

**Estudios de lenguas amerindias 4.
Escenario actual de la investigación sobre
lenguas yuto-aztecas. Homenaje a Jane H. Hill**

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"El saber de mis hijos
hará mi grandeza"

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Patterns and variation in Hiaki adjectival inflection¹

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Abstract

Previous literature (Jelinek et al. 1998, Dedrick & Casad 1990, Molina et al 1999, Harley, Haugen & Tubino-Blanco in prep.) has primarily characterized Hiaki adjectives as inflectionally comparable to nouns, particularly in predicative positions. Like nouns, they can be verbalized with *-tu* in predicate position but do not themselves directly take TAM² suffixes according to Harley, Haugen & Tubino-Blanco (in prep.). In argument position, adjectives are distinguished by a specific accusative case allomorph *-k*, distinct from the nominal suffix *-ta*. We demonstrate that although many adjectives do more or less follow these patterns, there are variations within the overall pattern, and several subpatterns that can be observed with particular lexical items. We also document the existence of stem ‘augments’ which appear to have a verbalizing function for some adjectives in specific TAM contexts.

Keywords: Adjectives; verbalization; morphology; documentation.

1. Introduction

Hiaki is a Uto-Aztecan language of the Tara-Cahitic subfamily, spoken in Sonora, Mexico, and in Arizona. It is also called Yaqui, Jiaki, or Yoeme, in many published sources. Although the language is still being acquired by children in Sonora, where there are some few thousand speakers, in the US, there are only sixty or fewer native speakers remaining, all of them older adults.

In this paper we present preliminary results from detailed investigation of the grammatical properties of several adjectival lexical items, which reveal a considerably more heterogenous and variable pattern of behavior than previously reported.

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² PFV (perfective), PST (past/past imperfective), PPRF (past perfect), IRR (irrealis/ future), RS (result state), PLURAC (pluractional).

There is not a great deal of existing work focusing on Hiaki adjectives. What previous literature there is includes few details beyond the following points: a) adjectives may be distinguished from verbs by virtue of having attributive uses; b) in argument position, adjectives can be distinguished from nouns by a specific accusative case allomorph *-k*, distinct from the nominal accusative case suffix *-ta*; c) adjectives, like nouns, are known to occur predicatively, and to be inflected for tense in this position after the addition of the verbalizing suffix *-tu*; d) although nouns can bear TAM directly within a predicative possession construction, this is not possible for adjectives.

We demonstrate that although many adjectives do more or less follow these patterns, there are many variations within the overall pattern, and several subpatterns that can be observed with particular lexical items. In addition, several adjectives exhibit alternative stems, formed with a vowel ‘augment’, apparently in complementary distribution with the *-tu* verbalizer, which occur in certain TAM contexts.

1.1 Predicate adjectives: Previous characterizations

Although there is a relatively extensive literature devoted to the documentation and analysis of aspects of Hiaki grammar, we found little in the way of explicit attention to adjectives.

Jelinek et al. (1998) is a draft workbook, designed as a grammatical resource for language teachers. It treats Hiaki adjectives as inflectionally identical to nouns in predicative position, suggesting that neither can be directly inflected with verbal morphology, but must first acquire a verbalizing suffix, *-tu*.

In *Sonoran Yaqui Language Structures*, which is a relatively extensive descriptive grammar, Dedrick & Casad (1990) say very little about predicative adjectives specifically – their discussion of verbalization with *-tu* treats nouns and adjectives identically.

Molina et al. (1999) is an English~Yoeme dictionary, which includes grammatical notes. It provides, rather incidentally, some variation to the usual account, claiming that the tense/aspect suffix *-kan* indicates past tense on adjectives, although they note the existence of *-tukan*, as well. They also present, without commenting on, examples of adjectives inflected with either future/irrealis *-ne*, or the combined form *-tune*, and identify what they call allomorphs of *-kan* that occur with some adjectives, *-ekan* and *-akan*.

Lexical Categories and Derivation in Yaqui (Hiaki) by Harley, Haugen & Tubino-Blanco is the most explicit and extensive treatment of adjectives as a class, documenting their inflectional behavior. In it, the authors argue that “inflectional morphological criteria are insufficient to fully differentiate the lexical categories of Noun, Verb, and Adjective, because these categories show some overlap in the inflectional affixes that they may take.” (in prep:2) They point out that nouns can be directly inflected with verbal TAM suffixes, in which case the noun gets a ‘possessed’ reading rather than a predicative one (1)³ (Jelinek 1998), or they can be first verbalized with *-tu* to get a predicative or inceptive reading (2).

(1) *Peo karine.*

Peo kari-ne

Peo house-IRR

‘Pete will have a house/houses.’

(2) *Peo ya’uttune.*

Peo ya’ut-tu-ne

Peo leader-VZ-IRR

‘Pete will be/become a leader.’

Adjectives, on the other hand, according to Harley, Haugen & Tubino-Blanco, can be verbalized with *-tu* in predicate position just like nouns, and with similar interpretations (3). Unlike nouns, they claim, adjectives do not themselves directly take TAM suffixes and cannot enter into the possessive construction (4).

³ Abbreviations used in this paper : 1 (1st person), 2 (2nd person), 3 (3rd person), ACC (accusative), ADZ (adverbializer), APPL (applicative), DESID (desiderative), DET (determiner), GEN (genitive), INTR (intransitive), IRR (irrealis), LOC (locative postposition), NEG (negative), NOM (nominative), O.REL (object relativizer), PASS (passive), PCL (participle), PFV (perfective), PL (plural), PLURAC (pluractional), PPRF (past perfect), PST (past), QUAL (quality), RED (reduplication), REFL (reflexive), RS (result state), S.REL (subject relativizer), SG (singular), TR (transitive), VZ (verbalizer).

- (3) *Ume wikichim si awitun.*
 Ume wikich-im si awi-tu-n
 DET.PL bird-PL very fat-BECOME/BE-PST
 ‘The birds were getting really fat.’⁴
- (4) **Inepo sialikan.*
 *Inepo siali-kan
 1SG.NOM green-PPRF
 Intended: ‘I used to have a green one.’

Our further descriptive work reveals, however, that the category of ‘adjective’ in Hiaki includes several different patterns of behavior with respect to interactions with verbal TAM suffixes.

1.2 Attributive adjectives: Previous characterizations

In Hiaki, determiners and postnominal attributive adjectives agree in case and number with their head nouns. First, we briefly review the scant literature describing the morphological reflexes of this agreement.

Dedrick & Casad (1999) note that attributive adjectives are ‘usually’ postnominal, and that when postnominal they agree in case and number with the nouns they modify, although they seem to consider the accusative singular suffix *-ta* to be restricted to nouns, while adjectives are characterized by taking a distinct accusative suffix *-k*. They also note that attributive adjectives may occur without an overt noun. They also note that prenominal attributive adjectives, when they occur, are not inflected, and suggest that the prenominal A-N order is a form of compound construction. Estrada Fernandez and Alvarez Gonzalez (2008: 61) concur in this characterization, noting the inflectional distinction between prenominal uninflected attributive adjectives

⁴ It’s unclear whether this is a case of verbalization of an adjective phrase ([*si awi*]-*tu*), as suggested by the translation, which would be a kind of bracketing paradox, or is instead the use of an intensive adverbial with the verb phrase (*si* [*awi-tu*]), which probably would be better translated as *The birds are really getting fat*. While it is clear that bracketing paradoxes exist in Hiaki, particularly in cases of relativization ([*ume* [*tahkaim ya’aka-me*]], ‘the ones who made tortillas’), the adverbial *si* ‘very’ can be used to modify verb phrases as well as adjectives, so the analysis of this case is not clear. See discussion in section 5 below.

and postnominal inflected ones, and mentioning that inflected adjectives receive the accusative singular *-k* and plural *-m* suffixes. They do not discuss whether adjectives can occur with the nominal singular accusative suffix *-ta*.

Harley, Haugen and Tubino-Blanco (in prep.) show that adjectives can also take the singular accusative nominal inflectional suffix *-ta*, as well as the nominal plural suffix *-(i)m*. The examples in (5)-(6) show these on nouns, and (7)-(8) show them on adjectives.

(5) *Nee ume karim vichak.*

Nee ume kari-m vicha-k
 1SG DET.PL house-PL see-PFV
 ‘I saw the houses.’

(6) *Peo karita hippue.*

Peo kari-ta hippue
 Peo house-ACC have
 ‘Pete has a house.’

(7) *Irene ofisiom si kiam panhooria.*

Irene ofisiom si kia-m pan-hoo-ria
 Irene oficio very delicious-PL bread-make-APPL
 ‘Irene makes very delicious bread for the oficio (i.e. ceremonial ‘office’).’

(8) *Hoan sialita vichak.*

Hoan siali-ta vicha-k
 Hoan green-ACC see-PFV
 ‘Juan saw a green one.’

They also describe the adjectival singular accusative case suffix *-k*, which may not appear on nouns, illustrated in (9-10). The *-k* case suffix on adjectives appears only when the noun phrase is in object position. It does not co-occur with the *-ta* suffix, but rather is in complementary distribution with it. It does not appear when the attributive adjective occurs in subject position; as with nouns, nominative case is unmarked.

- (9) *Hoan uka sialik vichak.*
 Hoan uka siali-k vicha-k
 Hoan the.ACC green-ACC see-PFV
 ‘Juan saw the green (one).’

- (10) **Peo karik hippue.*
 *Peo kari-k hippue
 Peo house-ACC have
 ‘Pete has a house.’

Our descriptive work has uncovered a wider range of variation and distinction in the behavior of different adjectives in terms of their ordering with respect to nouns in different grammatical positions, and their compatibility with the accusative suffixes *-k* and *-ta*.

2. Data collection method

This project began when we incidentally noted some puzzling variation with predicate adjectives and their interaction with tense/aspect morphology. After encountering several such cases, we began a more systematic investigation. We identified a group of adjectives to look at, and worked together to construct examples for each adjective in seven predicative contexts. Although our main focus has been on predicative uses, we also tested them in four attributive contexts, and noted some unexpected variation there as well.

Adjectives are a relatively small lexical category in Hiaki. Previous work by Yu et al. (2016) examined data extracted from a digitized version of the Yoeme-English side of the Yoeme-English/English-Yoeme Standard Dictionary by Molina, Valenzuela & Shaul (1999). They counted the number of headwords in the dictionary in each lexical category, shown below:

Category	Word Count
Noun	1421
Adjective/Adverb	682
Verb	1127
Total	3230

Table 1: Total number of entries by lexical category (Yu et al. 2016)

Separating out adjectives from adverbs for the current project yielded 337 adjectives, although this is not an entirely reliable count. The 337 listed items include variant forms (e.g. *chukui*, *chukuli* and *chukuri* are all variant forms of ‘black’) and items whose category is misidentified in the dictionary (e.g. *allea* ‘happy’ is a stative verb, not an adjective).

Even including the variants and errors, lexical items labeled ‘adjective’ are a relatively small percentage of the total compared to nouns and verbs. Additionally, in combing through the list and analyzing final segments for possible derivational affixes, we encountered reason to think that a significant number of these items are derived (see Álvarez González 2008 for extensive discussion of the derivation of adjectives). Most of the derived adjectives have verbal stems, but a few may also be noun-derived.

2.1 The adjectives tested

We took a sample of 21 adjectives and tested them in predicational contexts with a range of verbal TAM inflections. Investigation of (several) other forms yielded incomplete paradigms for various reasons – this set of 21 merely represents those for which we were able to get the most complete information. We worked very hard to elicit full paradigms for as many adjectives as we could. However, it often proved difficult if not impossible to find naturalistic contexts that allowed this. Some adjectives seemed more amenable to attributive than predicative use, and vice versa, and others were low frequency items with an apparently restricted domain of use.

(11) Adjectives tested

<i>bwalko</i>	‘soft’	
<i>bwe’u</i>	‘big.sg’	
<i>bweere</i>	‘big.pl’	
<i>bwiichi</i>	‘smoky’	
<i>chiivu</i>	‘bitter’	
<i>cho’oko</i>	‘sour, salty’	
<i>chookinai</i>	‘wrinkled’	
<i>eusila</i>	‘hidden/hiding’	(< <i>euse</i> , ‘hide’)
<i>koptiachi</i>	‘cute’	
<i>kutveneí</i>	‘dark’	
<i>lottila</i>	‘tired’	(< <i>lotte</i> , ‘tire’)

<i>nasont(e)i</i>	‘broken’	
<i>po(lo)ove</i>	‘poor, pitiable’	
<i>siali</i>	‘green’	
<i>sikii</i>	‘red’	
<i>sunwachi</i>	‘horrible’	
<i>ta’arui</i>	‘lost’	(<i><ta’aru</i> ‘lose’)
<i>tata</i>	‘hot’	
<i>tepehko</i>	‘astringent’	
<i>tonnai</i>	‘curved’	
<i>wakila</i>	‘skinny’	

In the end, we were able to obtain complete information for approximately half of these, and collected incomplete paradigms for the rest; see discussion in section 5.

2.2 The TAM affixes

Each adjective was tested with the following Hiaki TAM affixes, illustrated here with a basic verbal stem.

(12) TAM suffixes with a verbal stem

<i>aapo vuite</i>	‘S/he is running’	√vuite	‘run’	
<i>aapo vuite-k</i>	‘S/he ran’	“	+ -k	PFV (perfective)
<i>aapo vuite-n</i>	‘S/he was running’	“	+ -n	PST (past/past imperfective)
<i>aapo vuite-kan</i>	‘S/he had run’	“	+ -kan	PPRF ⁵ (past perfect)
<i>aapo vuiti-ne</i>	‘S/he will run’	“	+ -ne	IRR (irrealis/future)
<i>aapo vuiti-la</i>	‘S/he has run (before)’	“	+ -la	RS (result state)
<i>aapo vui-vuite</i>	‘S/he runs’	“	+ RED-	PLURAC (pluractional)

Verbs in Hiaki typically have two forms, a citation or ‘free’ form and a bound form. The affixes *-k*, *-n*, *-kan* and RED- attach to the free form of a verb stem (*vuite* in the example above). The affixes *-la* and *-ne* attach to the bound

⁵ Although we use ‘past perfect’ to gloss *-kan* here, we should note that there is considerable variation in the literature regarding the appropriate characterization of this suffix, and this is the subject of another ongoing project for us.

form of a verb stem (*vuiti-* in the example above). This variation gave us the opportunity to observe whether or not the free~bound distinction is relevant to adjectival stems.⁶

The suffix *-la*, which we label here as ‘result state’ is often described as an adjective-deriving affix, and many of the items labelled ‘adjective’ in the dictionary do appear to be derived from verbal roots by way of this affix, such as *lottila* ‘tired’ from *lotte* i.v. ‘be tired’. However, it is a quite productive affix, and can be deployed perhaps more generally than an average derivational suffix.

Reduplication in Hiaki is common and has a broad range of interpretations including habitual or repeated action, plural subject and intensification. With a verbal stem, it most frequently marks habitual aspect. However, with stative or adjectival stems in predicate position it often indicates plurality of the subject, and when applied to attributive adjectives it always indicates plurality.⁷ We gloss it as PLURAC here to cover both habitual and plural examples.

3. Results

3.1 Canonical adjective behavior

As described above, a canonical Hiaki adjective (Harley, Haugen & Tubino-Blanco in prep.) has the following properties:

1. It requires verbalization with *-tu* to receive any overt verbal affixation
2. It may occur attributively in prenominal position
3. When occurring attributively in object position, it can be marked with the adjectival accusative suffix *-k*

⁶ See Molina et al. 1999, Harley & Tubino-Blanco 2013, and Sanchez et al. 2017 for further description and discussion of the free/bound verb stem alternations in Hiaki. Note that Molina et al. 1999 call the bound verb stems ‘combining forms’.

⁷ A reviewer asks whether adjectival reduplication might also indicate intensification of degree, given the degree semantics of many or most adjectives. However, if such an interpretation of adjectival reduplication is possible, we have not seen it attested, and our native speaker consultants use lexical means for intensification when asked, usually *si* ‘very’. Sometimes vowel lengthening is used to indicate intensification/emphasis, as in one occurrence of *si’ime*, ‘all’ being pronounced as *siiiime* ‘truly all, everything’ in a narrative context; other times it has less transparent effects. The word *lauti*, which means ‘quickly’, inverts to mean ‘slowly’ when pronounced with a long vowel, *laaaauti*. These effects are distinct from reduplication, however.

An example of a good ‘canonical’ Hiaki adjective is *po(lo)ove* ‘poor, pitiable’; it exhibits all of these properties. Here is an example of *poloove* used as a predicate.

(13) *Romana si poloove.*

Romana si poloove

Romana very poor

‘Romana is very poor/pitiful.’ (e.g. because she’s blind)

Table 2 shows that predicative *po(lo)ove* resists direct application of any verbal inflectional suffix. However once verbalized with *-tu*, it accepts all of them. *Wakila* ‘skinny’ also follows this pattern.

Table 2: *Po(lo)ove* in predicative contexts

	-k PFV	-n PST	-kan PPRF	-ne IRR	-la RS	RED- PLURAC
<i>Po(lo)ove</i>	*	*	*	*	*	✓
<i>Po(lo)ove-tu</i>	✓	✓	✓	✓	✓	*

Below, we present the sentences we elicited to establish this pattern.⁸

(14) *Noe voleetom si vehe'em hinu intok cheawasu poloovetu.*

Noe voleeto-m si vehe'e-m hinu intok cheawasu

Noah ticket-PL very expensive-PL buy and more&more

poloove-tu,...

poor-VZ

‘Noah is buying very expensive tickets and getting more and more poor, ...’

...ian vaha tua poloovetuk. (/*poloovek.)

...ian=veha tua **poloove-tu-k/*poloove-k**

now=then really poor-VZ-PFV/*poor-PFV

...now he really became poor/pitiable.’

⁸ For other adjective types, below, we will only present the cases which deviate from this canonical behavior, but the reader may assume we have collected the whole data set unless we specify otherwise for particular ones.

It is worth noting that (14) illustrates the effect of applying *-tu* to a present-tense adjective. Recall that predicative adjectives do not need *-tu* in the present tense. If *-tu* occurs, it adds an inchoative ‘become’ meaning, transforming the stative adjective into a dynamic change-of-state verb. Note that this sense contribution of *-tu* is present in some of the inflected cases below (e.g. 15) but not others (e.g. (16-17)). Since here we are focussed on the purely morphological inflectional possibilities of adjectives, we will not differentiate cases where *-tu* contributes a change of state meaning from those where it does not, although further investigation is warranted, particularly for those cases below where *-tu* alternates with a stem augment vowel.

(15) *Maria si poloovetun(/*polooven) ta orota kaupo teaka.*

Maria si **poloove-tu-n** / ***poloove-n** taa oro-ta
 Maria very poor-VZ-PST / *poor-PST but gold-ACC

kau-po tea-ka
 mountain-LOC find-PCL

‘Maria was getting very poor, but found gold in the mountains.’

(16) *Romona si poloovetukan(/*poloovekan) ta ian vaha tekipanoaka ili au ania.*

Romana si **poloove-tu-kan** / ***poloove-kan**,
 Romana very poor-VZ-PPRF / *poor-PPRF

ta ian=vaha tekipanoa-ka ili au ania
 but now=then work-PCL little 3SG.REFL help

‘Romana was very poor, but now, working, is doing better.’
 (Lit: ‘...is helping herself a little’)

(17) *Aapo kaa intok tekipanoateko poloovetune(/*poloovene).*

Aapo kaa=intok tekipanoa-te-ko **poloove-tu-ne** / ***poloove-ne**
 3SG.NOM not=and working-TE-when poor-VZ-IRR / *poor-IRR

‘When/if she’s not working, she’ll be poor.’

- (18) *Noe voleetom unna vehe'em hinukai, ian veha si poloovetula/*
 (**poloovela*)

Noe voleeto-m unna vehe'e-m hinu-kai
 Noah ticket-PL too.much expensive-PL buy-PCL

ian=veha si **poloove-tu-la** / ***poloove-la**

now=then very poor-VZ-RS / *poor-VZ-RS

‘Noah has become very poor buying very expensive tickets.’

- (19) *Peesiopo Hiakim si poovem/(**popoleve*).*

Peesio-po Hiaki-m si **poove-m** / **po-polove**

Hermosillo-loc Hiaki-pl very poor-PL / RED-poor

‘(The) Hiakis in Hermosillo are very poor.’

Attributively, *po(lo)ove* follows the patterns described in previous literature (e.g. Dedrick and Casad 1999:154, Estrada Fernández and Alvarez Gonzalez (2008: 61), can be prenominal and postnominal in both nominative and accusative position (20-23), and can occur as the sole lexical item in a DP in an ellipsis construction (24-25). When postnominal or alone in accusative position in a singular DP, it must take either the adjectival singular accusative suffix *-k* or the nominal singular accusative *-ta* (22, 24, 25). (Plural marking is in complementary distribution with accusative marking in all environments, on determiners, nouns and adjectives, no matter whether the accusative marker is *-k* or *-ta*). When prenominal in accusative position, it occurs without a case/number suffix (23).

	Prenominal		Post-nominal		Accusative <i>-k</i>	Accusative <i>-ta</i>
	✓nom	✓acc	✓nom	✓acc	✓	✓
<i>Po(lo)ove</i>	✓nom	✓acc	✓nom	✓acc	✓	✓

Table 3: *Po(lo)ove* in attributive contexts

- (20) *Uu poloove yoeme ama siime.*

Uu poloove yoeme ama siime.

DET poor man there go.SG.

‘The poor man is going there.’

- (21) *Uu yoeme poove aman siime.*
Uu yoeme poove aman siime.
 DET man poor there go.SG
 ‘The poor man is going there.’
- (22) *Tomita aa maka uka yoemta polooveta.*
 Tomi-ta aa=maka **uka yoem-ta poloove-ta.**
 Money-ACC 3SG.ACC=give DET.ACC man-ACC poor-ACC
 ‘Give money to him, the poor man.’
- (23) *Tomita aa maka uka poloove yoemta.*
 Tomi-ta aa=maka **uka poloove yoem-ta.**
 Money-ACC 3SG.ACC=give DET.ACC poor man-ACC
 ‘Give money to him, the poor man.’
- (24) *Tomita aa maka uka poloovek.*
 Tomi-ta aa=maka **uka poloove-k.**
 Money.ACC 3SG.ACC=give DET.ACC poor-ACC
 ‘Give money to him, the poor one.’
- (25) *Tomita aa maka uka polooveta.*
 Tomi-ta aa=maka **uka poloove-ta.**
 Money-ACC 3SG.ACC=give DET.ACC poor-ACC
 ‘Give money to him, the poor one.’

3.2 Canonical stative verb behavior

The canonical adjective pattern can be contrasted with that of a canonical stative verb (many of whose English translational equivalents are English adjectives). A stative verb has these properties:

- 1) it cannot occur attributively
- 2) it takes verbal inflection directly, and rejects the verbalizing suffix *-tu*

An example of this pattern in Hiaki is *allea* ‘be happy’, whose behavior is summarized in Table 4.

(26) *Uu hamut si allea.*

Uu hamut (si) **allea**
 DET woman (very) happy
 ‘The woman is (very) happy.’

	-k PFV	-n PST	-kan PPRF	-ne IRR	-la RS	RED-PLURAC
<i>Allea</i>	✓	✓	✓	✓	✓	✓

Table 4: *Allea* in predicative contexts

Allea can be directly inflected with all the verbal TAM inflections, so inflectionally, it is clearly distinct from a true adjective like *poloove*. It is worth noting however, that the combination of a stative verb with certain of our TAM inflections occurs only in restricted contexts due to semantic constraints, and can lead to aspectual coercion effects. For example, with perfective *-k*, *allea* receives an inceptive reading, ‘became happy’, as shown in (27). Similarly, though perhaps less understandably, with reduplication it also receives an inceptive reading, ‘become happy’, as shown in (28):

(27) *Mala si alleak bweituk Hoan yepsak.*

Mala si allea-k bweituk Hoan yepsa-k
 Mother very happy-PFV because Hoan arrive-PFV
 ‘Mother became very happy because Hoan arrived.’

(28) *Hoanta yepsako Mala hiva si alle’ea.*

Hoan-ta yepsa-ko Mala hiva si alle’ea
 Hoan-ACC arrive-when mother always very RED.happy
 ‘When Hoan arrives, mother always becomes very happy.’

This pattern has also been observed for reduplication with other stative verbs, notably *omte*, ‘be angry at’ and *womte* ‘be afraid of’ (Harley and Leyva 2009). That is, it seems that certain TAM suffixes may be incompatible with stativity, and require an eventive (i.e. inceptive) interpretation, which at least for these verbs can be achieved via coercion. We will return to consideration of this effect when thinking about some of the puzzling patterns observed with the vowel-augment alternations in section 4 below.

Here are examples that show that *allea* cannot be used attributively, either pre- or post-nominally:

(29) **Uu allea hamut hiva a'ache.*

***Uu allea hamut** hiva a'-ache
 DET happy woman always RED-laugh
 Intended: 'The happy woman is always laughing.'

(30) **Uu hamut allea hiva a'ache.*

***Uu hamut allea** hiva a'-ache
 DET woman happy always RED-laugh
 Intended: 'The happy woman is always laughing.'

In order to modify a noun, a stative verb like *allea* must be marked with the subject relativizer *-me*, as we see in (31).

(31) *Uu hamut alleame hiva a'ache.*

Uu hamut allea-me hiva a'-ache
 DET woman happy-S.REL always RED-laugh
 'The woman who is happy is always laughing.'

Beyond the canonical adjectival pattern and the canonical verb pattern, however, there exists a spectrum of behaviors which are not currently well described or understood.

3.3 Direct inflection possible with 'irrealis' *-ne*

An example of a Hiaki adjective which directly inflects with the irrealis/future suffix *-ne*, but otherwise requires the verbalizer *-tu*, is *cho'oko* 'sour, salty'. *Koptiachi* 'cute' also follows this pattern, as well as *bwalko* 'soft', *siali* 'green', and *bwe'u* 'big.SG'.

A complicating factor here is the existence, alongside verbalized *cho'okotu-*, of another inflecting stem form *cho'okoe-*. Similar alternate forms appeared with several of the adjectives we investigated; we will discuss these in more detail in §4 below. In (30) we illustrate *cho'oko* used predicatively without inflection, and the pattern we found when constructing inflected forms for *cho'oko* is summarized in table 5. Note that the *-ne* suffix

applies directly to *cho'oko* without any verbalization (32), the *-tu* verbalizer can be used to permit the application of all other verbal suffixes, and the inflecting stem form *cho'okoe-* can be used with *-kan* and reduplication (33, 34) but is not permitted with any of the other suffixes:

- (32) *Ume limonim si cho'oko.*
 Ume limon-im si **cho'oko**
 DET lemon-PL very sour
 'The lemons are very sour.'

	-k PFV	-n PST	-kan PPRF	-ne IRR	-la RS	RED- PLURAC
<i>Cho'oko</i>	*	*	*	✓(33)	*	*
<i>Cho'oko-e</i>	*	*	✓(34)	*	*	✓(35)
<i>Cho'oko-tu</i>	✓	✓	✓	*(33)	✓	✓

Table 5: *Cho'oko* in predicative contexts

- (33) *Kammam kia ammali omtuane kaa tua cho'okone (/ *cho'okotune).*
 Kammam kia ammali om-tua-ne kaa tua **cho'oko-ne.**
 Squash-PL just little.bit salt-CAUS-IRR NEG really salty-IRR
 / **cho'oko-tu-ne*
 / *salty-vz-irr
 'If you salt the squash just a little, (it) will not be really salty.'
- (34) *Hunuu huya ta'akam si cho'okoekan (/ *cho'okokan).*
 Hunuu huya ta'aka-m si **cho'oko-e-kan / *cho'oko-kan**
 That tree fruit-PL very sour-E-PPRF/ sour-PPRF
 kialikun kaave am=bwa-bwa'a-n
 that's.why no.one 3.PL.ACC=RED-eat-PST
 'That tree had very sour fruit, that's why nobody ate them.'
- (35) *Hunume na'asom si chotcho'okoe (/ *chotcho'oko).*
 Hunu-me na'aso-m si **chot-cho'oko-e / *chot-cho'oko**
 That-PL orange-PL very RED-sour-E / RED-sour
 'Those oranges are always sour.'

In attributive contexts, on the other hand, *cho'oko* behaves like a canonical adjective, as illustrated in Table 6. We do not provide those examples for space reasons, but the attributive pattern is identical to *po(lo)ove*.

	Prenominal		Post-nominal		Accusa- tive -k	Accusa- tive -ta
<i>Cho'oko</i>	✓nom	✓acc	✓nom	✓acc	✓	✓

Table 6: *Cho'oko* in attributive contexts

Although five of our 21 adjectives are able to inflect with *-ne* directly, in all other respects they pattern like adjectives, and not like verbs or nouns; we have not to date identified any evidence that suggests that there is some deeper cause of their unusual behavior with the irrealis *-ne*. Prosodically they are a mixed group, including two disyllabic adjectives (*bwe'u*, 'big', *bwalko* 'soft'), two trisyllabic adjectives (*cho'oko* 'salty', *siali* 'green'), and one four-syllable adjective (*koptiachi* 'cute'), so it seems unlikely that their behavior has a prosodic or phonological explanation. Semantically they are all gradable adjectives, but so are most of the adjectives which do not permit direct inflection with *-ne*. We provisionally hypothesize that this subgroup is simply an irregular morphological class, while acknowledging that further investigation might turn up some underlying pattern or explanation, perhaps a diachronic one.

3.4 Direct inflection with 'irrealis' *-ne* and 'past perfect' *-kan*

An adjective which directly takes both *-ne*, *-kan*, and reduplication is *chookinai* 'wrinkled' (36, 37). The *-tu* verbalizer is required for the attachment of all other TAM markers.

	-k PFV	-n PST	-kan PPRF	-ne IRR	-la RS	RED- PLURAC
Chookinai	*	*	✓(36)	✓(37)		✓(38)
Chookinai-tu	✓		✓			

Table 7: *Chookinai* in predicative contexts

- (36) *Ime supem si cho'okinaikan ta ne lauti am wikek.*
 I-me supe-m si **chookinai-kan** ta=ne lauti
 This-PL garment-PL very wrinkled-PPRF but=1SG quickly
 am=wike-k
 3pl.ACC=iron-PFV
 'This garment was very wrinkled, but I ironed it quickly.'

- (37) *Yo'otuituku ne chookinaine; kaave neu vitchune.*
 Yo'otui-tu-ku nee **chookinai-ne**; kaave ne-u vitchu-ne.
 Elder-VZ-when 1SG wrinkled-IRR; no.one 1SG-to look-IRR
 'When I'm an old person I'll be wrinkly; no-one will look at me.'

However, we do not at this point have a full paradigm of its inflectional behavior; *chookinai* is a complicated example for a number of reasons, including the existence of several variant forms such as *chookina*, *chookinala* and *chookinalai*. It also reduplicates atypically – instead of the expected form *cho-chokinai*, we get a form with internal reduplication⁹ (38).

- (38) *Uu tahoori kia chookinai!*
Uu tahoori kia choo-ki-kinai!
 DET clothing just RED.wrinkled
 'The clothing is all wrinkled!'

Until we have a better understanding of the variation in the base form of this adjective, and perhaps a better understanding of its diachronic source, we again must simply propose noting that this adjective has an irregular inflectional pattern.

3.5 Direct inflection with 'irrealis' *-ne* and 'past' *-n*

One 'adjective', *bwichi*, 'smoky' directly inflects with irrealis *-ne* (40) and past *-n* (41), but requires the augmented stem form *bwichia*, homophonous with the noun *bwichia*, 'smoke' to occur with *-kan* or reduplication (42, 43). The overall pattern is summarized in table 8.

⁹ This may be an indicator that *chookinai* is (diachronically) morphologically complex, see Harley and Leyva (2009).

- (39) *Hunu kari-po hivayu si bwiichi.*

Hunu kari-po hivayu si **bwiichi**
 That house-LOC always very smoky
 ‘In that house it’s always very smoky.’

	-k PFV	-n PST	-kan PPRF	-ne IRR	-la RS	RED-PLURAC
<i>Bwiichi</i>	*	✓(41)	*	✓(40)	*	*
<i>Bwichi-a</i>	*	*	✓(42)	*	*	✓(43)
<i>Bwichi-tu</i>		✓	*	✓	*	

Table 8: *Bwiichi* in predicative contexts

- (40) *Ian kupteu vicha Simonata kari vecha bwichine.*

Ian kupte-u-vicha Simona-ta kari=veha **bwichi-ne**
 Now evening-to-toward Simona-GEN house=then smoke-IRR
 ‘This evening Simona’s house will (begin to) smoke.’

- (41) *Tuuka si bwiichin ho’arapo.*

Tuuka si **bwiichi-n** ho’ara-po.
 Yesterday very smoke-PST house-LOC
 ‘Yesterday it was very smoky in the house.’

- (42) *Tuuka maakinapo si bwichiakan.*

Tuuka maakina-po si **bwichi-a-kan.**
 Yesterday car-LOC very smoke-A-PPRF
 ‘The car was very smoky yesterday.’

- (43) *Karipo hiva bwibwichia.*

Kari-po hiva **bwi-bwichi-a**
 House-in always RED-smoky-A
 ‘It’s always smoky in that house.’

However, *bwiichi* lacks any attributive uses, although we worked hard to construct appropriate examples. We typically instead got subordinated predicative uses, as in (44).

(44) *Poloove Simona, hunum karipo si bwichiku hoak.*

Poloove Simona, hunum kari-po si **bwichi-ku**
Pitiable Simona, that house-LOC very smoky-where

hoa-k

live-PFV

‘Poor Simona, she lives in that very smoky house.’

The absence of attributive uses might suggest that *bwiiichi* is an allomorph of the noun *bwichia* ‘smoke’, and the direct TAM inflection above is yielding the possessive constructions, ‘has smoke’, especially with *bwichiakan*, *bwibwichia* in (42) and (43). However, there are other facts which would call a nominal analysis into question. Yu et al. first described the puzzles with this form as follows:

bwiiichi, given as: *iv.* smoky, filled with smoke

Related to noun *bwichia*, ‘smoke’. When reduplicated in predicate position, *bwichia* form surfaces: *bwibwichia*. In argument position, can be *bwiiichi* or *bwichia*; must be the latter when marked accusative.

However, *bwichi* is ok as predicate on its own, and doesn’t need possessive *-k* as for other nouns, with a locative PP. (from Yu et al. 2016)

As Yu et al. note, the possessive construction with nominals normally requires *-k* in the present tense, which *bwiiichi* does not, as shown in (39), so the possessed-noun analysis is counterindicated by that example. Furthermore, normally nouns ending in *-a* do not need to lose their final vowel to participate in TAM inflection for the possessive construction, making (40) and (41) unexpected on this analysis. The overall pattern with *bwiiichi*–*bwichia* thus remains mysterious.

4. Unexpected discoveries

4.1 Variation amongst adjectives in attributive contexts

We next describe the results of our investigation of attributive behaviors, although space precludes full illustration with examples here. Furthermore, we didn’t start systematically investigating variations in attributive uses until relatively late in the project, so we have incomplete data for now, and

unfortunately, we don't have full overlap in the items we investigated predicatively. Several items which worked well in predicative contexts were much less conducive to attributive contexts, and vice versa. For example, although *chiivu* 'bitter' was well-behaved attributively, it was dispreferred in predicative position.

As summarized above, those of our sources which discussed attributive adjectives (Dedrick & Casad 1999; Estrada Fernández and Álvarez González 2008, Harley, Haugen and Tubino-Blanco in prep.) agree that there is an adjective-specific singular accusative case marker, *-k*, used to mark number/case concord on postnominal adjectives and on adjectives whose head noun has been elided. Harley, Haugen and Tubino-Blanco (in prep.) further note that such adjectives are optionally able to take the nominal accusative marker *-ta* instead. We decided to test each adjective in our list for its compatibility with each of these suffixes, with the results shown in (45).

(45) Accusative marking

- a. All adjectives tested can take accusative *-k*
- b. All except the following can take accusative *-ta*:

<i>kusi</i> 'loud'	<i>*kusita</i>
<i>hochi</i> 'fine'	<i>*hochita</i>
<i>tu'i</i> 'good'	<i>*tu'ita</i>
<i>tata</i> 'hot'	<i>*tatata</i>

We also tested our adjectives in both pre- and post-nominal positions to see if we could come up with a more concrete characterization of attributive adjective placement. In the course of this we stumbled over some unexpected interactions between adjective position and grammatical role:

(46) Prenominal position

- a. All adjectives except for *kusi* 'loud', *nasonti* 'broken', *tatai* 'heat ed' and *eusila* 'hiding' occur prenominaly
- b. Two adjectives, *wakila* 'skinny' and *tata* 'hot', may be prenominal in accusative DPs but not in nominative DPs
- c. Conversely, *koptiachi* 'cute' can be prenominal in nominative DPs, but not in accusative DPs

(47) Postnominal position

- a. All adjectives can be postnominal in accusative position
- b. Three adjectives, *bwe'u* 'big.sg', *tatai* 'heated' and *koptiachi* 'cute', may not occur postnominally in nominative position

In some languages, e.g. Spanish, certain adjectives may occur prenominally but only with particular readings; they are interpreted differently in postnominal position (see e.g. Demonte 1999). We do not yet know whether there are interpretive differences associated with the prenominal uses of those adjectives which permit them, but this is a topic ripe for future investigation. Thanks to a reviewer for raising this point.

4.2 Vowel augment

Returning to the central issue of adjectives in predicative contexts, one of the complicating factors that was highlighted by the data in §3 is the appearance of alternative forms beyond the bare stem and the *-tu* form. Nine of our 21 adjectives also had a third form which was used with some but not all TAM inflections. This form involves augmentation with a vowel, either *-a*, *-e*, or *-i*, largely depending on the preceding vowel. Examples of the augmented forms we have encountered are shown in (48). It appears that the identity of the augment may be phonologically predictable. Augmenting adjectives that end in the front vowels /i/ and /e/ take *-a* as an augment, augmenting adjectives ending in back vowels /o/ and /u/ take *-e*, while augmenting adjectives ending in /a/ take *-i*.¹⁰

(48) <i>siali</i>	→	<i>sialia</i>	'green'
<i>bwiichi</i>	→	<i>bwichia</i>	'smoky'
<i>bweere</i>	→	<i>bweerea</i>	'big.pl'
<i>cho'oko</i>	→	<i>cho'okoe</i>	'sour'
<i>bwalko</i>	→	<i>bwalkoe</i>	'soft'
<i>chiivu</i>	→	<i>chivue</i>	'bitter'

¹⁰ This characterization works for the confirmed examples that we have, but there are some items, such as *kutvenei* 'dark' which, if confirmed to consist of *kutvene* + *-i*, will require us to reformulate. Although the Molina et al. (1999) dictionary lists this item as *kutvene* we have not been able to confirm the existence of this form, encountering it only as *kutvenei*, so the question remains outstanding.

<i>tata</i>	→	<i>tatai</i>	‘hot’
<i>kaka</i>	→	<i>kakai</i>	‘sweet’
<i>tonna</i>	→	<i>tonnai</i>	‘curved’

The *-e/-a* augmented forms appear with the suffixes *-kan* ‘past perfect’ and RED ‘habitual’, but not with any of the other TAM suffixes. In (47-49) we illustrate some augmented stems with the *-kan* suffix:

(49) *Chiivuekan.*

Chiivu-e-kan
bitter-E-PPRF
‘It was bitter.’

(50) *Kesam, ume hu’upam bweereakan, kee matum ama ya’awa’u.*

Ke’esam, ume hu’upa-m **bweere-a-kan**, kee matum
First, DET.PL mesquite-PL big.PL-A-PPRF, not.yet charcoal
ama ya’a-wa’-u
there make-PASS-O.REL
‘In the beginning, the mesquites were very large; charcoal was not yet being made.’

(51) *Hunuu huyata ta’akam si cho’okoekan, kialikun kaa bwabwa’awan.*

Hunuu huya-ta ta’aka-m si **cho’oko-e-kan**, kialikun
That tree-GEN fruit-PL very sour-E-P.PRF, that’s.why
kaa bwa-bwa’a-wa-n
not red-eat.tr-pass-pst
‘That tree’s fruits were very sour, that’s why they were never eaten.’

We did find (some) examples of *-i* augmented adjectives which allowed inflection with perfective *-k* (52)-(53), although it’s worth noting that the *-i* augmented forms displayed a few differences from the *-e/-a* forms in general which we discuss in more detail in §4.4 below:

- (52) ...*taa woi taiwaim weyeu chea kakaik.*
 ...*taa woi taiwai-m weye-u chea kaka-i-k*
 ...but two day-PL go-when more sweet-I-PFV
 ‘...but when 2 days had gone by (they) were sweet.’

- (53) *Hulio mechachi Tusonpo si tataik.*
Hulio mechachi Tuson-po si tata-i-k
 July month Tucson-LOC very hot-I-PFV
 ‘July in Tucson was very hot.’

In addition to being used with the *-kan* suffix, the augmented lexemes may also serve as the base for habitual reduplication, when available (54-56):

- (54) *Tenpo chichivue.*
Ten-po chi-chivu-e *chi-chivu
 Mouth-LOC RED- bitter-E
 ‘It becomes bitter in the mouth.’
- (55) *Hunume na’asom si chotcho’okoe.*
Hunume na’aso-m si chot-cho’oko-e *chot-cho’oko
 Those orange-PL very RED-sour-E
 ‘Those oranges are always sour.’
- (56) *Karipo hiva bwibwichia.*
Kari-po hiva bwi-bwichi-a *bwi-bwichi
 House-in always RED-smoky-A
 ‘It’s always smoky in that house.’

In one example, however, given in (57), we did get reduplication with the base form *bwalko*, and not its augmented form *bwalkoe*.

- (57) *Ime mutekam si bwalbwalko.*
I-me muteka-m si bwal-bwalko
 This-PL pillow-PL very RED-soft
 ‘These pillows are very soft.’

We also found examples in which an augmented form appears when a subordinating affix is attached, such as the temporal *-ko* ‘when’ (58), and spatial *-ku* ‘where’ (59).

- (58) *Ke’esam ume hu’upam bweereako ume maatum naatewak.*
 Ke’esam ume hu’upa-m **bweere-a-ko** ume maatum
 First DET.PL mesquite-PL big.PL-A-when DET.PL charcoal
 naate-wa-k
 start-PASS-PFV
 ‘In the beginning, when the mesquites were big, (making) charcoal was started.’
- (59) *Nee hak pueblopo severiata auka’apo ho’apea, ta kaa pueblopo oona tataiku bweituk nee kaa tatariata ine’apeakai.*
 Nee hak pueblo-po seve-ria-ta auka’a-po
 1SG.NOM somewhere town-LOC cold-QUAL-ACC be-LOC
 ho’a-pea ta kaa pueblo-po oona **tata-i-ku**
 live-DESID but NEG town-LOC too.much hot-I-where
 bweituk nee kaa tata-ria-ta ine’a-pea-kai.
 because 1SG.NOM NEG hot-QUAL-ACC feel-DESID-PPL
 ‘I’d rather live in a cold city than a hot city because I don’t like feeling the heat.’

These vowel augments are almost entirely undescribed in the Hiaki literature to date. Molina et al. (1999) do note them, but suggest that they are actually subparts of allomorphs of *-kan* ‘past perfect’:

“...the allomorph **-kan** is used with adjectives that end in a diphthong, **-akan** to adjectives ending in **i**, **-ekan** to adjectives ending in **o** and **u**, **-ikan** to adjectives ending in **a**)” (1999:55)

Given the patterns we’ve seen above, which show that the augment appears in other contexts without *-kan*, we conclude that this analysis is incorrect. Nonetheless, this the only other source we’ve seen that observes even the existence of these vowels.

4.3 Augment vs *-tu*:

Many adjectives accept *both* the augment and *-tu* as stem-formers for affixation, though not simultaneously—that is, either is acceptable. In other words, *Adj-AUG-kan* is not in complementary distribution with *Adj-tu-kan*. We do have one clear example where the existence of the stem augment seems to block the application of *-tu*, with *bwiichi* ‘smoky’. Here we get *bwiichi-a-kan* but not **bwiichi-tu-kan*. However, in most other cases both the vowel-augmented and *-tu*-derived forms are just fine. For example, both *cho’oko-e-kan* ‘was salty’ and *cho’oko-tu-kan* ‘was salty’ are ok, as are *siali-a-kan* ‘was green’ and *siali-tu-kan* ‘was green’.

It is not entirely clear what, if any, semantic difference might be associated with the choice of the augment or the *-tu* affix. The third author found it difficult to describe the difference between *sialitukan* and *sialiakan*, in the example below, but seemed to feel there perhaps was one.

(60) *Uu vaso si siali /sialitukan /sialiakan/(*sialikan)*

Uu vaso si siali
The grass very green

/siali-tu-kan /siali-a-kan /*siali-kan

/green-VZ-PPR /green-A-PPRF /*green-PPRF

‘the grass is very green /was very green /was very green’

Some characterizations offered of the potential difference include:

- *sialitukan* means that it was green relative to other bits of grass (for example, lawns), but *sialiakan* just means that it used to be green, but is not anymore.
- *sialitukan* doesn’t give much hope of the grass being green again, but *sialiakan* suggests that the grass might be green again someday.

A reviewer notes that these characterizations, which highlight characteristic greenness vs. temporary greenness, may suggest that the choice could have to do with the individual-level vs. stage-level distinction in adjective meaning, such that *-tu* occurs when *siali* is used with an individual-level interpretation while *-a* is used for stage-level interpretations.

Another potential avenue of investigation concerns the dual interpretations of *-tu* alluded to above. With some TAM suffixes, *-tu* can only have its inceptive, ‘become’ reading, while with others (e.g. *-kan*) *-tu* typically has a stative, ‘be’ reading, but also permits the inceptive ‘become’ reading in a different discourse context. It could be that the form with the vowel augment represents a former inceptive verb which is being pushed out of existence by the broader availability of the *-tu* suffix. Seen in that light, we might speculate that there is an adjective *siali*, ‘green’, and an inceptive verb *sialia* ‘become.green’, which may be en route to obsolescence. The adjective can be verbalized with *-tu*, and as usual receives an inceptive reading in the relevant contexts (i.e. at least *-k* and reduplication, and possibly also *-kan*; see discussion in section 2 above). The inceptive verb *sialia* still occurs with reduplication and *-kan*, but has fallen out of use with the other tenses in response to the availability of the more productive *-tu* suffix with identical or near-identical meaning. We look forward to further investigation of these possibilities, looking at more sensitive aspectual tests for inceptive and both stage-level and individual-level stative interpretations of the various forms.

Whether the stem-augment vowels introduce a different interpretation than verbalizing *-tu* or not, it seems very plausible that they serve the same morphological function as *-tu*, i.e. that they act as alternate verbalizers, especially /e/ and /a/. Yu et al.’s (2016) investigation into the distribution of final vowels across lexical categories shows that /e/ and /a/ are by far the most common final vowels in verbs, with final /e/ most robustly associated with intransitive verbs, and final /a/ with transitives.

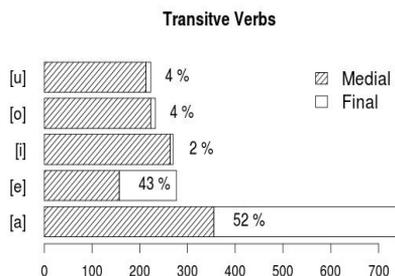


Figure 1: Distribution of final vowels with intransitive verbs

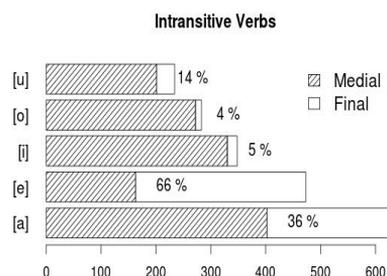


Figure 2: Distribution of final vowels in transitive verbs
(Yu et al. 2016: 5)

This particular association is not unexpected, since Hiaki has a class of transitivity alternating verbs in which intransitive alternates have final /e/ and transitive alternates have final /a/. The verbs of this class also have a bound intransitive form, which takes derivational morphology, and always ends in /i/, while free verbs never¹¹ end in /i/.

<u>Transitive</u>	<u>Tr. Stem</u>	<u>Intransitive</u>	<u>Intr. Stem</u>
<i>chep-ta</i> : ‘step on x’	<i>chepta-</i>	<i>chep-te</i> : ‘jump’	<i>chepti-</i>
<i>om-ta</i> : ‘scold x’	<i>omta-</i>	<i>om-te</i> : ‘be angry’	<i>omti-</i>
<i>noi-ta</i> : ‘take/bring x’	<i>noita-</i>	<i>noi-te</i> : ‘go/come’	<i>noiti-</i>
<i>vehuk-ta</i> : ‘duck under x’	<i>vehukta-</i>	<i>vehuk-te</i> : ‘bow’	<i>vehukti-</i>
<i>vee-ta</i> : ‘burn x’	<i>veta-</i>	<i>vee-te</i> : ‘burn’	<i>veti-</i>
<i>kot-ta</i> : ‘break x’	<i>kotta-</i>	<i>kot-te</i> : ‘break’	<i>kotti-</i>
<i>yook-a</i> : ‘color x’	<i>yoka-</i>	<i>yook-e</i> : ‘change color’	<i>yoki-</i>
<i>moh-ta</i> : ‘grind x finely’	<i>mohta-</i>	<i>moh-te</i> : ‘disintegrate’	<i>mohti-</i>

Table 9: Transitivity alternations

¹¹ Yu et al. (2016) found that the ‘verbs’ ending in [i] in their original counts were for the most part miscategorized or otherwise erroneously recorded in the dictionary.

An example from our list of adjectives which demonstrates the categorizing impact of final vowels is *nasonti* ‘broken/spoiled/cursed’. It has an intransitive verb form *nasonte* (61), and a transitive verb form *nastona* (62), and adjectival form *nasonti* (63).

(61) *Uu maakina kaa tu’isi weama, bweituk nasonte.*

Uu maakina kaa tu’i-si weama, bweituk nasonte.
 DET car NEG good-ADZ go.SG, because break.INTR
 ‘The car doesn’t run well, because it’s breaking.’

(62) *Aleh kia maakinam nasontak.*

Aleh kia maakina-m nasonta-k!
 Alex just machine-PL break.TR-PFV
 ‘Alex just breaks machines!’

(63) *Hunuka mango’ota nasontita mekka hima.*

Hunuka mango’o-ta nasonti-ta mekka hima.
 That.ACC mango-ACC spoiled-ACC far throw
 ‘Throw that spoiled mango away.’

Yu et al. propose that “in verbal free forms, word-final [e] is a morphological exponent of active Voice and that Voice is a mandatory category in the verbal extended projection”. (2016:12) This also describes the behavior of word-final [a] in their analysis. In short, both final /e/ and /a/ seem to have a strong link to verbhood, and might thus be feasibly understood as verbalizers, alongside the more familiar *-tu*, when they are used as stem augments with certain adjectives.

4.4 Are all stem augments created equal? A closer look at -i

A final mystery related to the stem augments is whether we should consider all three vowel augments to be (phonologically conditioned) allomorphs of a single verbalizer, or if *-i* in particular might in fact be a distinct morpheme. We have already noted some differences in behavior that suggest it might be somewhat different than the *-e* and *-a* augments, but there are several complicating factors that make understanding the role of final *-i* in adjectives challenging.

In our data, the *-a/-e* augment never co-occurs with verbalizer *-tu*, thus suggesting that they may serve the same or similar purpose. However, the *-i* augment has been shown to co-occur with *-tu*, and in at least some cases is even required to appear with *-tu*:

- (64) *Sonorau itom rehteu tataitukan /tataikan.*
 Sonora-u itom rehte-u tata-i-tu-kan /tata-i-kan.
 Sonora-in 1PL.ACC walking-in hot-I-VZ-PPRF /hot-I-PPRF
 ‘When we were traveling in Sonora, it was very hot.’

- (65) a. *tatai-kan*
 b. *tatai-tu-kan*
 c. **tata-kan*
 d. **tata-tu-kan*

Additionally, at least some *-i* augmented adjectives can also be used as predicates on their own, without any subsequent inflection at all (66),¹² but this does not appear to be possible with *-e/-a* augmented forms (67):

- (66) *Tuson-po si tata-i.*
 Tucson-LOC very hot-I
 ‘In Tucson it is getting very hot.’

- (67) **Ume muun-im si cho’oko-e*
 DET.PL bean-PL very sour-E
 Intended: ‘The beans are getting very sour.’

The status of final vowel *-i* in adjectives generally is a particularly thorny one. Yu et al. (2016) show that final vowel /i/ is strongly associated with the category adjective. It is the most common final vowel in the class.

¹² Notice the inceptive interpretation given as a translation of (66).

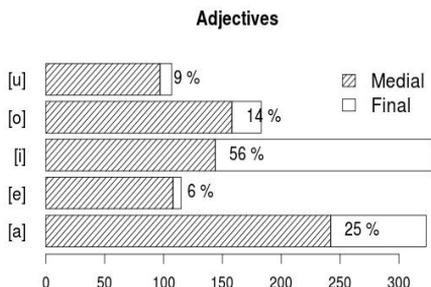


Figure 3 Distribution of final vowels with adjectives
(Yu et al. 2016: 4)

As noted in the previous section, final /i/ is never present in free citation forms of verbs, but is found in bound stem forms that take further derivational morphology.

Speculating on possible reasons for the association of final /i/ with adjectives, Yu et al. note that object-modifying deverbal adjectives may be derived by the suffix *-ri*, as shown in (68) and (69), analyzed in depth in Álvarez González (2007, 2008, 2017) and Harley, Haugen and Tubino-Blanco (2008):

(68) *Inepo uka mansanata ki'irik atteak.*

Inepo uka mansana-ta ki'i-ri-k atteak
 1.SG DET.ACC apple-ACC bite-RI-ACC own
 'The bitten apple is mine.' (Lit: 'I own the bitten apple.')

(69) *Uka totoita voa huttarik neu bwise.*

Uka totoi-ta voa hutta-ri-k ne-u bwise
 DET.ACC chicken-ACC feather pluck-RI-ACC 1.SG-to hand
 'Hand me the plucked chicken.'

These deverbal forms take the adjectival accusative *-k*, which we discussed in §1.2 and which is a robust indicator of adjectivehood. Another important detail is that in Hiaki, intervocalic /r/ is frequently dropped, and this applies to *-ri* derived forms (as well as elsewhere). When *r* drops from a *-ri* derived adjective, we are left with an /i/ final adjective whose derivation has

been obscured. Indeed, in his previous extensive work on *-ri*, Alvarez Gonzalez (2008, 2017) argues that adjectivizing *-i* is an allomorph of *-ri* characterized by intervocalic /r/ drop.

Our list of tested adjectives, shown in (11) above, includes examples of /r/ drop in both derived and underived forms. *Tu'i* ‘good’ is cognate with Mayo¹³ *tu'uri* (Collard and Collard 1962), while *ta'arui* ‘lost’ is apparently derived in this way from the transitive verb *ta'aru-ri* ‘lose-RI’.

One more point of confusion over final *-i* centers on the lexeme *tonnai* ‘curved’. Like *tatai* ‘hot’ in example (66) above, the first clause of (70) shows that *tonnai* can take predicate position without any other suffixation. However, while (71) shows that *tonna* does occur without the final *-i*, we can only attest this form in compound structures like that in (71).

(70) *Uu kuta tonnai bweituk hita veteka aet yecha'awak.*

Uu kuta **tonnai** bweituk hita vete-ka ae-t
the stick curved because something heavy-PPL 3.SG-on

yecha'a-wa-k
set-PASS-PRF

‘The stick (became) curved because something heavy was placed on it.’

(71) *Uu hu'upa tonna yo'otula.*

Uu hu'upa **tonna**-yo'o-tu-la
The mesquite curved-grow-vz-LA

‘The mesquite has grown bent/curved/curvy.’

It is not clear, then that the pair *tonna-tonnai* can be considered comparable to *tata-tatai*, which may support the notion that final *-i* has more than one potential source or function.

5. Summary, further work

If we can say anything with certainty at this point in our investigation of Hiaki adjectives, it is that certainty is in short supply. Although many adject-

¹³ Mayo is very closely related to Hiaki and the two share a degree of mutual intelligibility, modulo a number of regular sound changes like this (see Bond 2015 for some discussion).

tives do behave as one would expect, based on previous descriptions, our data show a fairly wide range of variation and idiosyncrasy.

Here is an overview of our predicative results with our list of adjectives to date:

(72) ‘Canonical’ behavior, require *-tu* for any TAM inflection to apply:

<i>po(lo)ove</i>	‘poor, pitiable’
<i>wakila</i>	‘skinny’
<i>eusila</i>	‘hidden/hiding’

(73) Forms that have a vowel augment with *-kan* and reduplication:

<i>siali</i>	→	<i>sialia</i>	‘green’
<i>bwiichi</i>	→	<i>bwichia</i>	‘smoky’
<i>bweere</i>	→	<i>bweerea</i>	‘big.pl’
<i>cho’oko</i>	→	<i>cho’okoe</i>	‘sour’
<i>bwalko</i>	→	<i>bwalkoe</i>	‘soft’
<i>chiivu</i>	→	<i>chivue</i>	‘bitter’
<i>tata</i>	→	<i>tatai</i>	‘hot’
<i>kaka</i>	→	<i>kakai</i>	‘sweet’
<i>tonna</i>	→	<i>tonnai</i>	‘curved’

(74) Forms that do not need *-tu* (or augment) to inflect with IRR *-ne*

<i>cho’oko</i>	‘sour, salty’
<i>bwalko</i>	‘soft’
<i>bwe’u</i>	‘big.sg’
<i>koptiachi</i>	‘cute’
<i>siali</i>	‘green’

(75) Form that does not need *-tu* to inflect with IRR *-ne* or PPRF *-kan*

<i>chookinai</i>	‘wrinkled’
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(76) Form that does not need *-tu* (or augment) to inflect with IRR *-ne* or PST *-n*

<i>bwiichi</i>	‘smoky’
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(77) Partially investigated forms that require *-tu* to inflect with PPRF *-kan*:

<i>kutvenei</i>	‘dark’
<i>nasont(e)i</i>	‘broken’

<i>sikii</i>	‘red’
<i>sunwachi</i>	‘horrible’

(78) Other partially investigated forms with various complications

<i>tata</i> ‘hot’	ok with <i>ne</i> , needs <i>-tu</i> or <i>-i</i> augment for <i>-k</i> , <i>-kan</i> , only <i>-tu</i> good with <i>-n</i> , nothing works with <i>-la</i>
<i>tonnai</i> ‘curved’	only takes <i>-kan</i> and reduplication * <i>tonnai-tu-n</i> judged ungrammatical
<i>chiivu</i> ‘bitter’	dispreferred in predicate position (4 th author preferred constructions such as <i>chiivu-si au-ne</i> ‘will do/be bitterly’)
<i>ta’arui</i> ‘lost’	ok with reduplication, has active transitive ‘lose’ use too
<i>tepehko</i> ‘astringent’	can take <i>-tu</i> with <i>-kan</i> , others untested due to context difficulties
<i>bweere</i> ‘big.pl’	can take <i>-tu</i> or <i>-a</i> augment with <i>-kan</i> , other tests incomplete
<i>lottila</i> ‘tired’	requires <i>-tu</i> to inflect with <i>-kan</i> and <i>-ne</i> , other tests incomplete

There were several factors which complicated our investigation a great deal. We were not able to elicit full paradigms for many of the adjectives. Finding naturalistic contexts of use was not always possible; some adjectives were relatively low frequency, and seemed to be restricted in their domain of use. Many adjectives also appear to be historically derived, either from nominal or, more frequently, verbal roots, and this may also have been a source of some restrictions.

A major complicating factor was the range of variation in form for a given adjective, in particular the presence of final vowel ‘augments’, whose function or functions remain unclear. Part of the problem in trying to tease apart a function or semantics for these tiny pieces lies in their interactions with other morphology, like the verbalizer *-tu* or the tense/aspect *-kan*, because the functions of those morphemes are also imperfectly understood. However, we are able to point to systematic differences in the behavior of final *-i* com-

pared to *-e/-a*. The work of Yu et al. (2016), which showed important correlations between final vowels and lexical classes, provides a potential avenue for understanding these augments.

Nonetheless, it remains clear that a category ‘adjective’, distinct from both verbs and nouns, is warranted for Hiaki, both morphologically and syntactically. Morphologically, adjectives in predicate position contrast with verbs in requiring *-tu* or a vowel augment for inflection with almost all TAM markers, excepting only the irrealis *-ne* marker with a few adjectives, past perfect *-kan* with one adjective and past imperfective *-n* with another. Syntactically they contrast with verbs in having attributive uses, which verbs do not. They contrast with nouns morphologically in being able to take the adjectival accusative case suffix *-k*, in addition to also being compatible with the nominal case suffix *-ta*. They contrast with nouns syntactically in having (postnominal) attributive uses¹⁴ and in failing to participate in the predicate possession construction (Jelinek 1998), which nouns do participate in.¹⁵

A reviewer raises the excellent question of whether degree modification might be used to distinguish adjectival expressions from nominal and verbal ones, as Rosen (2015) does for the Siouan language Hocąk. Indeed, the degree emphazier *si*, ‘very’, is ubiquitous with adjectival predicates, to the point where it is almost mandatory (as illustrated by many examples throughout this paper). In that regard, the use of *si* strongly resembles the use of its Chinese equivalent, *hen*, which is mandatory with gradable adjectives in predicate position (see, e.g., Grano 2012). However, in Hiaki *si* is also used as an adverbial modifier of verbal predicates, as in (79) below, so it is not exclusive to adjectival predicates, and hence not a straightforward diagnostic of them (see also footnote 4 above):

- (79) *Huna'a ket si hikka-wa-n*
 That.one.NOM also very hear-PASS.PST
 ‘That one was also talked about a lot.’

¹⁴ We specify postnominal here in order to avoid the question of whether Hiaki nominal compounding (in which the modifying nonhead precedes the head) might ‘count’ as an attributive use of a noun; adjectives are the only Hiaki lexical category which can occur attributively postnominally.

However, we agree that is a great idea to use degree markers, e.g. *chea* ‘more’, or some intersecting set of diagnostics for gradability, to help identify the set of adjectives in Hiaki, or at least the subset of gradable adjectives; we look forward to further investigation of this possibility.

Overall, we have shown that the category of adjective in Hiaki is a much thornier and more complex beast than previous descriptions suggested. Much more work is needed to discover how much of the within-category variation described here is simple ‘irregularity’, an irreducible quirk of the grammar, which must be noted as such in descriptions, but which does not have any obvious systematic (synchronic) source, and how much might be attributable to some systematic feature of Hiaki grammar that has hitherto been overlooked. We look forward to future investigations elucidating these questions.

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