextually* nucleic: on the one hand, they occur in syllable margins when adjacent to a vowel or vowels (see /m/ in (1a) below); on the other, they are nucleic if no vowel is adjacent (see /m/ in (1b) and (1c)). As illustrated in (1c), a resonant may be long (see Section 2.2.4 for more detail on long consonants).

(1)		Syllabification	Syllable structure
a.	/nam/ [nam] ‘wave’	nam	ONC
b.	/mna/ [mna] ‘shell’	m.na	N.ON
c.	/mm/ [m:] ‘potato’	mm	NN

The alveolar resonants /ʒ/ and /r/ may even carry an onset. The onset consonant must be bilabial (/p, b, m/), as in /pžtu/ [pžtu] ‘man’

(ON.ON), /bžda/ [bʒda] ‘low’ (ON.ON), /mžtaar/ [mʒta:] ‘three persons’ (ON.ONNC), /prrrma/ [pʀ:ma] ‘daytime’ (ONN.ON), /brbrrgassa/ [bʀbʀ:-gassa] ‘alocasia odora’ (ON.ONN.ONC.ON), /mrrna/ [mʀ:na] ‘green chive’ (ONN.ON). Although there is a strong tendency for them to occur initially, there are exceptions (e.g., /kabžž/ [kabʒ:] ‘paper’, /nabrrkja/ [nabʀ:kʲa] ‘slippery’).

2.2.3 Nucleic fricatives

Fricatives (except for /h/) are also contextually nucleic (e.g. the disyllabic /s.ma/ ‘island’ vs the monosyllabic /mas/ ‘better’). Nucleic fricatives may be followed by an off-glide vocoid when they are not followed by a vowel (e.g. /sma/ [sʒma] ‘island’ and /mas/ [mas^(ʒ)] ‘better’). The vocoid is an approximant version of the preceding fricative. Thus, we have /ftai/ [f^(v)tai] ‘forehead’, /sta/ [s^(ʒ)ta] ‘tongue’, /ckara/ [c^(ʒ)kara] ‘power’, and so on. When the subsequent consonant if any is phonetically voiced (i.e. including cases where the consonant is a resonant), the off-glide is regularly present, as in /sma/ ‘island’ [sʒma] (cf. /sta/ [s^(ʒ)ta] ‘tongue’).

These vocoids are predictable and phonologically invisible. For example, there is a rule called Geminate Copy Insertion (Shimoji 2008), whereby moraic C + V becomes the geminate C_iC_iV in the phonological word, as in /tur/ ‘bird’ + /a/ (topic) > /turra/. Significantly, /tauf/ [tauf^(v)] ‘tofu’ is subject to this rule, giving rise to /tauffa/, which indicates that /tauf/ ends in a fricative underlyingly.

2.2.4 Long consonants as nuclei

A long resonant or fricative may occur as a nucleus. It is phonemically interpreted as a sequence of consonant phonemes that fill the N slots, just as in the case of long vowels: /mm/ [m:] ‘potato’, /nn.di/ [n:di] ‘Yes’, /žž/ [ʒ:] ‘rice ball’, /rr/ [ʀ:] ‘enter’, etc. A long fricative is regularly pronounced with a voiced off-glide (Section 2.2.3): /ff/ ‘come’ is pronounced as [f^v:], /s:/ ‘nest’ as [sʒ:], /c:/ ‘breast’ as [tsʒ:], and /z:/ ‘letter’ as [dzʒ:]. The long fricative /ff/ is in free variation with /fuu/ [fu:] (ONN where the nucleus is a sequence of vowels), and this latter variant seems to be more pervasive in contemporary Irabu. There are a handful of ‘consonantal hiatus’, i.e. sequence of heterosyllabic consonants, which phonemically

and phonotactically contrast with the above-mentioned monosyllabic sequences (e.g. /ff/ [f^v:] ‘come’ vs. /f.f/ [f^vf^v] ‘wipe’, /ss/ [s^z:] ‘nest’ vs. /s.s/ [s^zs^z] ‘charcoal’, etc.).

2.3 Morae

As in most other Japonic languages, the mora is a crucial phonological unit that is relevant in explaining word minimality, foot building, morphophonology, etc. An (O)N constitutes one mora. Other syllable slots, including the geminate-initial consonant, a coda, and the second part of a long vowel or diphthong, have one mora each.

The syllable, as opposed to the mora, also plays a role in Irabu. For example, a rising pitch is blocked within the coda of a syllable, even when the coda is assigned to /H/ tone (Shimoji 2009a); also, to explain the allomorphy of several morphemes, it is necessary to refer to syllables rather than morae: for example, the topic marker =*a* is realized as =*ja* when it attaches to a stem that ends in a taut-syllabic long vowel (with two morae) but as =*a* when it attaches to a stem that ends in heterosyllabic ON.ON (also with two morae).

2.4 Prosody

The word-level prosody in Irabu is not lexically contrastive. It is characterized by a foot-based alternating rhythm of tone features (/H/ vs. /L/). Foot building applies to the phonological word domain. Bimoraic footing goes from left to right exhaustively. The stray if any is included in the final foot (which thus is trimoraic). Morpheme boundary affects footing, in such a way that polymoraic morphemes always commence a foot (see Shimoji 2009a for detail). PW_{*n*} in (3) below means a phonological word with *n* morae. Tone is assigned to the pre-existing foot structure according to the rules in (2).

(2) Tone assignment rule

- a. Group one to three adjacent feet into a single ‘foot group’ (indicated by a square in (3a-c) below).
- b. If a foot group will contain a sequence of four feet within it (e.g. when a foot is added to (3c) to create (3d)), regroup the

quaternary feet into two foot groups (as in (3d)).

- c. Assign /H/ to the left-most foot of each foot group. Other feet are toneless or default /L/, which is lower in pitch than the /H/-toned feet.

(3)	PW ₂₋₃	F(oot) group formation	Tone assignment
	↓	a. (F)	(H)
		b. (F)(F)	(H)(L)
		c. (F)(F)(F)	(H)(L)(L)
		d. (F)(F) (F)(F)	(H)(L) (H)(L)
		e. (F)(F) (F)(F)(F)	(H)(L) (H)(L)(L)
		f. (F)(F) (F)(F) (F)(F)	(H)(L) (H)(L) (H)(L)

Rule (2b) is iteratively applicable, as shown in (3e) and (3f), where the addition of a foot to the second foot group of (3e) induces its division into two foot groups in (3f), forming three foot groups in total. Therefore, *jarabi-gama-mmi=kara=gami=mai* (child-DIM-PL=from=even=too) ‘even from little kids, too’ is pronounced as (jarabi)_H(gama)_L(mmi)_H(kara)_L(gami)_H(mai)_L, where three foot groups are formed to produce the alternation between H and L.

2.5 Phonological alternations

There are general phonological alternations that are applicable to roots and morphologically complex structures, and there are also morphophonological alternations that are applicable only to specific morphological structures.

General phonological alternations include GCI (see Section 2.2.3). GCI applies to roots as well. For example, /v/ and /ž/ are always geminated when they occur as onsets, as in /vva/ ‘you’ and /žža/ ‘father’, and this is interpreted as follows: they are underlyingly /va/ and /ža/ (moraic C + V), and this impermissible phonotactics is fixed by GCI (e.g. /va/ > GCI > /vva/).

Morphophonological alternation rules include what I call /s/-to-/h/ alternation (which applies to the causative suffix /-as/ and honorific affix /-sama/, see Sections 4.4.10 and 4.4.12 respectively), /s/-to-/r/ alternation (which applies to the formal noun /=su/ ‘thing; person; COMP’, see Section

5.2.3), stem-final stop lenition (Section 4.4.2), and *rendaku* (or sequential voicing, See Section 4.2.2).

3 Word classes

3.1 Overview of the word class assignment system

Table 3 shows the word classes identified in Irabu. There are four major word classes: nominals, verbs, adjectives, and adnominals, of which nominals, verbs, and adjectives are large classes, and the first two of these are open classes. Minor word classes are referred to here as ‘others’, which comprise conjunctions, interjections, adverbs, and post-phrasal markers (e.g. case markers). 3.4 to 3.8 below describe each word class in detail. Further, there are functional classes which crosscut several word classes. These include demonstratives and interrogatives (see Section 3.3).

Four criteria are suggested for word class assignment: (A) whether the word heads an NP, (B) whether it directly fills the modifier slot of an NP, (C) whether it inflects, and (D) whether it is a reduplicated form with the input-stem-final phoneme lengthened.

Table 3 Criteria for word class assignment

	(A)	(B)	(C)	(D)
Nominal	+	-	-	-
Adnominal	-	+	-	-
Verb	-	-	+	-
Adjective	+	-	-	+
Others (conjunctions, interjections, adverbs, post-phrasal markers)	-	-	-	-

3.2 Word class and root class

Basically, a particular root belongs to a particular word class by default (i.e. as an unmarked choice). *Nominal roots* directly serve as nominal stems (which, in turn, serve as nominal words without any further morphological makeup), and they are most likely to be realized as nominals. These roots include *pžtu* ‘man’, *jama* ‘mountain’, *cnu* ‘yesterday’, *kabas* ‘smell’, etc. *Verb roots* may directly serve as verb stems (i.e. may directly carry the verbal inflectional affix), and they are most likely to be real-

ized as verbs. These roots include *fa(u)*- ‘eat’, *nak*- ‘cry’, *s*- ‘realize; get to know’, etc.

By contrast, roots that designate property concepts (*baka*- ‘young’, *zau*- ‘good’, *taka*- ‘high’, etc.), or *PC roots*, are not assigned to a particular word class. It is true that PC roots are the only roots that can directly fill the stem slot of the reduplication schema of the adjective word, that is $[\text{Stem}_i + \text{Stem}]_{\text{ad}}$ (see criterion (D) of **Table 3** above; e.g., *bakaa-baka*, *zauu-zau*, *takaa-taka*, etc.),¹ which may induce us to conclude that PC roots are assigned to the adjective word class by default. However, PC roots are not necessarily realized as an adjective word. In fact, they are realized as nominals, verbs, adverbs, and adjectives roughly in equal frequency in natural discourse (see Section 5.4).

3.3 Word class and functional class

Demonstratives (see Section 4.6) and interrogatives (see Section 4.7) are functional classes that crosscut several word classes (nominal, adnominal, and adverb). As noted in Section 3.2, words containing PC roots, or PC words (4.5), are also a functional class that crosscuts nominals, verbs, adjectives, and adverbs.

3.4 Nominals

A nominal is a word that only heads an NP. An NP is independently defined as a constituent that functions as an argument or a predicate nominal. Because a nominal exclusively heads an NP, when a nominal modifies another nominal in an NP, it must first head an NP, which then fills the modifier slot of a larger NP (Section 5.2.1).

3.5 Adnominals

The adnominals form a small and closed set of words. An adnominal functions solely as a modifier of an NP. This class comprises three demonstrative words *kunu* ‘this’, *unu* ‘that’ (medial), and *kanu* ‘that’ (distal), and

¹ Other roots (i.e. nominal and verb roots) are either inaccessible to the schema (e.g. most nominal roots) or need to be turned into a derived stem (in the case of verb roots, as in *jum*- ‘read’ > *jum-bus*- ‘want to read’ > *jumbuss-jumbus*). A limited number of nominal roots may directly fill the stem slot of the reduplication schema of the adjective word: *jarabi* ‘child’ > *jarabii-jarabi* ‘childish’, *avva* ‘oil’ > *avvaa-avva* ‘oily’, etc.

one intensifier *daizna* ‘great’.

3.6 Verbs

A verb is a word that inflects. In Irabu, inflection is marked verb-finally, as in *mii-ta-m* (look-PST-RLS) ‘looked’ (past realis), *mii-tar* (look-PST) ‘looked’ (past unmarked), and *mii-ri-ba* (look-THM-CVB.CSL) ‘since (I) look’ (causal converb).² The copula is a verb because it inflects, but it occurs in a nominal predicate phrase, after a predicate nominal.

3.7 Adjectives

An adjective is created by the reduplication of a PC root (Section 3.2) or a derived PC stem, and the final phoneme of the input stem is lengthened by one mora (e.g. *taka-* ‘high’ → *takaa+taka* ‘high’, *kiban-* ‘poor’ → *kibann+kiban* ‘poor’). In addition, a few nominal stems can be input stems of adjectives (e.g. *jarabi* ‘child’ → *jarabii+jarabi* ‘childish’, *avva* ‘oil’ → *avvaa+avva* ‘oily’). An adjective mostly functions as a modifier of an NP (Section 5.4).

3.8 Others

The ‘others’ category subsumes a set of words that do not satisfy any of criteria (A) to (D). Yet, it is convenient to divide this catch-all category into several subclasses according to their syntactic distribution: conjunctions (e.g. *ttjaa* ‘then’, *assiba* ‘so’, *assuga* ‘but’, etc.), interjections (including onomatopoeic words; e.g. *hira* ‘hey’, *gammja* ‘oh!’, *doof* ‘(sound of crush)’), adverbs (e.g. *juu* ‘very’, *japaf* ‘softly’), and post-phrasal markers (see paragraph below).

Post-phrasal markers are either argument markers (i.e. case markers, limiters such as *=mai* ‘too; even’, *=gami* ‘even’, *=tjaaki* ‘only’, and topic/focus markers such as *=du* (FOC), *=a* (TOP), and *=ba* (TOP)), or predicate markers such as bound conjunctions (e.g. *=suga* ‘though’), modal markers (e.g. *=paz* ‘maybe’), and discourse markers (e.g. *=i* ‘eh?’). All of these are clitics that attach phonologically to the last word of the phrase they attach to syntactically.

² The gloss THM represents a thematic vowel, which is a stem extender that appears before a certain set of inflectional affixes (Section 4.4.2).

4 Morphology

4.1 The word

A *grammatical word* (simply ‘word’ in this paper) minimally consists of a root and may be complex with affixation and/or compounding and reduplication (Section 4.2). The internal components, if any, are contiguous and follow a rigid order, making this domain distinguished from larger domains (i.e. phrases and clauses). A grammatical word can also be distinguished from smaller domains (e.g. roots) in that the former is a minimal syntactic unit: it is the minimal unit of syntactic operations such as movement, deletion, insertion, and so on. Word classes are assigned to grammatical words.

A *phonological word* is the domain in which (a) the minimality constraint applies (the constraint says that a word is minimally bimoraic), (b) tone assignment (Section 2.4) takes place, and (c) morphophonological processes apply.

A *clitic* is a bound grammatical word that forms a single phonological word with the host. Most clitics in Irabu are post-phrasal markers that syntactically attach to an NP or a VP (Section 3.8), but there are also a small number of clitic nouns (a few formal nouns such as =*su(u)* ‘thing; person’) and clitic verbs (the light verb *s-* ‘do’).

4.2 Morphological typology

4.2.1 Affixation

Affixation in Irabu is suffixation. Even though there are a few cases in which a verb appears to contain a prefix-like element, e.g. *pic-* ‘off’ in *pic-čjaf* ‘tear apart’ and *pic-cc* ‘pluck away’, the prefix-like element is highly lexicalized and has no productive use. Diachronically, these elements must have developed from compound stems (e.g. *pic-* was a verb stem whose contemporary form is *pžk-*).

4.2.2 Compounding

The head comes finally in endocentric compounds, as in *kac+munu* (writing+thing) ‘written material’ vs *munu+kac* (thing+writing) ‘(the act of) writing things’. Examples of exocentric compounds include *mi+pana* (eye+nose) ‘face’, *uku+gamac* (big+cheek) ‘a person who is easy to get an-

gry', etc. All three major types of stems (nominal, verbal, and PC) can be derived by compounding: nominal stems such as those listed above, verb stems such as *us+cc* (push+crash) 'crash', and PC stems such as *cmu+daka* (heart+high) 'difficult (person)'. The last example here shows that a PC stem may be derived from a nominal root and a PC root.

The final stem of a compound may undergo *rendaku*, or sequential voicing, in which the initial voiceless consonant of a compound stem is replaced by its voiced counterpart, as in *uku* 'big' + *kan* 'crab' → *uku+gan* 'big crab'.

In general, a compound is compositional in meaning and shows remarkably high productivity in word formation. Also, each stem of a compound is, in most cases, a separate phonological word. This might appear to suggest that Irabu compounds are, in fact, phrases. However, each stem of a compound is not a grammatical word by itself, as the whole compound is the target of syntactic operations, and the stems are always contiguous (i.e. no word can intervene in the sequence of compound stems).

A compound is usually made up of two roots, although longer compounds are quite common. The order of the component stems of these long compounds follows that of phrases. For example, compare *waa+kurus+bžž* (pig+killing+day) 'New Year's Eve' with *waa=ju kurus-φ pžž* (pig=ACC kill-NPST day) 'the day when (one) kills pigs', the latter of which is a noun phrase consisting of a relative clause + a head noun. Note here that the final stem of the compound (*bžž* 'day') is a *rendaku* form of the underlying form *pžž*.

4.2.3 Reduplication

Reduplication in Irabu is mostly full reduplication. There are just a few and rather lexicalized examples of partial reduplication: *niv* 'sleep' (v) > *ni-niv* 'snoozing' (n), *maar* 'get about (v)' > *ma-maar* 'a space around somewhere (n)'. These examples demonstrate that partial reduplication in Irabu changes the word class assigned to an input root (n → v), and the reduplication targets the stem-initial mora rather than the stem-initial syllable (**niv-niv* or **maar-maar*).

There are two major types of full reduplication: PC stem reduplica-

Pronouns have singular-plural opposition and unique plural affixes for pronouns (Section 4.3.3). Address nouns are marked by *-ta*, which encodes associative plurality (Section 4.3.2). Animate nouns are marked by *-mmi*, although not regularly, and an analytic expression is preferred for most (see Section 4.3.2).

4.3.2 Nouns and nominal derivational affixes

A noun stem is usually a free form, even though there are a restricted number of clitic nouns (e.g. *=su(u)* ‘thing; man; COMP’). It may be extended by a set of derivational affixes: the (a) diminutive suffix *-gama*, (b) plural suffix *-mmi/-ta*, and (c) approximative suffix *-nagi* ‘and so on; suchlike’. When they co-occur, there is a rigid ordering of (a)-(b)-(c), as in *jarabi-gama-mmi-nagi* (child-DIM-PL-APPR) ‘little children and so on’.

The diminutive suffix *-gama* designates the smallness of an entity, as in *tur-gama* (bird-DIM) ‘little bird’, *midum-gama* (woman-DIM) ‘a girl; a short woman’, etc.

Plurality is marked by either *-mmi* or *-ta*. The affix *-mmi* is a grammaticalized form of a common noun *mmi* ‘crowd’; it encodes the plurality of animate referents, as in *pžtu-mmi* (person-PL) ‘people’ and *tur-mmi* (bird-PL) ‘birds’. For non-human animate referents, the suffixing of *-mmi* is somewhat disfavoured, and an analytic expression with the common noun *mmi* is preferred, as in *tur=nu mmi* (bird=GEN crowd) ‘a flock of birds’. The affix *-ta* encodes associative plurality ‘(X and) others’ as well as genuine plurality ‘more than two X’s’. This suffix typically attaches to an address noun, as in *zjunzi-ta* ‘Junji and others’, *uttu-ta* (younger.sibling-DIM-PL) ‘younger sibling and others’, and *sinsii-ta* ‘teacher and others’.

The approximative suffix *-nagi* marks approximation, as in *pžtu-nagi* (person-APPR) ‘a man or suchlike’, *uma-nagi* (that.place-APPR) ‘around there’, *un-nagi* (that.time-APPR) ‘in those days’, etc.

4.3.3 Pronouns

There are three types of pronouns: personal, demonstrative, and reflexive. Pronouns are a coherent class with two distinct morphosyntactic properties: pronouns of all types carry the nominative *=ga* rather than *=nu*, and

they distinguish in number (singular-plural).

The inventory of pronouns is listed in **Table 5** below. First and second person reference (i.e. participant reference) is marked by distinct forms that are used exclusively for person reference, or *personal pronouns*, while third person reference (non-participant reference) is obligatorily combined with demonstrative reference, formally coded by *demonstrative pronouns*. Here, only the distal form is listed.

Table 5 Pronouns in Irabu

		Singular	Plural (root-PL)
Personal	1 st person	<i>ba(n)</i>	<i>ban-ti</i>
	2 nd person	<i>vva</i>	<i>vva-du</i>
Demonstrative	3 rd person	<i>ka-(r)i</i>	<i>ka-nukja/ka-ntja</i>
Reflexive		<i>na(r)a</i>	<i>naa-du</i>

The first person forms deserve special attention in two respects. First, the singular form is irregularly bound (*ba-*) when followed by *=ga* (nominative or genitive) or *=a* (topic). When followed by *=u* (accusative), it is realized as another bound stem *banu-*. Nakama (1992) reports that *=n* (dative) also induces the use of this latter type of stem, producing *banu=n*, which is also widespread across Miyako varieties. However, the dative-marked form in Irabu is *ban*, where a transparent morphophonemic rule deletes the second /n/ (/ban=n/ → /ban/).

Second, the first person plural form is often used to encode ‘us but not you’ (i.e., exclusive implication). If one wants to express ‘me/us and you’ (inclusive) explicitly, the word *duu* ‘body’ is used instead. Thus *banti=ga ffa* (1PL.EXC=GEN child) ‘our child’ may be used when introducing the child to someone, whereas *duu=nu ffa* (1PL.INC=GEN child) ‘our child’ is used when speaking to the partner. Note that the word *duu* is a noun as opposed to a pronoun, as it does not carry nominative/genitive *=ga* nor a plural affix.³

Reflexive pronouns are *na(r)a* ‘oneself’ (singular) and *naa-du* ‘selves’ (plural). The parenthesized /r/ is deleted when *na(r)a* is followed by nominative/genitive *=ga*, as in *na(r)a + =ga > naa=ga*, or by the plural morpheme *-du*, as shown above.

³ However, in traditional song lyrics, I encountered a number of instances of *duju-ta*, in which *-ta* must be a plural affix and which attracts *=ga* affixation.

4.3.4 Numerals

A numeral is composed of a numeral root and a classifier suffix, except when the number is counted for isolation, in which case the numeral root stands as a word, as in *pžtu* ‘one’, *fta* ‘two’, *mžž* (or *mii*) ‘three’, *juu* ‘four’, *ic* ‘five’, *muju* ‘six’, *nana* ‘seven’, *jaa* ‘eight’, *kukunu* ‘nine’, and *tuu* ‘ten’. The shape of a numeral root may differ depending on the type of the classifier suffix, as in *mii-c* (three-CLF.GENERAL) ‘three (things)’, *mž-kiv* (three-CLF.HOUSE) ‘three households’, and *mž:* (three) ‘three (for isolate counting)’.

4.3.5 Interrogative nominals and indefinite nominals

The interrogative nominals are *nau* ‘what’, *taru* ‘who’, *ic* ‘when’, *nza* ‘where’, *nzi* ‘which’. See Section 4.7 for interrogative words, which additionally include interrogative adverbs. Indefinite nominals are made by attaching the indefinite affix *-gagara* to each of these interrogative stems: *nau-gagara* ‘something’, *tau-gagara* ‘someone’, *ic-gagara* ‘some-time’, *nza-gagara* ‘somewhere’, and *nzi-gagara* ‘either’. Again, indefinite words include indefinite adverbs.

4.4 Verb morphology

4.4.1 Basic structure of the verb

The structure of the verb is given in (4) below, where it is shown to comprise four parts: the stem, thematic vowel, pre-inflection, and inflection.

(4) Stem-(Thematic vowel)-(Pre-inflection)-Inflection

Pre-inflection is the part of a verb that is not neatly classified as a stem or inflection. It is specifically negative polarity. Between a stem and (pre-)inflection may occur a thematic vowel or a stem-extender segment (see Section 4.4.2 below). In what follows, I describe each component of the verb, focusing on stem class, thematic vowel, pre-inflection, and inflection in this order. The internal structure of the stem will be described as well in Section 4.4.9.

4.4.2 Stem class and thematic vowel

Verb stems fall into two major classes: Classes 1 and 2. Class 2 stems carry a stem extender segment *-a* or *-i* ('thematic' vowel, glossed THM) at the end when they carry certain (pre-)inflectional affixes. Compare (5), which shows the Class 1 stem *idi-* 'exit', and (6), which shows the Class 2 stem *tur-* 'take'.

(5)	a. <i>idi-tar</i> exit-PST 'exited'	b. <i>idi-di</i> exit-INT 'will exit'	c. <i>idi-i</i> exit-CVB.SEQ 'exit, and'
(6)	a. <i>tur-tar</i> take-PST 'took'	b. <i>tur-a-di</i> take-THM-INT 'will take'	c. <i>tur-i-i</i> take-THM-CVB.SEQ 'take, and'

As shown in (6a), the Class 2 stem does not carry a thematic vowel in certain inflections. Thus, in Class 2, a distinction is made between a *thematic stem*, as in (6b, c), and an *athematic stem*, as in (6a). A few inflectional affixes have different forms according to the stem class (see Sections 4.4.5 to 4.4.8).

Class 2 stems that underlyingly end in a stop undergo a morphophonemic adjustment, or stem-final Stop Lenition ($b > v$, $t > c$, $k > f$, $g > v$). For example, *tub-* 'fly' forms an athematic stem form *tuv-* when followed by conditional converb suffix *-tigaa*, yielding *tuv-tigaa* 'if fly'; in the same environment, *kat-* 'win' and *kak-* 'write' form athematic stems *kac-* and *kaf-*. Thus, we get *kac-tigaa* 'if win' and *kaf-tigaa* 'if write. For stems ending in /k/ or /g/, a variant athematic stem form is formed by turning /k/ and /g/ into /c/ and /z/ respectively.

Table 6 Stem-final Stop Lenition of Class 2 stems

Example	<i>tub-</i> 'fly'	<i>kat-</i> 'win'	<i>kak-</i> 'write'	<i>nk-</i> 'pull'	<i>kug-</i> 'paddle'
thematic <i>-a</i>	<i>tub-a</i>	<i>kat-a</i>	<i>kak-a</i>	<i>nk-a</i>	<i>kug-a</i>
thematic <i>-i</i>	<i>tub-i</i>	<i>kac-i</i>	<i>kak-i</i>	<i>nk-i</i>	<i>kug-i</i>
athematic	<i>tuv</i>	<i>kac</i>	<i>kaf/kac</i>	<i>nf/nc</i>	<i>kuv/kuz</i>

The athematic stem is also used for class-changing derivation (nominalization; see Section 4.8.1). For the athematic stems that have two vari-

ants for the final segment (/f/ and /c/, /v/ and /z/), the latter is used for nominalization.

The two stem classes are phonologically determined. Class 1 stems are minimally bimoraic and end in /i/ (e.g., *ibi-* ‘plant’; *idi-* ‘exit, come out’; *tumi-* ‘search’; *nkai-* ‘welcome’; *rri-* ‘put’; *kui-* ‘exceed’; *mii-* ‘look’; *fii-* ‘give’, etc.). Class 2 stems may be monomoraic, and all of them end in a consonant.

4.4.3 Pre-inflection

Pre-inflection is negative polarity, which is marked by a suffix *-n* (or *-t* when followed by /t/), as in *tur-a-n-φ* (take-THM-NEG-NPST) ‘do not take’ and *tur-a-t-tar* (take-THM-NEG-PST) ‘did not take’. It is not like inflection with respect to (a) semantic regularity, (b) morphological regularity, and (c) closure, three major characteristics expected of inflection (see, for example, Haspelmath 2002).

First, negative polarity shows certain semantic irregularity in that when it occurs in a PC verb, it designates the negation of a change in state (‘not become X’) rather than the negation of a state (‘be not X’). Second, negative polarity shows certain morphological irregularity, which means that it cannot co-occur with some state verb stems such as existentials (*ar-* (for inanimate referents) and *ur-* (for animate referents)). Third, negative polarity is marked by an affix that does not necessarily close off word formation.

Even though the third characteristic also holds true for a certain inflectional affix (specifically, the tense affix, as in *tur-ta-m* (take-PST-RLS) ‘(I’m certain I) took’; see Section 4.4.6), clustering of the three characteristics excludes negative polarity from canonical inflectional categories. It is also noted that when polarity, tense, and mood co-occur, polarity always come closest to the stem. Thus, negative polarity seems to be closer to derivation on the inflection-derivation continuum. On the other hand, the language-internal criterion of relative order in relation to a thematic segment (which, in principle, occurs stem-finally) tells us that the negative affix is inflection-like, because it occurs *after* a thematic segment (e.g. *tur-a-n* (take-THM-NEG) ‘not take’). Hence, it is useful to treat negative polarity as a category that is distinct from both inflection and stem

and to refer to it as pre-inflection.

4.4.4 Inflection

On the basis of inflectional morphology, verbs are classified into four types, shown below in Table 7.

Table 7 Inflectional categories (T: tense, M: mood, C: converb)

Type of verb	Structure	Dependency	Tense	Mood
Participle	Stem-(PRE)-T	Ambidependent	+	-
Realis	Stem-(PRE)-T-M	Independent	+	+
Irrealis	Stem-M	Independent	-	+
Converb	Stem-C	Dependent	-	-

Each verb form and its paradigm will be described in the sections below. As is shown above, participles and realis verbs may carry a pre-inflection that precedes an inflectional affix.

The inflectional categories of Irabu verbs comprise dependency, tense (past/non-past), and mood (realis/irrealis). Dependency is tripartite: dependent, independent, and ambidependent (i.e., the verb in question can serve as either a main clause predicate or an adnominal clause predicate). Whereas tense and mood are marked directly by tense and mood affixes, dependency is not marked by a unique affix. Rather, it is marked indirectly by a combination of tense and mood suffixes: ambidependent (T+, M-), independent (M+), dependent (T-, M-). For example, the participle *tur-tar* (take-PST) ‘took’ is inflected as an ambidependent verb form in that it only carries a tense affix, whereas the realis verb *tur-ta-m* (take-PST-RLS) ‘took’ and the irrealis verb *tur-na* (take-PRH) ‘don’t take’ are inflected as independent verb forms in that they each carry a mood affix. The converb *tur-tigaa* (take-CVB.CND) ‘if take’ is inflected as a dependent verb form in that it does not carry either a tense or mood affix.

4.4.5 Participles

Participles are ambidependent verbs that serve either as the predicate of either a main clause or an adnominal clause. The form of the non-past tense suffix for Class 1 differs depending on the presence or absence of pre-inflection. The inflectional paradigm of participles is shown in Table

8 with the sample stems *idi-* ‘exit’ (Class 1) and *tur-* ‘take’ (Class 2). The square brackets indicate stem boundaries. The parenthesized (-a) in the stem-final position indicates that the thematic vowel -a is required for the inflection in question.

Table 8 Participles

		Class 1		Class 2	
	Structure	NPST	PST	NPST	PST
Affirmative	[Stem]-tense	[<i>idi</i>]-r	[<i>idi</i>]-tar	[<i>tur</i>]- ϕ	[<i>tur</i>]-tar
Negative	[Stem(-a)]-neg-tense	[<i>idi</i>]-n- ϕ	[<i>idi</i>]-t-tar	[<i>tur</i> -a]-n- ϕ	[<i>tur</i> -a]-t-tar

4.4.6 Realis verbs

Realis verbs are independent verbs that serve only as the head of a main-clause predicate. Structurally, a realis verb is formed by adding the realis mood suffix -m to a participle. Realis mood expresses the speaker’s perceived certainty for both past and non-past (see Section 5.8.2 for the semantics of realis mood).

Table 9 Realis inflection

		Class 1		Class 2	
	Structure	NPST	PST	NPST	PST
Affirmative	[Stem]-tense-mood	[<i>idi</i>]-r-m	[<i>idi</i>]-ta-m	[<i>tur</i>]- ϕ -m	[<i>tur</i>]-ta-m
Negative	[Stem(-a)]-neg-tense-mood		[<i>idi</i>]-t-ta-m		[<i>tur</i> -a]-t-ta-m

As shown in the table above, the negative column contains two gaps: non-past forms are absent for both Classes 1 and 2. This is due to the semantic characteristic of non-past realis (see Section 5.8.2 for detail).

4.4.7 Irrealis verb

Irrealis verbs are independent verbs that only serve as the head of a main-clause predicate. They inflect for mood but not tense. The mood suffix marks various future-related modalities such as intentional, optative, and imperative (see Section 5.8.2 for the semantics of these moods).

Table 10 Irrealis inflection

	Structure	Class 1	Class 2
Optative ‘I want to V’	[Stem(-a)]-mood	[idi]-baa	[tur-a]-baa
Intentional ‘I will V’	[Stem(-a)]-mood	[idi]-di, or [id]-ju	[tur-a]-di, or [tur-a]-ϕ
Negative intentional ‘I won’t V’	[Stem(-a)]-mood	[idi]-djaan	[tur-a]-djaan
Imperative ‘You V’	[Stem(-i)]-mood	[idi]-ru	[tur-i]-ϕ
Prohibitive ‘You don’t V’	[Stem]-mood	[idi]-rna	[tur]-na

4.4.8 Converbs

Converbs are dependent verbs that only serve as the predicate of an adverbial/adsentential dependent clause (see 5.10 for complex clause structure). A converb consists of a verb stem and a converbial affix that indicates one of various adverbial/adsentential dependency relations, as seen in Table 11.

Table 11 Converbs

	Class 1	Class 2
conditional 1 (unproductive) ‘if’	[idi]-ba	[tur-a]-ba
negative conditional 1 ‘if not; unless’	[idi]-daka	[tur-a]-daka
aversive ‘lest’	[idi]-zm	[tur-a]-zm
negative medial verb ‘not...-ing’	[idi]-da	[tur-a]-da
medial verb ‘..., and’	[idi]-i	[tur-i]-i
negative intentional conditional ‘if will not’	[idi]-djaadaka	[tur-a]-djaadaka
causal ‘because; when; if’	[idi]-(ri)-ba	[tur-i]-ba
circumstantial ‘while’	[idi]-utui	[tur-i]-utui
conditional 2 (productive) ‘if; when’	[idi]-tigaa	[tur]-tigaa
negative conditional 2 ‘if not... (it’s OK)’	[idi]-gurai	[tur]-gurai
simultaneous ‘while’	[idi]-ccjaaki	[tur]-ccjaaki
purposive ‘in order that’	[idi]-ga	[tur]-ga
continuous ‘whenever’	[idi]-gakaaz	[tur]-gakaaz
immediate anterior ‘as soon as’	[idi]-tuu	[tur]-tuu
past anterior ‘did X, and then...’	[idi]-tarjaa	[tur]-tarjaa

4.4.9 Internal structure of the stem: overview

The internal structure of the stem is schematized as follows:

$$(7) \quad [[\text{Nucleus}](-\text{CAUS})(-\text{PASS})(-\text{HON})]_{\text{stem}}$$

The stem nucleus may be a bare verb root or a complex verbal stem (a compound stem or a derived verb stem). The stem nucleus may further be followed by a series of non-class-changing derivational affixes: causative, passive, and honorific. These derivational affixes will be briefly described in the sections below.

4.4.10 Derivational affix: (1) causative

There are two causative affixes, *-as* and *-smi*, which only attaches to Class 2 and Class 1 stems respectively). The affix *-as* may undergo /s/-to-/h/ alternation when followed by /a/, as in *kak-as-a-di* ~ *kak-ah-a-di* (write-CAUS-THM-INT) ‘will make write’. See Section 5.7.1 for the syntactic characteristics of causative constructions. The light verb *(a)s-* is a Class 2 stem, but the causative suffix that it carries is *-smi*. Furthermore, when it occurs with the causative suffix, the affix-initial *s* is deleted (*((a)s- + -smi* > *(a)s-mi*).

4.4.11 Derivational affix: (2) passive

The passive suffix is *-(r)ai*. The /r/ is deleted when attaching to a Class 2 stem. Thus, *kak-* ‘write’ + *-(r)ai* results in *kak-ai* (write-PASS) ‘be written’. This affix is polysemous; it encodes passivization, malefactivization (or ‘adversative passive’), and potential expressions. See Sections 5.7.2 and 5.7.3 for more detail.

4.4.12 Derivational affix: (3) honorific

The honorific affix *-(s)ama* appears after a voice affix when the two co-occur. The initial /s/ is deleted when it is attached to a Class 2 stem. Moreover, when *-(s)ama* is attached to a Class 1 stem, the initial /s/ frequently undergoes /s/-to-/h/ alternation, as in *mii-sama-r* ~ *mii-hama-r* (look-HON-NPST) ‘look’. The honorific affix is losing productivity. Most of the attested examples of *-(s)ama* are in fixed greeting expressions or in traditional song lyrics. Honorific *-(s)ama* has an irregular form for the irrealis imperative: *-ci* (e.g. *bž-žama-ci* ‘please be seated’) rather than expected *-ru*. This imperative form is by far the most well-attested use of honorific *-(s)ama*.

4.5 Property concept words

There are four major word forms that are made from a given PC root: adjective, compound nominal, state verb, and adverb.

4.5.1 Adjective

An adjective is a reduplicated form in which the reduplicant is attached word-initially and its final segment is lengthened by one mora. An adjective does not inflect. The input stem for the reduplication may be a PC root or a derived PC stem (or a few nominal stems; Section 3.7). See Section 4.8.3 for more detail on operations that derive a PC stem from stems of other classes. A PC stem from a restricted set may be extended by the nominal derivational affix *-gama* (diminutive), as in *ssuu+ssu-gama* (RED+white-DIM) ‘whitish’ and *imii+imi-gama* (RED+ small-DIM) ‘small’, and so on.

4.5.2 Compound nominal

A compound nominal that designates a property concept comprise a PC root (or a derived PC stem) + a head nominal. Like other nominals, it heads an NP. Unlike ordinary nominals, however, it can attract adverbial modification (8a) as well as (expected) adnominal modification (8b).

- (8) a. *kunur=ra ati pisi+dukja=i.*
 today=TOP very cold-season=eh
 ‘These days (we have) a very cold season, isn’t it?’
- b. *kunur=ra daizna pisi+dukja=i.*
 today=TOP great cold-season=eh
 ‘These days (we have) quite a cold season, isn’t it?’

There is a grammaticalized subtype of the above compound structure, or a ‘desubstantivized compound’, in which the head nominal stem is the formal noun stem *munu* ‘thing’. This formal noun undergoes a grammaticalization process whereby its semantic content gradually becomes less substantive such that it is reduced to being a mere structural head (glossed as DSUB, as below). That is, in many cases, the head noun cannot be substantively translated, but its structural nominal status is retained, as is its ability to attract adnominal modification and copula support (9).

- (9) *cnuu=ja daizna [pisi+munu]=du a-tar=ri.*
 yesterday=TOP great cold+DSUB=FOC COP-PST=eh
 ‘Yesterday (it) was cold, eh?’ [cf. *Yesterday (it) was a cold thing, eh?]

4.5.3 State (or PC) verb

A verb stem may be derived from a given PC root or derived PC stem with the verbalizer *-ka(r)*. The inflected verb word is a state verb. In (10) below, the stem is indicated in square brackets. A comparison between (10) and (11) demonstrates that the derived stem inflects just as an ordinary verb stem.

- (10) a. *[taka-ka]-ta-m*
 high-VLZ-PST-RLS
 ‘was high’
 b. *[taka-ka]-tar*
 high-VLZ-PST
 ‘was high’
 c. *[taka-ka]-i-ba*
 high-VLZ-THM-CVB.CSL
 ‘since (it) was high’
- (11) a. *[kaf]-ta-m*
 write-PST-RLS
 ‘wrote’
 b. *[kaf]-tar*
 write-PST
 ‘wrote’
 c. *[kak]-i-ba*
 write-THM-CVB.CSL
 ‘since (I) write’

There are certain verbal inflectional affixes that a PC verb stem cannot carry. For example, a PC verb cannot carry simultaneous converbal affix *-ccjaaki* (e.g. *kaf-ccjaaki* ‘while writing’), obviously owing to the lexical property of the PC stem (i.e. persistence of a state denoted by the simultaneous suffix is already part of the lexical meaning of a PC stem).

4.5.4 Adverb (or PC adverb)

A PC stem may be transformed into an adverb by affixing *-f*, as in *taka-f* (high-AVLZ) ‘highly’, *japa-f* (soft-AVLZ) ‘softly’, *mii-bus-f* (look-want.to-AVLZ) ‘in such a way that I want to look’, etc. The adverb form derived from a PC stem (PC adverb) may serve as a predicate adjunct (which is an optional modifier of the predicate) or as a predicate complement (which is an obligatory constituent of the predicate phrase, as in (35) and (36) of Section 5.3.1).

4.6 Demonstratives

Demonstratives share the same set of roots (proximate *ku-*, medial *u-*, distal *ka-*), but crosscut several word classes (**Table 12** below).

Table 12 Demonstrative words

Type of demonstrative	reference	Singular/	Plural
Demonstrative pronoun	proximate	<i>ku-(r)i/</i>	<i>ku-nukja/ku-ntja</i>
⇒ Nominal word class	medial	<i>u-(r)i/</i>	<i>u-nukja/u-ntja</i>
	distal	<i>ka-(r)i/</i>	<i>ka-nukja/ka-ntja</i>
Demonstrative locative word	proximate	<i>ku-ma</i> ‘this place; here’	
⇒ Nominal word class	medial	<i>u-ma</i> ‘that place; there’	
	distal	<i>ka-ma</i> ‘that place; there’	
Demonstrative manner word	proximate	<i>ku-i</i> ‘(in) this way’	
⇒ Nominal word class	medial	<i>u-i</i> ‘(in) that way’	
(Adverbial word class)	distal	<i>ka-i</i> ‘(in) that way’	
Demonstrative attributive word	proximate	<i>ku-nu</i> ‘this’	
⇒ Adnominal word class	medial	<i>u-nu</i> ‘that’	
	distal	<i>ka-nu</i> ‘that’	

Demonstrative pronouns carry nominative-genitive =*ga* and distinguish number, as expected of pronouns (Section 4.3.3). Demonstrative locative words are nominals but they are not pronouns, as they carry nominative-genitive =*nu* and do not distinguish number. Demonstrative manner words exhibit both characteristics of nominal and adverb: on the one hand, they carry nominative-genitive =*nu* when functioning as modifier of an NP (e.g. *kai=nu kutu* (that.way=GEN thing) ‘that kind of thing’) and they are followed by a copula when functioning as a predicate nominal; on the other, they may directly modify a predicate without any case marking on them, as in *kai=du as-tar* (that.way=FOC do-PST)

‘did that way’. Demonstrative attributive words are adnominals, directly modifying the head nominal of an NP.

4.7 Interrogatives

Interrogative words crosscut two word classes, i.e. nominal and adverb. Interrogative nominals are *nau* ‘what’, *taru* ‘who’, *ic* ‘when’, *nza* ‘where’, *nzi* ‘which’. In addition to these are interrogative adverbs *nau-tti* ‘why’ and *nau-si* ‘how’, which are derived from the interrogative nominal stem *nau* ‘what’.

4.8 Class-changing derivations

In this section I deal with derivations where a stem belonging to a particular word class (i.e. nominal stem and verb stem) is transformed into another. These derivations are nominalization, verbalization, and neutralization (PC stem derivation). PC stem derivation is called neutralization here because this class of stem is not assigned to any particular word class by default (Section 3.2 for detail).

4.8.1 Nominalization

A noun stem is derived from a verb stem by affixing the agent nominalizer *-ja* (e.g. *kak-* ‘write’ → *kak-ja* ‘a person who writes’). This is not fully productive, and is usually limited to the head stem of a compound noun, as in *munu+kakja* (thing+writer) ‘writer’. This tendency is also true for another kind of nominalization where a noun stem is derived from a verb stem by morphophonemic alternation (e.g. *kak-* ‘write’ → *kac* ‘writing’, as in *munu+kac* ‘writing’), where the athematic stem of a verb is used as a nominalized stem (Stem-final Stop Lenition, Section 4.4.2).

4.8.2 Verbalization

There is only one verbalization process that derives a verb stem from a nominal stem. This involves the verbalizer suffix *-as*, as illustrated below, where the verb stem is derived from the nominal stem *dus-gama* ‘friend’.

- (12) *kui=tu kui=tu [dus-gama-as-i-i]=du u-tar=ca.*
 this=COM this=COM friend-DIM-VLZ-THM-MED=FOC PROG-PST=HS
 Lex V Aux V

‘This (one) and this (one) were friends.’

The derived verb stem *dus-gama-as* inflects for a medial verb, functioning as the lexical verb component of a verb phrase comprising a lexical verb and a progressive auxiliary verb.

4.8.3 PC stem derivation

A PC stem may be derived from a verb stem, by affixing one of the following: *-gi* ‘seem; look’, *-jas* ‘be easy to’, *-guri* ‘be difficult to’, and *-bus* ‘want to’. For example, the verb stem *mii-* ‘look’ may be turned into a derived PC stem by *-bus*, and the derived PC stem *mii-bus* can be an input stem of any of the PC words described in Section 4.5 (i.e. adjective, compound nominal, PC verb, and PC adverb).

- (13) *[mii-buss+mii-bus]=ti=du umu-i-ur-φ.*
 RED+look-want.to=QT=FOC think-THM-PROG-NPST
 ‘I am thinking like, “I want to see (him)!”’ [adjective]
- (14) *uri=u=baa daizna [mii-bus+munu].*
 that=ACC=TOP great look-want.to+DSUB
 ‘(I) want to see it very much.’ [compound nominal]
- (15) *uri=u=baa ati=du [mii-bus-ka-tar].*
 that=ACC=TOP very=FOC look-want.to-VLZ-PST
 ‘(I) wanted to see it very much.’ [PC verb]
- (16) *uri=u [mii-bus-f]=du ar-φ*
 that=ACC look-want.to-AVLZ=FOC be-NPST
 ‘(I) want to see it.’ [PC adverb]

5 Syntax and grammatical/functional categories

5.1 Basic clause structure

5.1.1 Overview

Irabu clauses have the basic constituent order of S/A (+O) +V (where S, A, and O represent an intransitive subject, transitive subject, and transitive object, respectively). In an extended transitive clause, A + E + O + V seems to be common (where E is an Extended core argument encoding theme/recipient), but it is very rare to find an extended transitive clause with all the arguments being present. This is because ellipsis of constituents very frequently occurs when they are given to the hearer, so that it is difficult to find a ‘fully loaded’ sentence in natural discourse.

In an NP the modifier precedes the head, and case is indicated per NP unless the NP functions as a predicate. A VP has two constituents, the obligatory lexical verb and the optional auxiliary verb or second lexical verb that follows. An argument must be an NP, whereas a predicate may be either nominal or verbal. A nominal predicate consists of an NP and the copula verb, and the copula verb is absent in certain cases (see Section 5.3.2 for detail). A verbal predicate consists of a VP and optionally a predicate complement required by a certain type of VP.

5.1.2 Core, periphery, and extended core arguments

A distinction is made between core arguments (S/A, O), extended core arguments (or ‘Extension to core’; E), and peripheral arguments. This distinction is based on two variables: *syntactic valence* (i.e. whether the argument in question bears grammatical relation to the predicate) and *semantic valence* (i.e. whether the argument in question is a semantically obligatory participant of the predicate). Core arguments are required by the inherent meaning of the predicate, and they bear a grammatical relation to the predicate. Thus, core arguments contribute to both semantic and syntactic valences. Extended core arguments are also required by the inherent meaning of the predicate, but they do not bear a grammatical relation with the predicate (only contributing to semantic valence). Peripheral arguments are not required by the inherent meaning of the predicate and do not bear a grammatical relation with the predicate.

Based on this distinction in argument type, four distinct types of clauses

are identified: the intransitive clause, transitive clause, and their extended subtypes.

Table 13 Core-periphery distinction and valency

Intransitive clause	Argument structure	
Intransitive	S	
Extended intransitive	S	E
Syntactic valence	+	-
Semantic valence	+	+

Transitive clause	Argument structure		
Transitive	A	O	
Extended transitive	A	O	E
Syntactic valence	+	+	-
Semantic valence	+	+	+

- (17) *[pžtu]_S=nu=du ff-φ.*
 man=NOM=FOC come-NPST
 ‘a man comes over.’ [Intransitive]
- (18) *[vva]_S=a [sinsii]_E=n nar-i-φ.*
 2SG=TOP teacher=DAT become-THM-IMP=QT
 ‘You become a teacher.’ [Extended intransitive]
- (19) *[pžtu-kiv=nu pžtu]_A=nu [junaitama]_O=u tu-i+cc-tar.*
 one-CLF.HOUSE=GEN man=NOM mermaid=ACC take-THM+come-PST
 ‘A man of one household caught a mermaid’ [Transitive]
- (20) *[unu pžtu-mmi]_E=n [aagu]_O=u=du nara-as-tar=ca.*
 that man-PL=DAT song=ACC=FOC learn-CAUS-PST=HS
 ‘(She) taught those men songs.’ [Extended transitive: dative indirect object]
- (21) *[unu pžtu-mmi]_E=nkai [aagu]_O=u=du nara-as-tar=ca.*
 that man-PL=ALL song=ACC=FOC learn-CAUS-PST=HS
 ‘(She) taught those men songs.’ [Extended transitive: allative indirect object]

As illustrated in (18) above, an extended intransitive clause contains S and E, where the E argument is a semantically obligatory element of the verb (typically a theme role) but is not coded as a direct object. Likewise, an extended transitive clause (or more traditionally a ditransitive clause) contains A, O, and E, where the E argument is a semantically obligatory element of the verb (typically a theme or recipient role) but is not coded as a direct object. The E argument of an extended intransitive clause is marked by dative case as shown in (18), whereas the E argument of an extended transitive clause may be marked by either dative case (20) or allative case (21). In general, the allative marking on a transitive E argument designates a more physically visible action or a shift of the goal of an action from the expected one to another (see Shimoji 2008 for more detail).

5.2 The nominal phrase

5.2.1 Overview

The structure of a nominal phrase (NP) is schematized as (modifier+) head, to which a case clitic is attached to form an extended NP.⁴ Case is thus per NP, not per constituent within an NP. Case is obligatory unless it functions as a predicate head. However, there may be case ellipsis in subject and direct object.

The modifier slot may be filled by an NP itself in a recursive manner (where the case clitic attaching to the NP is a genitive case clitic), as shown in (22) and (23), or by an adnominal word, as shown in (24).

- (22) [vva]=ga jaa=n asb-a-di.
 2SG=GEN house=ACC play-THM-INT
 ‘Let’s play at your house’ [[simplex NP+case]_{modifier} + head + case]

⁴ The extended NP consisting of NP + case clitic should not be treated as a postpositional phrase, whose head must be the postposition. In Irabu, a case clitic is not the head of a phrase, but a mere extension of the NP. That is, the grammatical property of NP (i.e. case) is *externally* indicated by a distinct grammatical word (i.e. case clitic) in Irabu, and the head of the entire phrase (NP + case clitic) is still the noun within the NP. Hence the term *extended NP* is more appropriate here. In well-known European languages such as Russian, on the other hand, the case property is expressed *internally* by inflection of the head noun within an NP and the adposition that occurs outside of the NP is the controller of the case of the noun. Thus there is a reason to believe that the head of the entire phrase (case-marked NP + adposition) is the adposition, the controller of the case form of the NP head, hence the term adpositional phrase makes sense.

- (23) *[vva=ga jaa]=nu naka=n asb-a-di.*
 2SG=GEN house=GEN inside=ACC play-THM-INT
 ‘Let’s play inside of your house’ [[complex NP +case]_{modifier} +
 head + case]
- (24) *[kanu] jaa=n asb-a-di.*
 that house=ACC play-THM-INT
 ‘Let’s play at that house’ [[adnm w]_{modifier} + head + case]

See Section 4.5 for adjectival modification, where the adjective word may serve as head of an NP that recursively fills the modifier slot of an NP as in (22) above. The modifier slot may also be filled by an adnominal clause, as shown in (25).

- (25) *[ba=ga agu=nu ur-ϕ] jaa=n asb-a-di.*
 1SG=GEN friend=NOM exist-NPST house=DAT play-THM-NPST.INT
 ‘Let’s play at a house where my friend lives.’ [[adnm c]_{modifier} +
 head + case]

A head is obligatory in principle, but there exists a headless adnominal clause structure. This occurs only when the head may be easily recoverable from context.

- (26) *naf-tar=ra taru=ga?*
 cry-PST=TOP who=Q
 ‘Who cried?’ [lit. Who was (the person who) cried?]

5.2.2 Case

The case alignment system is of the nominative-accusative type. However, there is frequent case ellipsis of core arguments, resulting in the neutralization of core argument cases. Case is marked by a case clitic (see also footnote 4).

As shown in **Table 14**, there are argument case markers (nominative, accusative, dative, allative, ablative, instrumental, associative, limitative, comparative) and a genitive case marker that marks the modifier NP of a larger NP. The same case form is used for subject and possessor (or

general attributive), and I describe the case for subject marking as nominative, and the case for possessor/attributive as genitive. Nominative, accusative, and dative code core argument NPs, though dative-marked core arguments are highly constrained (occurring only in the dative subject constructions). The dative may also, along with the allative, mark an (extended) core argument. Dative and allative also function to mark locative and goal peripheral arguments respectively. The other argument case forms mark peripheral arguments.

Table 14 Case forms and their functions: Sort by form

Name	form	Function	Note
NOMinative	=ga/=nu	S/A	
GENitive	=ga/=nu	NP modifier	
ACCusative	=u/=a	O (ACC1/ACC2)	see Section 5.10.3 for ACC2
DATive	=n	S/A, E, locative, etc.	
ALLative	=nkai	E; goal	
INSTrumental	=sii	instrument	
ASSoCiative	=tu	associated motion	A=tu B ‘A and B’
CoMParative	=jaruu	comparative ‘than’	A=jaruu B ‘B than A’
ABLative	=kara	source; path	
LIMitative	=gami	limit (‘as far as’)	A=gami ‘to A; as far as A’

5.2.3 Grammaticalized head (formal noun)

The head of an NP with an adnominal clause may be a formal noun, whose semantic content is inherently abstract or has become abstracted. The clitic noun =su(u) (which undergoes /s/-to-/r/ alternation, see Section 2.5) is a typical example.

- (27) *cf-tar=[ru]=u cnu=du ss-tar*
 arrive-PST=COMP=TOP yesterday=FOC know-PST
 ‘Yesterday did (I) realize [the fact that] (she) arrived.’

This noun serves as complementizer as shown above, or as a lexical noun that means ‘man’ or ‘thing’.

- (28) *cf-tar=[ru]=u taru=ga a-tar?*
 arrive-PST=COMP=TOP who=FOC COP-PST
 ‘Who was [the man] who arrived?’

Basically, formal nouns function to complement the function of verb inflection, especially indication of adverbial-adsentential subordination (which converbs would indicate) and various irrealis modalities (which irrealis verbs would indicate). Thus many formal nouns function to compose an adverbial/adsentential clause (*tukja* ‘when’, *=njaa* ‘like; just as’ and *=jau* ‘in the way that; in order that’), or to express various modalities that cannot be expressed by verb inflection (e.g. *=paz* ‘maybe’, *=kutu* ‘should’, *=gumata* ‘should; be supposed to’).

In Irabu, the NP consisting of a formal noun as head and an adnominal clause as a modifier is one typical source structure of grammaticalization. Formal nouns often show phonological integration into the host, or the participle form of a verb, which is the final word of the adnominal clause. Thus there are a number of clitic formal nouns as noted above. Two formal nouns go one step further, showing morphological integration into the host, i.e. they are on their diachronic pathway to being reanalyzed as an inflectional affix. These are specifically *=kutu* ‘should’ and *=gumata* ‘should; be supposed to’. Compare the following two examples that differ in regard to the morphological integration into the host.

- (29) *vva=ga ffa-mmi=u nkai-r=kutu.*
 2SG=NOM child-PL=ACC bring-NPST=should

‘You should bring the kids.’ [*=kutu* is a separate grammatical word]

- (30) *vva=ga ffa-mmi=u nkai-kutu.*
 2SG=NOM child-PL=ACC bring-should

‘You should bring the kids.’ [*=kutu* replaces the tense inflection *-r*]

The same holds true for *=gumata*. Thus, there are two emerging inflectional affixes, i.e. *-kutu* ‘should’ and *-gumata* ‘should; be supposed to’ (both expressing future-oriented irrealis modality). Syntactically, however, they retain the characteristic expected of the head of an NP: they attract copula support.

- (31) *vva=a ffa-mmi=u=baa nkai-kutu ar-a-n-φ.*
 2SG=TOP child-PL=ACC=TOP bring-should COP-THM-NEG-NPST

‘You don’t have to bring the kids.’

In summary, the adnominal clause which is followed by a formal noun head may become less and less like a subordinate clause and more and more like an independent clause, and the formal noun may become less and less like a head noun and more and more like a post-predicate marker or even a verbal inflectional affix.

5.3 The predicate

The predicate phrase is classified into two types: the verbal predicate phrase and the nominal predicate phrase. The verbal predicate comprises a verb phrase (VP) and its complement (if required). The nominal predicate comprises a nominal phrase (NP) and a copula verb which is omitted under certain conditions.

5.3.1 Verbal predicate

A VP consists of an obligatory lexical verb and an optional auxiliary verb. A lexical verb primarily determines the argument structure of the predicate.

- (32) *tuz=zu=du [tumi-tar].*
 wife=ACC=FOC look.for-PST
 ‘(I) looked for a wife.’

An auxiliary verb is a verb that functions as an aspect marker, a benefactive marker (‘do for the benefit of’), or a directional marker.

- (33) a. *tuz=zu [tumi-i=du u-tar].*
 wife=ACC look.for-MED=FOC PROG-PST
 ‘(I) was looking for a wife.’
- b. *tuz=zu [tumi-i fii-tar].*
 wife=ACC look.for-MED BEN-PST
 ‘(I am) looking for a wife (for someone’s benefit).’
- c. *tuz=zu [tumi-i=du t-tar].*
 wife=ACC look.for-MED=FOC come-PST
 ‘(I) brought a wife.’ [lit. (I) looked for a wife and came back (with her).]

In a complex VP, the auxiliary verb can be an independent or am-biddependent verb form, whereas the lexical verb obligatorily must be a medial verb form (which is a specific converbal form).

A VP complement is required in the following constructions: (a) the light verb construction (as shown in (34)), where the lexical verb is filled by the light verb (a) *s* ‘do’, (b) the state verb construction (35), where the lexical verb is filled by the state verb *ar* ‘be (in a state)’,⁵ and (c) the ‘become’ verb construction (36), where the lexical verb is *nar* ‘become’. In each example, the complement is a derived adverb.

- (34) *pžtu=u mii+mii as-i+ur-φ.*
 man=ACC RED+looking do-THM+PROG-NPST
 ‘(He is always) staring at persons.’ [lit. He is always doing staring.]

- (35) *kari=a taka-f =du ar-φ.*
 3sg=TOP tall-AVLZ=FOC be-NPST
 ‘He is tall.’ [lit. he is in a tall state.]

- (36) *kari=a taka-f=du nar-tar.*
 3sg=TOP tall-AVLZ=FOC become-PST
 ‘He became tall.’ [lit. he became in a tall state.]

5.3.2 Nominal predicate

A nominal predicate phrase comprises an NP as a predicate head, followed by a copula verb, whose presence (as in (37a)) or absence (as in (37b)) is conditioned by several factors (see below).

⁵ The state verb *ar* is distinguished from the copula *ar* on the one hand, and from the existential verb *ar* on the other. There are two major features that distinguish between the three homophonous verb forms: (a) suppletive negation (using the negative verb stem *njaan* rather than a negative suffix *-n*) and (b) animacy constraint (*ar* for inanimate subject, *ur* for animate subject).

	Existential verb	State verb	Copula verb
(a) suppletive negation	+	+	-
(b) animacy constraint	+	-	-

- (37) a. *kari=a sinsii=du a-tar.*
 3SG=TOP teacher=FOC COP-PST
 ‘He was a teacher.’
- b. *kari=a sinsii.*
 3SG=TOP teacher
 ‘He is a teacher.’

The copula verb is necessary when at least one of the following conditions is met: in past tense, when negated, when a conjunction clitic follows a predicate NP (38), and when a focus is marked on the predicate NP (39).

- (38) *kari=a sinsii jar-ϕ=ruga, jana+pžtu=dooi.*
 3SG=TOP teacher COP-NPST=but evil+man=EMP
 ‘He is a teacher, but (he is) evil.’ [conjunction clitic attachment]
- (39) *kari=a sinsii=du ar-ϕ=ri.*
 3SG=TOP teacher=FOC COP-NPST=eh
 ‘He is a teacher, isn’t he?’ [focus marking on the predicate NP]

The copula verb has the allomorph *jar*, which is obligatorily required when (a) the copula verb appears in a non-main clause and (b) the predicate head NP is not focused, as illustrated in (38). On the other hand, *jar* may also appear when the NP is focused in non-past tense in a main clause, as in (40). The tendency here is that if the copula terminates a sentence, as in (40), *jar* is more preferred (cf. (39)).

- (40) *kari=a sinsii=du jar-ϕ.*
 3SG=TOP teacher=FOC COP-NPST
 ‘He is a teacher, isn’t he?’ [*jar* is more preferred than *ar*]

5.4 Syntax of adjectives

There is no adjective phrase. Rather, adjectives are ‘parasitic’ on the NP and VP structures, and can appear in both, though an adjective mostly occurs in an NP (Shimoji 2009b).

An adjective primarily functions as the head of an NP that fills the modifier slot of a larger NP (41a) in a recursive manner. That is, the attributive function is typical. Note that the adjective in (41a) carries genitive case, just as in the case of a nominal word (41b); this demonstrates that the adjective heads an NP (rather than directly filling the modifier slot of an NP like an adnominal).

- (41) a. *[ujakii+ujaki]=nu pžtu=tu [kiban:+kiban]=nu pžtu*
 RED+rich=GEN man=ASC RED+poor=GEN man
 ‘A rich man and a poor man’
- b. *[irav]=nu pžtu=tu [pžsara]=nu pžtu*
 Irabu=GEN man=ASC Hirara=GEN man
 ‘A man from Irabu and a man from Hirara’

When appearing in a VP, an adjective only fills the slot for the lexical verb of a complex VP. Second, the verb that follows the lexical verb must be a progressive auxiliary.

- (42) *hira, kama=a [mii+imi]=du ur-φ=ri.*
 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.]
- (43) *cnuu=ja cc=nu [akaa+aka]=du u-tar=iba...*
 yesterday=TOP MOON=NOM RED+bright=FOC PROG-PST=SO
 ‘Yesterday, the moon was bright, so...’ [lit. yesterday, the moon was bright-ing, so...]
- (44) *kantja=a [jarabii+jarabi]=du ur-φ=dara.*
 3SG=TOP RED+child=FOC PROG-NPST=EMP
 ‘They are childish, you see.’ [lit. they are childish-ing, you see.]

Note that the verb *ur* (or *utar*) here cannot be regarded as the existential verb *ur* ‘(animate subject) exists’: the existential verb *ur* only co-occurs with an animate subject (e.g., *pžtu=nu=du ur* ‘there is a man’, and *waa=nu=du ur* ‘there is a pig’, but **jama=nu=du ur* ‘there is a mountain’), whereas the auxiliary verb *ur* has no such restriction. The examples above clearly show that *ur* is an auxiliary, and we can say that the adjective fills the lexical verb slot of a VP.

5.5 Function (1) question and command

A question is encoded by an interrogative clause. An interrogative clause may be marked by focus-marking on a clausal element (i.e., an argument, VP complement, or adjunct) and/or a question marking on the clause-final word(-plus). There is no obligatory fronting of the interrogative word.

There are two subtypes of interrogative clauses: Yes-No and Wh. An interrogative word (such as *taru* ‘who’) is obligatory in wh-interrogatives. In Yes-No interrogative clauses, the focus clitic is =*ru*, as shown in (45) below. while in wh-interrogative clauses, it is =*ga*, as is shown in (46).

- (45) *vva=ga=[ru] uri=u aš-tar(=ru)?*
 2SG=NOM=FOC that=ACC say-PST(=Q)
 ‘Did you say that?’

- (46) *vva=a nau=ju=[ga] aš-tar(=ga)?*
 2SG=TOP what=ACC=FOC say-PST(=Q)
 ‘What did you say?’

As illustrated in these examples, when a focus marker is present, a question marker is optional, and its form is identical to that of the focus clitic in the same clause. I treat these two (i.e., the focus marker and question marker) as different morphemes owing to the fact that they show different allomorphic patterns, even though the focus marker may be the historical source of the question marker.

As shown in (47), when a clause has no focus marker, only the question marker appears, scoping over an entire clause. This is observed in yes-no type questions.

- (47) *vva=a uri=u aš-tar=ru?*
 2SG=TOP that=ACC say-PST=Q
 ‘Did you say that?’

Command is encoded by an imperative clause (where the predicate verb inflects as irrealis imperative form), or by a yes-no interrogative clause which is pragmatically interpreted as a polite command (as in ‘could you open the window?’).

5.6 Function (2) negation

Formal encodings of negation are morphological, syntactic, and lexical (suppletive), of which the first one is the most common and applies to the widest range of predicates.

5.6.1 Morphological negation

Morphological negation makes use of one of the suffixes that negate an action or a state, such as the pre-inflectional affix *-n* and various inflectional affixes related to negative semantics, e.g. *-djaan* (negative intention), *-rna* (prohibition) and *-da* (negative converb). Regardless of whether they are lexical or auxiliary verbs, most verbs (including the copula verb) are negated with this strategy.

- (48) *ba=a unu midum=mu=baa nuzum-a-n-φ.*
 1SG=TOP that woman=ACC=TOP want-THM-NEG-NPST
 ‘I don’t want that woman.’ [negative, lexical verb]

- (49) *ba=a batafsar-i-i=ja ur-a-n-φ.*
 1SG=TOP get.angry-THM-MED=TOP PROG-THM-NEG-NPST
 ‘I am not angry.’ [negative, auxiliary verb]

- (50) *ba=a jamatu+pžtu=u ar-a-n-φ.*
 1SG=TOP mainland.Japan+man=TOP COP-THM-NEG-NPST
 ‘I am not a Japanese mainlander.’ [negative, copula verb]

5.6.2 Stem alternation

The existential verb *ar* (for an inanimate subject) and the state verb *ar* (see footnote 5 for the distinction) are negated by using the negative verb stem *njaa-*.

- (51) a. *uma=n nagaa+naga=nu bau=nu=du ar-φ.*
 that.place=DAT RED+long=GEN stick=NOM=FOC exist-NPST
 ‘(There) is a long stick there.’ [existential; affirmative]
- b. *uma=n=na nagaa+naga=nu bau=ja njaa-n-φ.*
 that.place=DAT=TOP RED+long=GEN stick=TOP NEG-NPST
 ‘(There) is not a long stick there.’ [negative]

- (52) a. *kari=a aparagi-f=du ar-φ.*
 3SG=TOP handsome-AVLZ=FOC be-NPST
 ‘He is (in a) handsome (state).’ [state; affirmative]
- b. *kari=a aparagi-f=fa njaa-n-φ.*
 3SG=TOP handsome-AVLZ=TOP NEG-NPST
 ‘He is (in a) handsome (state).’ [affirmative]

5.6.3 Negation of PC verb

A PC verb (Section 4.5.3) may be negated either morphologically or syntactically. The syntactic negation uses a PC adverb and the negative form of the state verb *ar*. When a PC verb is morphologically negated, the negative form designates dynamic negation (negation of change of state) rather than stative negation (negation of state).

- (53) a. *ssu-kar-φ.*
 white-VLZ-NPST
 ‘(That) is white.’ [affirmative: stative]
- b. *ssu-kar-a-n-φ.*
 white-VLZ-THM-NEG-NPST
 ‘(That) does not become whitened’. [negative: dynamic]
- c. *ssu-f=fa njaa-n-φ.*
 white-AVLZ=TOP NEG-NPST
 ‘That is not white. [negative: stative]

5.7 Function (3) voice

5.7.1 Causative

A causative adds a causer to the existing proposition. The causer is assigned the subject (S/A) status. If an underived clause is intransitive, the original agent or the causee in the causative clause is encoded either as a direct object (as in (54)) or as an E argument (as in (55)), depending on the degree of control exerted by the causer over the causee.

- (54) *uja=ga=du [ffa=u] nak-as-tar.*
 father=NOM=FOC child=ACC cry-CAUS-PST
 causer causee
 ‘The father made the child cry.’

- (55) *uja=a [ffa=n] nak-as-tar.*
 father=TOP child=DAT cry-CAUS-PST=HS
 causee

‘The father left the child crying.’

If the underived clause is transitive, the causee is encoded regularly as an E argument, and the patient/theme in the underived clause remains a direct object in the causativized clause.

- (56) *sinsii=ga unu siitu=n hon=nu=du jum-as-tar.*
 teacher=NOM that pupil=DAT book=ACC=FOC read-CAUS-PST
 causer cause theme

‘The teacher had the pupil read the book.’ [causative]

5.7.2 Passive

Passive derives an (extended) intransitive clause from a transitive clause with the passive suffix *-(r)ai*. The semantic valence of the verb remains the same, i.e., a passive agent is always implied; this results in the semantic effect that an event is brought about by some external causer. In terms of syntactic valence, the passive agent NP is demoted either by deletion (resulting in an intransitive clause) or to an E argument (resulting in an extended intransitive clause). The syntactic inclusion of the agent depends on its importance in discourse.

- (57) *katabata=a jaa=nu pana=n*
 half.body=TOP house=GEN roof=DAT
 patient
nuus-irai+u-i-ba, nara=n=na kuu-rai-n-φ.
 lift-PASS+PROG-THM-CVB.CSL RFL=DAT=TOP come-POT-NEG-NPST

‘The other half of my body has been lifted on the roof of a house, so I cannot come (back).’

Although agentless passives are common, it is also common to find instances where the agent is explicitly stated with dative case, i.e., as an E argument, in both texts and elicited data.

- (58) *uja=n ž-žai-i=bakaar ur-φ=ri=ti.*
 parent=DAT scold-PASS-MED=only PROG-NPST=CNF=QT
 agent
 ‘(I would say like) (You) are always scolded by (your) parents.’

5.7.3 Malefactive

Malefactivization is a derivational process that uses the passive morphology *-(r)ai* on the verb stem), but it shows both similarities and dissimilarities to passivization.

On the one hand, semantic valence increases with the introduction of a malefactee, which is encoded as a subject. The original agent of an underived verb, which is a malefactor in the derived clause, is encoded either as an E argument or is simply unstated, like a passive agent.

- (59) a. *ami=nu=du ff-φ.*
 rain=NOM=FOC fall-NPST
 ‘Rain falls’ [i.e., it rains]
- b. *ba=a ami=n=du f-fai-r.*
 1SG=TOP rain=DAT=FOC fall-MAL-NPST
 malefactee malefactor
 ‘I am bothered by rain (that) falls.’

In (59b), the depicted event comprises ‘rain’ (malefactor) and some other entity that is bothered by the fact that it is raining (malefactee). This newly introduced malefactee appears as an S syntactically, whereas the malefactor is encoded as an E argument.

Since malefactivization simply adds the malefactee, malefactivization may co-occur with both an intransitive verb and a transitive verb, deriving an extended subtype of each if the malefactor is stated, or simply rearranging the semantic roles and syntactic arguments if the malefactor is unstated (i.e. the original agent/subject is deleted, and the newly introduced malefactee now serves as subject). Moreover, the syntactic status of the original O, if any is not affected by the introduction of the malefactee, just like the causative.

5.8 Function (4) tense-mood-aspect

5.8.1 Tense

The tense system of Irabu is bipartite, distinguishing between past and non-past. Tense is an inflectional category of the participle and realis verb. Non-past tense designates an attemporal event/state (e.g. general truth), definite future, or an ongoing state (for stative verbs such as *cgav-φ* ‘differ’, *ur-φ* ‘exist’, and *taka-kar-φ* ‘high’ (PC verb)). Future time reference associated with speaker’s guess, perceived necessity, intention, etc., is encoded by irrealis verbs which inflect for various irrealis moods.

5.8.2 Mood

The mood system of Irabu is bipartite, i.e. realis vs. irrealis. This modal distinction is inflectional in independent verb forms, i.e. the realis verb and irrealis verb. There is no mood marking for (ambi) dependent verbs (i.e. converbs and participles).

The irrealis mood expresses the speaker’s future intention, desire, perceived necessity, etc., all of which are related to the speaker’s weak certainty or uncertainty about the truth value of the proposition. By contrast, the realis mood expresses speaker’s perceived certainty with a strong assertive force (validational in Weber’s 1986 terms). Furthermore, it expresses high information value, in that the speaker indicates that his message is new information to the hearer as the hearer does not know, or has a wrong assumption about, the truth value of the proposition (see Shimoji 2008 for detail). The following dialogue illustrates how the realis mood marking works. Here, speaker A has the assumption that ‘this (woman)’ is ignorant, which B thinks is wrong, as she is certain that ‘this (woman)’ is a wise person. Thus B corrects A’s assumption by using the realis form that is underlined.

- (60) A. *kuri=a nau=mai s-sa-n-φ=pazi.*
 3SG=TOP what=even know-THM-NEG-NPST=maybe
 ‘This (woman) doesn’t know anything, perhaps.’
- B. *gui! kuri=a nau=ju=mai s-si+u-φ-m!*
 INTJ 3SG=TOP what=ACC=even know-THM-PROG-NPST-RLS
 ‘No way! She knows everything!’

As briefly noted in Section 4.4.6, whereas the past realis inflection has both the affirmative form and the negative form, the non-past realis form lacks a negative counterpart.⁶ This asymmetry in negation is naturally explained by referring to the modal characteristic of realis: since it requires the speaker's perceived certainty, it is more difficult to use it with what will not occur (non-past tense) than with what did not actually occur (past tense).

5.8.3 Aspect

Major aspectual relations are encoded by the auxiliary verb construction (AVC, see below), which encodes progressive, resultative, prospective, and perfect aspects, or by verbal stem reduplication which encodes habituality and iterativity (see 4.2.3).

An aspectual AVC may take two forms: agglutinative AVC and phrasal AVC. As shown in the following sets of examples, a phrasal AVC consists of two words, and each word is inflected, whereas an agglutinative AVC is a one-word construction, where V1 (lexical verb stem) and V2 (auxiliary verb stem) is serialised to form a single stem of a word, thus carrying a single inflectional affix or affixes.

(61) Progressive

- a. *ba=a tigami=u [kak-i-i=du u-tar].*
 1SG=TOP letter=ACC write-THM-CVB=FOC PROG-PST
 'I was writing a letter' [phrasal AVC]
- b. *ba=a tigami=u=du [kak-i+u-tar].*
 1SG=TOP letter=ACC=FOC write-THM+PROG-PST
 'I was writing a letter.' [agglutinative AVC]

(62) Resultative

- a. *ba=a tigami=u [kak-i-i=du ar-ϕ].*
 1SG=TOP letter=ACC write-THM-CVB=FOC RSL-NPST
 'I have written a letter.' [phrasal AVC]

⁶ This can be seen as an instantiation of a typologically recurrent restriction on the compatibility of negation with realis (in fact, there are languages which treat all negative clauses as irrealis; Payne 1997: 245).

- b. *ba=a tigami=u=du [kak-i+ar-φ].*
 1SG=TOP letter=ACC=FOC write-THM+RSL-NPST
 ‘I have written a letter.’ [agglutinative AVC]

(63) Prospective

- a. *ba=a tigami=u [kak-i-i=du uf-kutu].*
 1SG=TOP letter=ACC write-THM-CVB=FOC PROS-OBL
 ‘I am supposed to write a letter.’ [phrasal AVC]
- b. *ba=a tigami=u=du [kak-i+uf-kutu].*
 1SG=TOP letter=ACC=FOC write-THM+PROS-OBL
 ‘I am supposed to write a letter.’ [agglutinative AVC]

(64) Perfect

- ba=a tigami=u kak-i-i njaa-n-φ.*
 1SG=TOP letter=ACC write-EXT-CVB PRF-NEG-NPST
 ‘I have written a letter.’ [phrasal AVC]

Habitual aspect and iterative aspect are encoded by verbal stem reduplication (Section 4.2.3). Habitual aspect describes a situation which is characteristic of an extended period of time, and is viewed as a characteristic feature of a whole period (Comrie 1976: 28). Habitual aspect is typically expressed by the verbal reduplication *asi+asi* ‘do’, as illustrated in (65) below.

- (65) *imi-kar-φ=kja=gami=a, mmja, juu pinza=nu fsa=u=mai*
 small-VLZ-NPST=when=EMP=TOP INTJ often goat=GEN grass=ACC=too
kar-i-i=du u-tar.
 cut-THM-MED=FOC PROG-PST
 ‘When (I) was small, (I) used to gather grass for goats.’

In iterative aspect it is very common for the reduplicated form to be framed in a specific construction [A=TOP B+B LV] (A is a medial verb, which is followed by a topic marker, and B+B is a reduplicated verb form, followed by LV, or a light verb (*a*)s). Here, the actions encoded by A and B are iterated.

- (66) *uki-i=ja kair+kair s-i-i=du if-tar=ca.*
 stand-MED=TOP RED+turn.over do-THM-MED=FOC go-PST=HS
 ‘(He) went standing up and turning over and over.’

- (67) *pur-i-i=ja tur+tur as-i-i=du ur-ϕ.*
 dig-THM-MED=TOP RED+take do-THM-MED=FOC PROG-NPST
 ‘(They) are digging and taking (potatoes).’

5.9 Function (5) topic and focus

Topic is marked by *=ba(a)* for object NPs (as in (y) in (68)), or by *=a* (elsewhere, as in (x) and (z)). Focus marking is not sensitive to the grammatical relation of the focused NP, but sensitive to sentence type (Section 5.5): *=du* in declarative clauses, *=ru* in yes-no interrogative clauses, and *=ga* in wh interrogative clauses.

- (68) *ba=a mm=mu=baa maada=a fa-a-n-ϕ.*
 1SG=TOP potato=ACC=TOP very=TOP eat-THM-NEG-NPST
 (x) (y) (z)
 ‘I don’t really eat potatoes very much.’

There is focus-concord between a focus-marked NP and the verb inflection of the predicate, which is similar to what is traditionally called *Kakarimusubi*. The difference is that in Irabu, focus marking triggers the *exclusion* of one particular verb form (i.e. the realis verb form).

- (69) *ba=a žžu=u=du tur-tar*
 1SG=TOP fish=ACC=FOC take-PST
 ‘I caught fish.’ [participle]

- (70) *ba=a žžu=u=du tur-a-di.*
 1SG=TOP fish=ACC=FOC take-PST
 ‘I caught fish.’ [irrealis]

- (71) **ba=a žžu=u=du tur-ta-m [participle].*
 1SG=TOP fish=ACC=FOC take-PST-RLS
 ‘I caught fish.’ [realis]

As mentioned in Section 5.8.2, since the realis form expresses new information to the hearer, it never co-occurs with a focus marker, since the predicate in a focus construction should be presupposed (Shinzato 1998: 204). Thus, it is the pragmatic feature of the realis form that leads to the exclusion of this form as the predicate form in the focus construction.

5.10 The complex sentence

5.10.1 Coordination

Coordination falls into symmetrical coordination (where the first and second clauses are conjoined by a conjunction word) and asymmetrical coordination (where the first clause is marked by a conjunction clitic). In symmetrical coordination, two (or more) main clauses are linked by a free conjunction word such as *mata* ‘and’.

- (72) *nkjaan=na budur-nagi=mai umissi-ka-ta-m. assuga,*
 old.times=TOP dance-APPR=too interesting-VLZ-PST-RLS but
nnama=a mii-n-φ=ni.
 now=TOP see-NEG-NPST=CNF
 ‘In old days, dances were fun; but now (we) don’t see (dances), eh?’

In asymmetrical coordination, the first clause is marked by a conjunction clitic. This clause is inflected for a finite form like the second clause, but there is a severe restriction on the inflection of the first clause.

- (73) [*kuma=n nci-di=ssiba*], *muc-i+par-i-φ=juu.*
 this.place=DAT put-NPST.INT=SO have-THM+leave-THM-IMP=EMP
 ‘(I) will put (this bag) here, so take (it) away, OK?’

5.10.2 Subordination

Subordination falls into adsentential subordination (where the subordinate clause functions as a sentential adjunct), adverbial subordination (where it functions as a predicate adjunct), adnominal subordination (where it functions as an adnominal), and complementation (where it functions as an argument).

An adsentential subordinate clause is a sentential adjunct of the main clause. It usually occurs at the left margin of a sentence, as illustrated in (74) below, but it may also be nested within the main clause, as in (75).

- (74) [*saki=u num-tigaa*], *ba=a sugu=du niv-φ*.
 Sake=ACC drink-CVB.CND 1SG=TOP right.away=FOC sleep-NPST
 ‘[When I drink Sake], I sleep easily.’

- (75) *ba=a [saki=u num-tigaa], sugu=du niv-φ*.
 1SG=TOP Sake=ACC drink-CVB.CND right.away=FOC sleep-NPST
 ‘[When I drink Sake], I sleep easily.’

Adverbial subordination embeds a clause within the main clause as a predicate adjunct, i.e., as an adverb. An Irabu adverbial clause modifies the main clause predicate as a manner modifier, and is encoded by a converbal clause.

- (76) [*tatimma as-ccjaaki*]=*du tii=ju kai+kai as-i+ur-φ*.
 stilt do-CVB.SIM=FOC hand=ACC RED+change do-THM+PROG-NPST
 ‘(He) is taking his hands off the stilt several times [while doing stilts].’

An adnominal clause functions like an adnominal word, so that it directly fills the modifier slot of an NP without carrying a case and occurs prenominally. No relativizer is required, but the predicate verb of the adnominal clause must have a participle. Any argument, core, extended core, or peripheral can be relativized.

- (77) [*kuu-ttar*] *pžtu=u=baa ž-ža-dakaa*
 come-NEG.PST man=ACC=TOP scold-THM-NEG.CVB.CND
nar-a-n-φ.
 become-THM-NEG-NPST
 ‘(I) have to scold those men [(who) did not come].’ [subject]

- (78) [*žži-tar*] *munu=gami=a ukaasa ar-φ*.
 obtain-PST thing=EMP=TOP plenty exist-NPST
 ‘(There) are plenty of things [(I) obtained (from him)].’ [direct object]

Furthermore, an NP that cannot be regarded as an argument of the adnominal clause can establish a modifying semantic relationship with the adnominal clause, where pragmatic inference determines how the adnominal clause narrows down the reference without the head noun playing any role in the adnominal clause.

Complementation is the ‘syntactic situation that arises when a notional sentence or predication is an argument of a predicate’ (Noonan 1985:42). It involves the adnominal clause construction with a formal noun head (Section 5.2.3), or a quotative construction as illustrated in the examples below.

- (79) [kjuu=ja ueno=nkai=du ik-i-i t-tar=tii] as+as.
 today=TOP Ueno=ALL=FOC go-THM-MED come-PST=QT RED+do
 ‘(She) goes like, [“Today (I) went to Ueno”].’

- (80) [uri=u fa-a-baa=tii]=ja umu-u-n-ϕ.
 3SG=ACC eat-THM-NPST.OPT=QT=TOP think-THM-NEG-NPST
 ‘(I) don’t think like, [“(I) want to eat it”].’

In a quotative clause, the quotative =*tii* introduces the complement clause that functions as object of speech act verbs such as *až* ‘say’, *cf* ‘hear’, and *tanum* ‘ask’, and cognitive verbs such as *umuv* ‘think’.

5.10.3 Clause-chaining

Clause-chaining links one or more dependent clauses headed by a medial verb and a final main clause, encoding sequential events (foreground) or descriptive states (background). The following example illustrates a typical clause chain, in this case, comprising seven chained non-finite clauses (each of which is numbered a, b, c...g.) and a finite final clause (h).

- (81) a. *unu cmi=u=kara guus=tii uri=a tur-i-i*,
 that claw=ACC=first ONM=QT 3SG=ACC2 take-THM-MED
 b. *biraf=nkai rri-i*,
 basket=ALL put-MED
 c. *f_{taa}-c, f_{taa}-c, kai badzakar-i-i*,
 two-CLF.GENERAL two-CLF.GENERAL that.way claw-THM-MED

- d. *f-fa-φ=ti* *as-i-i*,
 bite-THM-NPST.INT=QT do-THM-MED
- e. *uri=a* *tur-i-i*,
 3SG=ACC2 take-THM-MED
- f. *rri-i*,
 put-MED
- g. *mata kuzmi-gama=u=mai bur-i-i*,
 and small.claw-DIM=ACC=too break-THM-MED
- h. *ai=sii=du* *fau-tar*.
 that.way=INST eat-PST
 ‘(I) take the claws (of the crabs)_[a], put them into a Birafu
 (small basket)_[b]; (crabs) raise their claws, two (claws)_[c],
 trying to bite me_[d], (I) catch them_[e], put (them) into (the
 Birafu)_[f]; and (in so doing I) also break the small claws_[g]; (I)
 ate (crabs) in this way_[h].’

As illustrated above, chained clauses encode temporally sequential events (or ‘foreground’) or temporally non-sequential, descriptive events/states (‘background’). For example, the foreground clauses in (81) are [a], [b], [e], and [f], which are surrounded by background clauses that describe each event, e.g., [d] describes the circumstantial event of [c], and these two clauses describe the background for the sequential events [a] and [b].

Thus, a medial clause with *-i* (affirmative) or *-da* (negative) is contextual, used either as a foreground clause or as a background clause. Although the foreground-background distinction is largely contextually inferred, there are several means to make it explicit. One such device is second accusative marking. The second accusative *=a* is largely restricted to medial clauses in clause chaining, and it usually indicates the background function of the medial clause in which it appears.

6 Text: ‘Junaitama: a mermaid of Tooriike’ (Folktale)

1. *tooriike=tii=du=i, ssibara, maibara, satu+bžtu=nu*
 Tooriike=QT=FOC=CNF back front neighbour+person=NOM
a-tar=ca. fta-kiv.
 exist-PST=HS two-CLF.HOUSE
 ‘In (what is now called) Tooriike,⁷ there were two neighbouring houses, back (north) and front (south).’
2. *fta-kiv ar-i-utui=du, pžtu-kiv=ga im=nu acca*
 two-CLF.HOUSE exist-THM-CVB.CRCM=FOC one-CLF.HOUSE=NOM sea=GEN side
ja-i-ba, unukja=a, pžtu-kiv=nu pžtu=nu ssibara=ru
 COP-THM-CVB.CSL 3PL=TOP one-CLF.HOUSE=GEN man=NOM back=FOC
a-tar=ru maibara=ru a-tar=ru mmja s-sa-n-φ=suga,
 COP-PST=Q front=FOC COP-PST=Q INTJ know-THM-NEG-NPST=but
pžtu-kiv=nu... fta-kiv=kara pžtu-kiv=nu pžtu=nu junai,
 one-CLF.HOUSE=NOM two-CLF.HOUSE=ABL one-CLF.HOUSE man=NOM junai
ningjo, junatama=u tu-i+c-ci-i, kurus-i-i, mmja
 mermaid Junaitama=ACC catch-THM+come-THM-MED kill-THM-MED INTJ
uri=a žžu ja-i-ba, kurus-i-i, kata+bata=u=baa
 3SG=TOP fish COP-THM-CVB.CSL kill-THM-MED half+body=ACC=TOP
jak-i-i fa-i-φ, kata+bata=u=baa jaa=nu pana=n
 burn-THM-MED eat-THM-MED half+body=ACC=TOP house=GEN roof=DAT
nuusi-i, pus-i+a-tar=ca.
 lift-MED dry-THM+RSL-PST=HS

‘Of the two houses, one was beside the sea, so the man from one of the houses—I’m not sure whether (the house) was of the backside or of the frontside—(the man from) one of the two houses caught and brought *junai*, I mean, a mermaid, *Junaitama*, and killed it, as it is a fish; (he) killed and burned and ate half of the body (of *Junaitama*), and laid the other half on the roof of his house.’

⁷*Tooriike* is literally ‘trans-pond’, which comprises two neighbouring ponds. These ponds developed from underground caverns. *Tooriike* is situated on Shimoji, and there are numerous legends and folktales on it.

3. *aidu, rjuukjuu... rjuuguu=nu kam=nu junaitama, junaitama=tii*
 then Ryukyu sea.world=GEN god=NOM Junaitama Junaitama=QT
as-si-ba=du, nara=a mmja kurus-ai-φ=du, kata+bata
 say-THM-CVB.CSL=FOC RFL=TOP INTJ kill-PASS-MED=FOC half+body
fa-ai-i, kata+bata=a jaa=nu pana=n
 eat-PASS-MED half+body=TOP house=GEN roof=DAT
nuusi-rai+u-i-ba, nara=n=na kuu-rai-n-φ=tii
 lift-PASS+PROG-THM-CVB.CSL RFL=DAT=TOP come-POT-NEG-NPST=QT
až-tar=ca.
 say-PST=HS

‘Then, the god of Ryukyu, no, Ryugu (sea world) said calling, “Junaitama! Junaimata!”, so (Junaitama) said, “I have been killed, and half of my body was eaten, and the other half has been laid on the roof, so I cannot come back (to the sea world).”’

4. *unu rjuukjuu... rjuuguu=nu kam=nu=du mmja, ui+saar-φ=tii*
 that Ryukyu Ryugu=GEN god=NOM=FOC INTJ 3SG+take-NPST=QT
c-ci-i, jurab-i-ba, nara=a kata+bata fa-ai-i,
 come-THM-MED call-THM-CVB.CSL RFL=TOP half+body eat-PASS-MED
kata+bata=a jaa=nu pana=n nuus-i-i=du, nara=u=baa
 half+body=TOP house=GEN roof=DAT lift-THM-MED=FOC RFL=ACC=TOP
pus-i-i nci+ar-φ=tii až-tarjaa, ttigaa, uku+nam=mu
 dry-THM-MED put+RSL-NPST=QT say-CVB.PST.ANT then big+wave=ACC
jar-ah-a-di=ssiba, uri-i kuu-φ=juu=tii až-tarjaa,
 create-CAUS-THM-INT=SO come.down-MED come-IMP=EMP=QT say-CVB.PST.ANT
nndi=ti as-tarjaa, uku+nam=mu baa=tti jar-as-tarjaa,
 yes=QT say-CVB.PST.ANT big+wave=ACC ONM=QT create-CAUS-CVB.PST.ANT
tuduk-a-n-φ=niba, mata mme+pžtu+nam ookii uku+nam=mu
 reach-THM-NEG-NPST=SO and another+one+wave big big+wave=ACC
baa=tti jar-as-tarjaa, zazaa=ttii uri-i, mmja
 ONM=QT create-CAUS-CVB.PST.ANT ONM=QT come.down-MED INTJ
uri=a mmja par-tar=ca.
 3SG=TOP INTJ leave-PST=HS

‘The god of Ryukyu, no, Ryugu, called (Junaitama) to take her back home, so (Junaitama) said, “I have had my half eaten; as for the other half, (the man) has laid it on the roof of his house and dried”, so (the god) said, “Then I will let there be a big wave, so come down riding

on it”, so (the god) created a big wave, but it did not reach, and (he) created another big wave, so that (Junaitama) came down riding on the wave, and left (for the sea world).’

5. *aidu uma=nu ssibara maibara=a mmja doof=ti*
 thus that.place=GEN back front=TOP INTJ ONM=QT
uti-i=i, tooriike=n nar-tar=ca.
 collapse-MED=CNF Tooriike=DAT become-PST=HS

‘Thus, the place around the backside and the frontside collapsed, and became what we now call *Tooriike*.’

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Further reading

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