YUROK VERB CLASSES[1]

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In this paper I detail relationships between verb stems and the conjugation classes to which they belong in Yurok, an Algic language of northwest California. Yurok has four major conjugation classes, with one class, the *oo*-class, containing three subclasses defined by distinct third-person singular forms. I describe two regularities which have not been noted before. First, within the *oo*-class, distinct subclasses differing in third singular inflection are associated with distinctions in argument structure. Second, in one intransitive subclass of *oo*-class verbs, third-person singular inflections have the form and meaning of two Ritwan locative markers.

[KEYWORDS: Yurok, Ritwan, verb classes, thematic vowels, inflection, locatives]

1. Introduction. Yurok is an Algic language of northwest California. In this paper, I detail relationships between verb stems and the conjugation classes to which they belong. Yurok has four major conjugation classes, with one class containing three subclasses defined by distinct third-person singular forms. Verb classes differ in thematic vowels and inflectional suffixes.

In this study, I note all regularities holding between different types of verb stems and verb class. I also describe two regularities for *oo*-class verbs

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The primary published data sources for this study are Kroeber (1911), Waterman (1923), Spott and Kroeber (1942), Robins (1958), Berman (1982*a*), Exline (n.d.), and Sapir (2001). Unpublished data include my field notes from speakers mentioned above, as well as the unpublished notes of A. L. Kroeber. Lexical data can be assessed via the Berkeley Yurok Project web site at: http://linguistics.berkeley.edu/~yurok.

The transcription system used in this study is phonemic. Symbols have their approximate IPA values, with the following exceptions: *kw* = [kʷ], *k'w* = [k'ʷ], *ch* = [tʃ], *ch'* = [tʃ'], *hl* = [ɬ], *s* = [ʂ], *sh* = [ʃ], *g* = [ɣ], *'* = [ʔ], *y* = [j], *r* [ɻ] (nonsyllabic in the margin, syllabic in the nucleus), and long vowels are written as doubled letters. The consonants are: voiceless stops /p, t, k, kw/; glottalized or ejective stops /p', t', k', k'w/; affricates /ch, ch'/; voiceless fricatives /s, sh, hl, x/; plain voiced sonorants /m, n, l, r, w, y/; preglottalized sonorants /'m, 'n, 'l, 'r, 'w, 'y/, laryngeals /', h/, and the voiced velar fricative /g/. The vowels are short /i, u, e, ,o, a, r/, and long /ii, uu, oo, aa, rr/. The orthography used here is the same as that used on the Berkeley Yurok Project web site and is used to facilitate comparison with material there.

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which have not been noted before. First, within this class, subclasses differing in third singular inflection are associated with transitivity distinctions and other aspects of argument structure. Second, one subclass of intransitive verbs exhibits third singular inflection with the form and meaning of general Ritwan locative markers.

In **2**, I present background information on Yurok verbs, verb classes, and verb stems and introduce the indicative unipersonal paradigms, which are the focus of this study. In **3**, I discuss the morphological status of thematic vowels, show the extent to which verb class can be predicted by properties of the verb stem, and detail principal parts of the relevant paradigms. Section **4** focuses on synchronic and diachronic properties of *oo*-class verbs, which show three seemingly innovative distinct third singular inflections.

2. Yurok verbs. Yurok has both inflected and uninflected verb forms. This paper focuses on inflected verb forms, and more narrowly on the UNIPERSONAL INDICATIVE PARADIGM.[2] There are four basic Yurok inflectional paradigms: indicative, imperative, attributive, and pronominal prefix (Robins 1958 and Blevins [forthcoming]).[3] In all of these paradigms, verb suffix inflections mark verb class, person, and number. Verbs which mark person/number of a single argument (typically the subject) are called "unipersonals," and those which mark person/number of two arguments (typically the subject and direct object) are called "bipersonals," following Robins (1958). Since in all regular verbs, imperative, attributive, and pronominal prefix paradigms are predictable from indicative paradigms, but not the reverse, and since all bipersonal paradigms are predictable from unipersonal inflectional paradigms, but not the reverse, regular verb classes can be viewed as being defined by the UNIPERSONAL INDICATIVE PARADIGM.

2.1. Verb classes: unipersonal indicative paradigms. Any Yurok inflected verb belongs to one of four major verb classes. Verb classes are de-

[2] Uninflected verb forms occur in Yurok without suffixal inflection, as variants of inflected verbs (Robins 1958:31). They are typically identical to inflected verbs but lack both inflectional suffixes and verb finals (if any; see **2.2** below). In addition, there is phonological reduction of certain word-final consonant sequences to a single consonant. Since uninflected verbs lack inflectional suffixes and can be derived straightforwardly from unipersonal inflected verbs or bare verb stems, they are poor predictors of verb class and are not discussed further. See Garrett (forthcoming) for a detailed study of Yurok uninflected verbs and Blevins (2003*a*) on short forms of nouns which are the output of a distinct prosodic truncation processes.

[3] What Robins refers to as the "pronominal prefix" paradigm might be considered a subordinate or subjunctive paradigm. Pronominal prefix verbs occur in a range of subordinate clauses, and after certain quantificational and modal adverbs. For further discussion, see Robins (1958:53–58) and Blevins (forthcoming).

fined by thematic vowels which appear at the stem/inflection boundary.[4] The four major verb classes are *e*-class, *aa*-class, *o*-class, and *oo*-class. Indicative unipersonal inflectional endings for *e*-class, *aa*-class, *o*-class, and *oo*-class verbs are shown in (1), following Robins (1958), where *C* designates the stem-final consonant. Notice that in the *oo*-class, there are three subclasses distinguished by third-person singular forms.

(1) Inflectional endings for indicative unipersonal verbs

	e-class	*aa*-class	*o*-class	*oo*-class
1sg	*C-ek'*	*C-aak'*, *C-ak'*	*C-ok'*	
2sg	*C-e'm*	*C-aa'm*	*C-o'm*	*C-oo'm*
3sg	*C'*, *'C*	*C-a'*	*C'*, *'C*	(*i*) *C-o'm* (*ii*) *C-o'* (*iii*) {*C-ok'w*, *C-o'l*}
1pl	*C-oh*	*C-ah*	*C-oh*	
2pl	*C-u'*	*C-a'w*[5]	*C-o'w*	
3pl	*C-ehl*	*C-aahl*	*C-ohl*	

Representative unipersonal paradigms are shown in (2)–(4) for regular *e*-class, *aa*-class, and *o*-class verbs.

(2) Indicative unipersonal paradigm for a regular *e*-class verb

	nep- 'to eat', *e*-class		
1sg	*nep**ek'***	1pl	*nep**oh***
2sg	*nep**e'm***	2pl	*nep**u'***
3sg	*nep**'***	3pl	*nep**ehl***

(3) Indicative unipersonal paradigm for a regular *aa*-class verb

	hoolep'- 'to rummage through', *aa*-class		
1sg	*hoolep'**aak'***	1pl	*hoolep'**ah***
2sg	*hoolep'**aa'm***	2pl	*hoolep'**a'w***
3sg	*hoolep'**a'***	3pl	*hoolep'**aahl***

[4] In Wiyot, where a distinction must be made between intransitives and transitives (which have object inflection), intransitives also have four classes differing in thematic vowel (Teeter 1964:53). These are *-a-*, *-i-*, *-o-*, and zero. Transitive stems in Wiyot are either *a*-class or *i*-class, with seven subclasses of the former and five of the latter (Teeter 1964:54) The reduction of verb classes from four to two is found in Yurok and Wiyot imperatives, and in Yurok incremental plurals (7).

[5] Tautosyllabic /a'w/ and /e'w/ are neutralized in Yurok, so this sequence is often transcribed as /e'w/. Phonetically, the vowel is front, nonhigh, and varies between mid and low. See Blevins (2003*b*:141–42) for discussion of this as a sound change in progress.

(4) Indicative unipersonal paradigm for a regular *o*-class verb

	ko'moy- 'to hear', *o*-class		
1sg	*ko'moy**ok'***	1pl	*ko'moy**oh***
2sg	*ko'moy**o'm***	2pl	*ko'moy**o'w***
3sg	*ko'mo**'y***	3pl	*ko'moy**ohl***

In (5), the three different subclasses of *oo*-class verbs are compared, differing only in their third-person singular forms.[6] Notice that within the *oo*-class (*iii*), there are two attested variants for third singular forms: one in *-ok'w* and another in *-o'l*. For most of today's speakers, only the *-ok'w* forms are in use for the majority of verbs in this subclass, but it is clear from the texts collected by Kroeber and Sapir that these suffixes were both used up to the middle of the twentieth century. I discuss these suffixes further in **4** below.

(5) Indicative unipersonal paradigm for a regular *oo*-class verb

	(*i*) *chpurk-* 'to take care of'	(*ii*) *'ep-* 'to choke'	(*iii*) *me'womech-* 'to come from'
1sg	*chpurk**ok'***	*'ep**ok'***	*me'womech**ok'***
2sg	*chpurk**oo'm***	*'ep**oo'm***	*me'womech**oo'm***
3sg	*chpurk**o'm***	*'ep**o'***	*me'womech**ok'w***
			*me'womech**o'l***
1pl	*chpurk**oh***	*'ep**oh***	*me'womech**oh***
2pl	*chpurk**o'w***	*'ep**o'w***	*me'womech**o'w***
3pl	*chpurk**ohl***	*'ep**ohl***	*me'womech**ohl***

Subsyllabic verb stems which inflect as monosyllables are all *oo*-class verbs, but they have evidently undergone monosyllabic lengthening in the 1sg and in all plural forms (except plural forms of the verb /'-/ 'to be, exist'). Representative paradigms are shown in (6), with the same subclasses shown in (5) defined by third singular forms.

(6) Indicative unipersonal paradigms for subsyllabic *oo*-class stems

	(*i*) *hl-* 'to take'	(*ii*) *hlk-* 'to gather acorns'	(*iii*) *'-* 'to be, be at'
1sg	*hl**ook'***	*hlk**ook'***	*'**ook'***
2sg	*hl**oo'm***	*hlk**oo'm***	*'**oo'm***

[6] There is one *oo*-stem, /new-/ 'to see', which has long vowel variants of *oo*-class suffixes in all indicative unipersonal forms except the third-person singular. This pattern is identical to that found in subsyllabic stems like those shown in (6). Berman (1984:340) suggests Proto-Algic **nw-*, and pre-Yurok **nw-*, accounting for the long-vowel inflections as retention of the earlier subsyllabic stem pattern which has yet to be leveled out.

3sg	*hlo**'m***	*hlko**'***	*'**ok'w***, *'**o'l***
1pl	*hl**oo***	*hlk**oo***	*'**oh***
2pl	*hl**oo'w***	*hlk**oo'w***	*'**o'w***
3pl	*hl**oohl***	*hlk**oohl***	*'**ohl***

In addition to the four major verb classes described above, an additional minor verb class must be recognized for 'incremental plural' or collective verbs. In Yurok, nonpassive verbs have derived plural stems referring to collective or group action. I follow Robins (1958) in referring to these as incremental plurals. Incremental plural stems are marked by the suffixes in (7).

(7) Incremental plural suffixes[7]

e-class, *aa*-class	*o*-class, *oo*-class
-e'm(-)	*-oo'm*(-)

Incremental plural stems can occur as uninflected verbs (see n. 2) or as inflected stems with the seemingly mixed plural paradigm illustrated in (8). So, for the stem *helomey-* 'to dance', the uninflected incremental plural stem is *helomeye'm* 'dance together, dance as a group', with inflected forms shown in (8).

(8) Indicative incremental plural (INCPL) paradigm

	/helomey-/ 'to dance', *e*-class		/rurow-/ 'to sing', *o*-class	
	Non-INCPL	INCPL	Non-INCPL	INCPL
1pl	*helomeyoh*	*helomey-e'm**-oh***	*rurowoh*	*rurowoo'm**-oh***
2pl	*helomeyu'*	*helomey-e'm**-o'w***	*rurowo'w*	*rurowoo'm**-o'w***
3pl	*helomeyehl*	*helomey-e'm**-ehl***	*rurowohl*	*rurowoo'm**-ehl***

In the incremental plural paradigm in (8), the second-person plural inflection *-o'w* is identical to that in *o-* and *oo-* paradigms, but the third-person plural *-ehl* is unexpected, since elsewhere it is exclusively associated with *e*-class verbs. Since regular incremental plural stems invariably inflect as in (8), this inflectional paradigm can be defined with direct reference to derived incremental plural stems, as stated in (9).

[7] Surface allomorphs of /e'm/ include *-i'm* and *-uu'm.* After /r/ and /l/, and optionally after other coronal consonants, /-e'm/ surfaces as *-i'm*. In incremental plurals, the sequence . . . *ew-e'm-* surfaces as *-uu'm.* The /-oo'm/ incremental plural also has an *-uu'm* allomorph optionally after /y/, /l/, and other coronals, and as a realization of / . . . ew-oo'm/. A few verbs have irregular incremental plurals: *heg-/le'm*(-) 'to go' (*oo*-class), *ten-/tene'm*(-) 'to be much' (*oo*-class). Compare this analysis of allomorphy to Robins (1958:35–36).

(9) Incremental plural paradigm (unipersonal indicative)

If [[stem]..]$_{\text{INCPL}}$ then,	1pl	[[stem]..]$_{\text{INCPL}}$***oh***
	2pl	[[stem]..]$_{\text{INCPL}}$***o'w***
	3pl	[[stem]..]$_{\text{INCPL}}$***ehl***

Incremental plurals illuminate important diachronic and synchronic features of the Yurok inflectional system. The incremental plural suffixes in (7) support the historical reconstruction of short **e-*, **o-* and long **ee-*, **oo-* thematic vowels with subsequent sound change of **ee > aa* (Blevins 2003*b*): these suffixes were associated with *e*-stems and *o*-stems respectively, independent of vowel quantity. The fact that bare incremental plurals are the only inflecting stems which can regularly be used as uninflected stems (see n. 2) suggests that the inflectional paradigm in (9) is of recent origin (Garrett [forthcoming]). Finally, the paradigm in (9), with its mix of thematic vowels in 2pl and 3pl inflections, suggests word-based analogies cutting across *o*-class and *e*-class stems, consistent with the word-and-paradigm model discussed in **3** below.

2.2. Verb stems. As in many related Algonquian languages (Bloomfield 1962 and Goddard 1975; 1990) and in Wiyot (Reichard 1925 and Teeter 1964), Yurok simple verb stems have an internal tripartite structure consisting of initial, medial, and final elements (Goddard 1975; 1990, Proulx 1985, and Garrett [forthcoming]). For the purposes of this discussion, initials, medials, and finals in Yurok stems are defined on distributional grounds alone.[8] Finals are recurrent partials which obligatorily precede inflectional suffixes in inflected verb forms. Medials are recurrent partials which can precede finals and can in turn be preceded by other recurrent strings. Initials are elements which, in their full form, obligatorily appear in stem-initial position. With these definitions, we are able to analyze the majority of Yurok inflected stems as consisting of obligatory finals, with optional medial and initial elements. In (10), the internal structure of some verb stems are illustrated, arranged by conjugation class.[9]

(10) Yurok stem-internal structure

		Initial	Medial	Final	
e-class	*no'rep-*	*n-*	*o'r-*	*ep-*	'to run'
	himo'rep-	*him-*	*o'r-*	*ep-*	'to run quickly'
	hooro'rep-	*hool-*	*o'r-*	*ep-*	'to run around'

[8] This is meant as a preliminary classification. For the purposes of this discussion, it is most important to distinguish the class of verb finals, which only occur immediately before inflectional suffixes, from other stem-internal components.

[9] For further discussion of stem-internal structure, see Garrett (forthcoming). The morphological analyses in (10) and elsewhere are my own and differ significantly from those presented by Proulx (1985).

		Initial	Medial	Final	
	raayo'rep-	*raay-*	*o'r-*	*ep-*	'to run past'
	hino'o'r-	*hino'-*	*o'r-*	Ø	'to run behind, to stalk'
	swoopin-	*swo-*	*op-*	*in-*	'to spill, pour, empty (a liquid)'
aa-class	*hoolep'-*	*hool-*	Ø	*ep'-*	'to rummage, to feel around'
	loop'-	*lo-*	Ø	*ep'-*	'to blink'
	skewip'-	*skew-*	Ø	*ep'-*	'to put in order'
	skewihlkep'-	*skew-*	*ehlk-*	*ep'-*	'to make flat, to clear'
o-class	*hunow-*	Ø	*un-*	*ow-*	'to grow'
	kaamunow-	*kaam-*	*un-*	*ow-*	'to grow badly'
	tenunow-	*ten-*	*un-*	*ow-*	'to grow thickly'
	sonow-	*son-*	Ø	*ow-*	'to be, to be like'
	hlmeyow-	*hlmey-*	Ø	*ow-*	'to be mean, to be nasty'
oo-class (*i*)	*chpurk-*	*chpur-*	Ø	*k-*	'to take care of'
	hokchk-	*hokch-*	Ø	*k-*	'to chip obsidian blades'
	kimk-	*kim-*	Ø	*k-*	'to treat badly, to harm, punish'
	hlmeyk-	*hlmey-*	Ø	*k-*	'to treat badly, to be mean to'
oo-class (*ii*)	*kekwon-*	*kekw-*	*-on-*	Ø	'to break'
	me'won-	*me'w-*	*-on-*	Ø	'to come across'
	ten-	*ten-*	Ø	Ø	'to be a lot'
oo-class (*iii*)	*kwomhlech-*	*kwomhl-*	Ø	*ech-*	'to return' (cf. *kwomhlen-* *e*-class 'to bring back')
	me'womech-	*me'w-*	*-om-*	*ech-*	'to come from' (cf. *me'won-*)
	himech-	*him-*	Ø	*ech-*	'to hurry (going somewhere)'
	heg-	Ø *-(eg)*	Ø	Ø	'to go'

The initials and medials illustrated in (10) have relatively concrete meanings in contrast to the finals, which primarily relate to properties of verb argument structure. For example, the initial *him-* of *himo'rep-* and *himech-* might be glossed as 'fast, quickly, with haste, ahead' and appears to have an adverbial modifying function with relation to the medial-final complex. The same is true for *hool-* 'around, about', *raay-* 'passing, going by', *kaam-* 'bad', and *skew-* 'good'.[10] Medials, following Garrett (forthcoming), also have relatively concrete meanings, falling into three general types: subject classifiers

[10] A reviewer asked if there is evidence for the initial *n-* of *no'rep-* 'to run' or whether medial *-o'r-* might be derived from *no'r-* via initial consonant deletion, as is commonplace in Algonquian. Both are possibilities in Yurok, since there are stem pairs like *hunow-* 'grow, sprout; boil' and *nunow-* 'to grow up, to grow old', where *n-* is an apparent initial with some adverbial force. As stated in n. 8 above, the stem-internal analyses are preliminary and meant primarily to highlight relationships between finals and conjugation class.

(e.g., *-op-* 'water, liquid' of *kaamop-* 'be rough water'); body parts and metaphorical extensions of them (e.g., *-ehlk-* 'body, earth' of *skewihlkep'-* 'to make flat, to clear ground'); and basic types of verbal action like *-o'r-* 'run' and *-un-* 'grow' illustrated in (10).

Once stem-internal structure is recognized, as in (10), we can see that the final of the verb stem, when present, determines conjugation class. This general association, first noted by Andrew Garrett (personal communication, 2003), is stated in (11).[11] A partial list of finals and their associated verb classes is given in (12).[12]

(11) Final selection
The verb stem final, when present, determines conjugation class.

(12) Associations between verb finals and verb class

Stem Final	Primary Function	Verb Class
-(e)p-	reflexive, middle	*e*-class
-(e)t-	transitive, goal focus	*e*-class
-im-	personal object	*e*-class
-um-	applicative	*e*-class
-in-	causative	*e*-class
-ow-	'be, be like'	*o*-class
-on-	'be' (of sticklike object)	*o*-class
-(e)k-	transitive, event focus	*oo*-class (*i*)
-(e)ch-	motion	*oo*-class (*iii*)
-(e)p'-	multiple event	*aa*-class

The association between finals and verb class is one primary factor in determining the overall size of a verb class in Yurok. The *e*-class has the most finals associated with it, and it is the biggest class of verbs, while the *aa*-class, with only one clearly associated final, is the smallest verb class. On the other hand, productivity also plays a role. The final *-ow-* 'be, be like' takes part in a productive process of compound stem formation, combining with

[11] The selectional principle in (11) has not been stated generally for Yurok in published work, as far as I am aware. Robins (1958) notes association between final and conjugation class for certain highly productive suffixes, like the incremental plural suffixes in (7), the passive *-ey-* and *-oy-*, and the reflexive *-ep-*. Similar associations are implied by Goddard (1975) and partly characterized by Proulx (1985:103), who notes the determination of *e-* vs. *o-* stems "according to the identity of the preceding element." The association between the stem-final and verb class was recognized for Wiyot by Reichard (1925:106ff.), and made more precise by Teeter (1964:54), who states that "A rather complicated group of final suffixes is employed in the formation of transitive themes. . . . The suffix used in a given case determines seven subclasses of themes which are a-stems, and five which are i-stems."

[12] See Garrett (forthcoming) for further discussion of these final suffixes and for a diachronic analysis of Algic stem structure making critical use of the distinction between medials and finals.

passive or adjectival stems to form novel stative verbs. For example, from the *e*-class verb *sa'-ark-ey-* 'be crazy', we get the compound *o*-class stem *sa'ar-key-ow-* 'to have the property of being crazy'. In contrast, the suffixes associated with *oo*-class do not take part in such compound stem formation, and so the *oo*-class is notably smaller than the *o*-class.

If the analyses in (10) are accurate, they suggest that a verb stem need not contain a final element, as defined above. Since associations between finals and verb class are significant, it is reasonable to ask what happens to verb class when a final is absent. In principle, a stem could contain a bare initial, a bare medial, or an initial + medial combination.[13] In stems composed of initial + medial, it seems to be the medial which determines verb class, as shown by the examples in (13). Note in (13) that the header of each set gives examples illustrating the medial in question followed by a recognized final. For example, *-oks-* in (13*i*) is defined as a medial because it is followed by *-im-* in *skewoksim-* 'to want', and because *-im-* only occurs followed by inflectional (*e*-class) suffixes.

(13) Associations between medials and verb class

(*i*) Medial ***-oks-*** 'think, experience', as in *skew**-oks-**im-* 'to want' (*e*-class); *tenumon**-oks-**oy-* 'to have bad luck wished upon one' (*e*-class)
*chp**-oks-*** 'to think' (*e*-class)
*wey**-oks-*** 'to be poisoned, have cancer' (*e*-class) cf. *wey-k-* 'to finish' (*oo*-class (*i*))
*hoor**-oks-*** 'to be clever, cunning' (*e*-class) cf. *hool-ep'-* 'to rummage' (*aa*-class)

(*ii*) Medial ***-ur-***, ***-u'r-*** 'action/state in/of water, swim', as in *chk**-u'r-**og-* 'to be shallow water' (*e*-class); *s**-u'r-**ow-* 'to splash' (*o*-class)[14]
r-ur- 'to swim' (*e*-class) cf. *s-u'r-ow-* 'to splash' (*o*-class)

[13] In fact, zero-stems are also proposed in Algonquian, and at least two appear to exist in Yurok. One is the verb stem *heg-* 'to go, travel, walk'. This Yurok stem has the productive *-eg-*, the intensive infix, with [h], a default onset supplied by the phonology. Another is the verb *h-*, *h-eg-ol-* 'to say', with first-person singular *hek'* 'I say', where *-ek'* is the expected first singular *e*-class inflection and [h] is again a default onset.

[14] It is not uncommon for initials and medials containing sonorants to show glottalized and nonglottalized variants in different word-internal positions. Details of stem-internal glottalization are not yet fully understood but appear to be prosodically conditioned. Compare, for example, *pé'wolok'* 'I wash (the dishes) (tr.)', where there is stress and glottalization on the initial syllable, and *pewáhchkèyek'* 'I wash my face', where the initial syllable is unstressed and lacks glottalization (acute and grave accents show primary and secondary stress respectively). For other examples of alternations involving glottalized sonorants, see Blevins (2003*c*). In addition, the *l/r* alternation in *laay-/raay-* seen in (13*ii*) and (15) is a derivational process in Yurok (Robins 1958:14).

*hoor-**ur-*** 'to wade' (*e*-class) cf. *hool-ep'-* 'to rummage' (*aa*-class)
*raay-**ur-*** 'to swim by' (*e*-class) cf. *laay-ol-* 'to fly by' (*e*-class)
*sekoy-**ur-*** 'to swim quickly' (*e*-class) cf. *sekoy-or-* 'to run quickly'

Note that the medials in (13) consistently select the *e*-class conjugation. On this basis, *e*-class can be considered a default conjugation class: where a final does not occur, stems ending in medials are *e*-class.

(14) Default conjugation class
Verb stems ending in medials are *e*-class.

In (15), the sole element in one verb stem is clearly an initial in another. On this basis, the stems in the left-most column of (15) can be analyzed as bare initials.

(15) Bare initials as stems

Bare Initial	Initial-Medial-Final
hum- 'to sweat' (*oo*-class (*i*))	*hum-on-ep-* 'to get warm' (*e*-class)
new- 'to see' (*oo*-class (*i*))	*new-orkw-*∅- 'be able to see' (*e*-class)
ten- 'to be a lot' (*oo*-class (*ii*))	*ten-un-ow-* 'grow thickly' (*o*-class)
tel- 'to be sick' (*e*-class)	*tel-og-um-* 'to be in pain' (*e*-class)
laay- 'to pass' (*e*-class)	*raay-o'r-ep-* 'to run past' (*e*-class)

For the small set of verb stems which are analyzed as bare initials, it seems that the association between initial and verb class must be learned. This may also be true of loans, whose stems are unanalyzable. Possible examples include Yurok *mush-* 'to mash' (an *oo*-class verb) and *yus-* 'use' (an *e*-class verb).

3. Yurok paradigm structure.

3.1. The morphological status of thematic vowels. Given the consistent associations between stem finals and thematic vowels, it seems reasonable within morpheme-based approaches to analyze the 'thematic' *e-*, *aa-*, *o-*, and *oo-* of the four major conjugation classes as vowels lexically associated with the verb finals. Using this account, several morphophonemic rules, listed in (16), are necessary to derive basic verb forms in the indicative paradigms.

(16) Morphophonemic rules, assuming thematic vowels are stem-final vowels

(*i*) $V \rightarrow \emptyset / \_\_]_{\text{Stem}}$ third singular indicative
(*ii*) $e \rightarrow o / \_\_]_{\text{Stem}} \_\_ h]$ first plural indicative

(*iii*) $e \rightarrow \emptyset$ / __ $]_{\text{Stem}}$ __ *'w*] second plural indicative (with vocalization of /w'/ to [u'])

(*iv*) $e \rightarrow o$/ __ $]_{\text{IncPLstem}}$ __ *'w*] second plural indicative

Rule (16*i*) accounts for the loss of short vowels in third singular *e*- and *o*-class verbs, and the shortening of long *aa*- and *oo*- in third singular *aa*- and *oo*-class verbs. Rules (16*ii*) and (16*iii*) account for the occurrence of short *o* and *u* in first plural and second plural forms respectively for *e*-class verbs. And (16*iv*) is necessary if the incremental plural suffixes are assumed to be underlyingly /-e'me-/ and /-o'me/, with final thematic /e/.[15]

An alternative to this morpheme-based analysis are word-and-paradigm models (Robins 1959, Hockett 1967, and Matthews 1972), where full words, not morphemes, are the basis of morphological analysis. Within the word-and-paradigm approach, the lexicon is assumed to contain model paradigms like those illustrated in (2)–(6) and (8). Stored model paradigms allow speakers to predict paradigm membership of newly heard inflected forms on the basis of a simple four-part analogy. Such predictions are possible with certain "informative" members of a paradigm but not with others, as discussed below. Adopting a word-and-paradigm approach to Yurok verb classes allows one to dispense with the rules in (16): instead of building inflected forms from morphemes stored in the lexicon, inflected forms are stored in model paradigms whose principal parts are outlined below.

3.2. Principle parts of Yurok paradigms. Within word-and-paradigm models, the lexicon contains model paradigms which serve as templates for pattern matching with other verb forms. In contrast to morpheme-based approaches, subparts of words need not be stored independently. For example, by storing full unipersonal indicative paradigms, like those illustrated in (2)–(6), which include forms like *nepek'* 'I eat', full unipersonal indicative paradigms for *telek'* 'I am sick', *che'loksek'* 'I am thirsty', and hundreds of other *e*-class verbs can be inferred by analogy with stored paradigms.[16] In addition, as noted in **2** above, identification of the unipersonal indicative paradigm for a particular verb allows one to infer the bipersonal indicative paradigm, the imperative paradigm, the attributive paradigm, and the pronominal-prefix paradigm for all regular verbs (Robins 1958 and Blevins [forthcoming]).

A question which arises within this model is what is the minimal amount of paradigmatic information one needs to establish full paradigms in Yurok?

[15] The alternative, suggested in (9), is that incremental plural suffixes define an independent paradigm with mixed thematic vowels.

[16] Alternatively, the patterns that distinguish each verb class can be represented by sets of realization rules, as in Anderson (1992) and Stump (2001).

Which forms within the unipersonal indicative paradigm are most informative in terms of predicting the verb class as a whole? In (17), forms that can be used as principal parts of the six Yurok verb paradigms are shown in boldface.

(17) Indicative unipersonal verb inflections, with potential principal parts in boldface

	e-class	*aa*-class	*o*-class		*oo*-class
1sg	***C-ek'***	***C-aak', C-ak'***		*C-ok'*	
2sg	***C-e'm***	***C-aa'm***	***C-o'm***		***C-oo'm***
3sg	*C', 'C*	***C-a'***	*C', 'C*		(*i*) ***C-o'm***
					(*ii*) ***C-o'***
					(*iii*) ***C-ok'w, C-o'l***
1pl	*C-oh*	***C-ah***		*C-oh*	
2pl	***C-u'***	***C-a'w***		*C-o'w*	
3pl	***C-ehl***	***C-aahl***		*C-ohl*	

As illustrated, for *e*-class and *aa*-class paradigms, multiple unipersonal indicative verbs paradigms can be used as principal parts. For *e*-class verbs, any verb form except the third singular or first plural will allow a speaker to infer the full *e*-class paradigm; for *aa*-class verbs, any verb form will do. However, the situation is different for *o*- and *oo*-class verbs. The only form within the *o*-class unipersonal indicative that can serve as a principal part is the second-person singular. Alternatively, using multiple principal parts, the combination of first singular and third singular or second singular and third singular will again unambiguously identify the verb as *o*-class in contrast to *oo*-class.

For *oo*-class verbs, second singular or third singular forms can serve as principal parts. An additional observation is that though 3sg *e*-class verbs like *me'lo'm* 's/he vomits' exist, they are unlikely to be misclassified as *oo*-subclass (*i*) verbs because, as discussed below, all verbs in this subclass are transitive. If a transitive 3sg indicative unipersonal verb ending in . . . *o'm* is encountered, it can be straightforwardly subclassified as type (*i*) *oo*-class, as shown in (18).[17]

(18) Using 3sg as principal part for *oo*- subclass (*i*)

*chpurk**o'm***	's/he takes care' **tr.**	→	*oo*-class
*kimk**o'm***	's/he treats badly' **tr.**	→	*oo*-class
. . . ***o'm***	's/he Xs' **tr.**	→	*oo*-class

[17] Interestingly, there is only one known *e*-class verb whose stem ends in . . . *om*-, *pewom*- 'to cook (tr.)'. However, this verb has an irregular third singular indicative form *pe'w*. Given this, there are no exceptions, thus far, to the generalization in (18).

For subclass (*ii*) of *oo*-class verbs, there is no ambiguity in third singular forms, since there are no verb stems which end in *o-* or *o'-* in *e*-class or *o*-class which could give rise to 3sg forms ending in . . . *o'*. The same is true for subclass (*iii*), since there are no verb stems which end in . . . *okw-*.

Within a word-and-paradigm model, the rules in (16) can be dispensed with. In their stead, it is proposed that full model paradigms like those in (2)–(6) and (8) are stored lexically, with novel words serving as principal parts from which full paradigms are inferred. Since there is independent evidence in Yurok for paradigms as significant linguistic units (Blevins [forthcoming]), there is little to recommend a morpheme-based approach over the word-based model implicitly assumed by Robins (1958).

4. Properties of *oo*-class verbs. Historically, the four major verb classes in Yurok reflect historical long and short thematic nonhigh vowels: **e*-class, **ee*-class, **o*-class, and **oo*-class, with a regular sound change of **e(')e* > *a(')a* (Blevins 2003*b*). Reconstructed third singular inflections for these classes are shown in (19). Final short vowels were lost historically in the prehistory of Yurok, so that third singular forms in **-e* and **-o* now lack thematic vowels, showing only word-final laryngealization, while third singular reflexes of **-a'a* (< **-e'e*) and **-o'o* are modern *-a'* and *-o'* respectively.

(19) Reconstructed verb class, third singulars and their reflexes

Verb Class	Third Singular	**e(')e* > *a(')a*	V > ∅ / __ #	Modern Reflex
**e*-class	**-'e*	n.a.	*-'*	*-'*
**ee*-class	**-e'e* (< *ee'*)	**-a'a* (< *aa'*)	*-a'*	*-a'*
**o*-class	**-'o*	n.a.	*-'*	*-'*
**oo*-class	**-o'o* (< *oo'*)	n.a.	*-o'*	*-o'*

As shown in (19), modern reflexes of these third singular endings are exactly as expected under regular sound change. What requires explanation, then, are the other third singular *oo*-class inflections: *-o'm*, *-ok'w*, and *-o'l*.

A significant descriptive generalization which may shed light on the origins of these inflections is that subclasses of *oo*-class verbs are defined by transitivity and argument structure. As illustrated in (20), transitive verbs in this class have third singulars in *-o'm*, falling into subclass (*i*), while intransitive verbs which I term 'locative' are in subclass (*iii*) with third singular *-ok'w* and *-o'l* variants. Locative verbs are verbs which refer to being or staying at a particular location, or going to or from one location to another. The historically unmarked ending *-o'* appears to be a default or 'elsewhere' suffix, occurring with intransitive verbs which are not associated

with location at or movement to.[18] In (20), verb stems in boldface are subsyllabic stems whose unipersonal indicative paradigms are shown in (6).

(20) Grammatical properties associated with *oo*-subclasses

oo-class	3sg Inflection	Sample Verb Stems
Transitive	***-o'm***	*chpurk-* 'to take care of'
Subclass (*i*)		*hopkek-* 'to begin'
		lech- 'to knock down; to toss'
		lekoos- 'to stab'
		lomohs- 'to strike gently'
		hl- 'to take, fetch, catch'
		megetohlkw- 'to look after, own'
		new- 'to see'
		merkws- 'to beat with fists'
		muhls- 'to wipe, lick'
Intransitive		
'Locative' verb	***-ok'w, -o'l***	*che'lohlk-* 'to be stuck high and dry'
Subclass (*iii*)		*heg-* 'to go, travel, walk'
		kelomech- 'to turn around'
		kohchemo'- 'to be somewhere one day'
		kwomhlech- 'to return'
		megel- 'to accompany, go with'
		neskwech- 'to come, arrive'
		soot- 'to go'
		wen- 'to come'
		'- 'to be, to be at, to exist'
Intransitive; Other	***-o'***	*chken-* 'to be scarce, be few'
Subclass (*ii*)		*kekwon-* 'to break' (intr.)
		lekoy- 'to flow'
		hlk- 'to gather acorns' (intr.)
		mikoy- 'to surge'
		punomihlk- 'to be contaminated'
		rech- 'to paddle'
		sekitk- 'to be strong'
		swehlk- 'to be scattered, to burst'
		ten- 'to be many, be much'
		test- 'to shake, tremble'

[18] The majority of *oo*-class verbs in subclass (*ii*) seem to be unaccusatives, where the single argument is the logical object of the predicate.

Of the approximately 180 *oo*-class verbs in Robins (1958), Berman (1982*a*), and Exline (n.d.) for which third singular forms are attested, the correspondences shown in (20) hold, with only one or two possible exceptions.[19]

I suggest that the transitive and locative subclasses of *oo*-class verbs are the result of secondary derivation, where inflectional paradigms are derived from monosyllabic paradigms of *hlk-* and *'-* respectively via loss of the stem-initial consonant or consonant cluster. Given the subsyllabic status of these stems, what is left when the initial consonant or consonant cluster is deleted is precisely the set of inflectional suffixes attested for these monosyllabic verbs.[20] This proposal, sketched in (21), makes sense of the correspondences shown in (20), since transitive *oo*-class verbs in subclass (*i*) are those which derive from stem compounding with **hl-* 'take, fetch, catch', highlighting an affected object, while locative *oo*-class verbs in subclass (*iii*) are those which derive from stem compounding with **'-** 'to be, to be at, to exist', highlighting the locative component of staying/coming/going verbs.

(21) Historical evolution of (non-monosyllabic) *oo*-class verbs, subclasses (*i*) and (*iii*)

Subclass	3sg	Derived final, maintaining inflectional paradigm
(*i*)	*-o'm*	**hl-* > ∅
(*iii*)	*-o'l*, *-ok'w*	**'-* > ∅

If this proposal is correct, the sources of all marked third singular forms in subclasses (*ii*) and (*iii*) are the historical third singular indicative verb forms **hlo'm*, **'ok'w*, and **'o'l*. An interesting property of these inflected verb forms is that, after extracting third singular final laryngealization, as shown in (22), one is left with third singular stems whose finals appear cognate with suffixes whose semantic domains correspond with the verb classes shown in (20).

[19] Two potential exceptions are the derivationally related transitive verbs *tm-* 'to shoot' and *tmool-* 'to shoot'. Robins classifies both of these in subclass (*ii*) on the basis of third singulars *tmo'* and *tmoolo'*. However, based on *tmiigo'*, the noninflected plural form, it appears that *tmo'* is a noninflected verb stem. This is supported by Exline (n.d.:120), who lists *tmo'* as an "abbreviation" (e.g., uninflected form), with the full form being *tmoolo'm* 's/he shoots', consistent with the classification in (20).

[20] This type of derivation, where a final is derived from a pre-existing stem, is described as a "deverbal final" by Bloomfield (1962) for Algonquian and discussed further by Goddard (1990).

(22) Third singulars in ***-o'm, -ok'w, -o'l*** minus inflectional laryngealization

-om	<	**-om*	applicative (cf. applicative *-um-* < **-(ew)-om-*)
-okw	<	**-okw*	allative (motion toward), locative
-ol	<	**-ol*	locative

The final ***-um-*** was listed in (12) as a general applicative suffix. Passive forms of this stem do not surface as *-um-oy-* or *-um-ey-* as expected, but rather as *-ewom-oy-* (Robins 1958:48), suggesting that *-um-* derives historically from ****-ew-om-***, with *-om-* in (22) a reflex of the same final element.[21] A potential Ritwan cognate is Wiyot *-om*, a third personal object marker, which Reichard (1925:74) notes is "found in verbs of seeing, favoring, thinking and some of their opposites."

The other two third singular suffixes, *-ok'w* and *-o'l*, defining subclass (*iii*) *oo*-stems appear to be cognate with general locatives **(t)okw* and **(t)ol* in Ritwan (Berman 1982*b*; 1984 and Blevins and Garrett 2002).

(23) Some reflexes of Proto-Ritwan locatives ****(t)okw*** and ****(t)ol***

	Wiyot	Yurok	Notes
****(t)okw*** >	*tókw* 's/he dwells there'	*'ok'w* 's/he is, is at'	Wiyot verb is irregular; Yurok verb is one 3sg of *oo*-class (*iii*) paradigm
	-okw nominal locative suffix	*repokw* 'doorway, front porch'[22]	
		'oslookw 'downhill'	
****(t)ol*** >	*to'l* 'dwelling, where one dwells'	*'o'l* 's/he is at, stays at'	Wiyot verb is regular; Yurok verb is one 3sg of *oo*-class (*iii*) paradigm
	toli' 'indoors, where one lives'		
	to, *tola* locative particles	*'o* locative particle	Wiyot and Yurok particles trigger *l*-sandhi
		-ohl nominal locative suffix	

[21] The formative **-ew-* appears to be an old passive suffix. It occurs in a small number of *e*-class noninflected passive stems like *cha'amew* 'be boiled' (cf. *cha'am-* 'to boil'), *che'lohtemew* 'to be dried (of food)' (cf. *che'loht-* 'to dry [tr.]'), and *holimew* 'to be woven' (cf. *holim-* 'to weave').

[22] Compare *repoh* 'doorway', which lacks the proposed frozen locative. Note that *'oslookw* 'downhill' appears to have two frozen locatives: *'o-* and *-okw*. Compare *sl-oy-(e)ch-* 'to go downhill', with initial *sl-* 'down', medial *-oy-* passive, and final *-ech-* 'motion'.

Both of these forms can be reconstructed for Proto-Ritwan, with Wiyot showing *-okw* (< **-okw*) as the productive nominal locative (Reichard 1925:42 and Teeter 1964:41–42), where Yurok instead shows *-ohl* (< **-ol*) (Robins 1958:24). However, as noted by Teeter (1964:41–42, 81–82), there are actually two locatives in Wiyot, "both with the same rather general meaning, which can be expressed in English variously as 'at, on, near, above, over, under, behind, etc.', depending on context." The second of these, which Teeter (1964:42) terms a "syntactic affix," is prefixed to inflected quasi-verbal forms and has the forms *to*, *tola*, where the longer form occurs in specific sandhi contexts, reflecting final **l* (Blevins and Garrett 2002). A cognate particle is Yurok *'o* 'locative' which also triggers *l*-sandhi. In both languages, then, reflexes of the Proto-Ritwan locatives have a cross-categorial distribution, occurring in third singular verb forms, like the *oo*-class verbs under discussion, as particles, and in productive and frozen nominal locatives. The range of distribution is illustrated in (23).[23]

To summarize up to this point, the two distinct *oo*-class third singular inflections *-ok'w* and *-o'l* in Yurok appear to derive from two distinct Ritwan locative morphemes. In Wiyot, reflexes of the same two morphemes are claimed to have the same general meaning, while in Yurok, *-o'l* and *-ok'w* inflections are found for verbs relating to being at or going/coming from a location, with similar meanings. In Yurok, these suffixes define one subclass of *oo*-stem verbs, while in Wiyot, they appear to be limited to the verb meaning 'to stay at, dwell, be at'.

A final question that can be posed with respect to the Yurok *-ok'w* and *-o'l* third singular inflections is whether there is any discernible difference in meaning between the two. In one sentential context, that of presentational 'there is' or 'there is not', only *'ok'w* is used, never *'o'l.* For other verb stems, it is difficult to discern meaningful differences in isolated sentential contexts. In my fieldwork, I find that for the majority of *oo*-class verbs, *-ok'w* forms are strongly preferred in the context of elicitation. In at least one case, however, distinct third singular forms are attested but have taken on distinct lexical meanings. This is the case with *hegok'w* 'he is going' vs.

[23] Yurok glottal stop is a common reflex of Ritwan **t* in unstressed syllables. See Berman (1982*b*:415; 1984:339–40) for discussion of the Proto-Algic root **t-*, **ta:-* 'be' and its third singular form **takwa.* If Berman's etymologies are correct, then **takwa* may have evolved from a pure existential verb to one of location in Ritwan. An anonymous referee notes, however, that there is no direct support for Berman's Algic paradigm, though Proto-Algonquian has the suppletive pair **ta:-* AI, **tako-* II 'be (somewhere)', which contain the relative-root formative **t-*.

Wiyot forms in (23) are taken from Teeter and Nichols (1993) and follow their orthographic conventions.

Syllable-final devoicing of Yurok **l > hl* as reflected in *-ohl* 'locative' is a regular sound change (Blevins and Garrett 2002).

hego'l 'he is walking, going around'. In this example, there appears to be a difference in specificity with respect to the goal of the verb: for *hegok'w* the goal is known or specific, while with *hego'l* it is unknown or nonspecific. Another way of thinking about this contrast is that *-ok'w* forms focus more on the endpoint of a trajectory or movement path, whereas *-o'l* forms focus more on the trajectory or path of movement itself.

Differences in degree of this kind are suggested by the few analyzed texts where verbs in *-o'l* and *-ok'w* co-occur.[24] In the short published text "Wohpekumew and the Salmon" (Robins 1958:162–63), there are six instances of third singular indicative *oo-* subclass (*iii*) verbs, and all but one have the *-ok'w* suffix. In this particular text, as illustrated in (24), verbs ending in *-ok'w* seem to refer to coming/going to or from a specified location, while *hego'l* in line 5, 'he left', appears to have a nonspecific locative reference, e.g., 'he went somewhere'.[25]

(24) *oo-* subclass (*iii*) third singulars from "Wohpekumew and the Salmon" (Robins 1958:162–63)

(24*a*) *-ok'w* forms

[1] *So nes wohpekumew 'ap nii'now' 'o* ***neskwechok'w***.
'Wohpekumew came and looked and came back'.

[6] *'O* ***neskwechok'w*** *ho mr'wrmry . . .*
'He came to the head of the river and . . .'

[14] *Kwesi noohl kich roo, kiti ye'wome'y lekwsi' 'o* ***sootok'w*** *. . .*
'Then the time came when the sun was setting, and he went outside . . .'

[15] *Hinoy so* ***sootok'w*** *. . .*
'He went behind . . .'

[22] *. . . hinoy kich 'o* ***hegok'w***.
'. . . was coming after him'.

(24*b*) *-o'l* forms

[5] *Kwesi 'o he'm "chuu' tu' ki hegok'" kwesi 'o* ***hego'l***.
'And so he said, "Well, I will be going," and he went'.

[24] The translations do not match Robins exactly and reflect, in part, my own understanding of the language.

[25] Though line 1 appears to have a nonspecific locational reference, it begins the story and seems to assume an understood specific reference, as many first story lines do in Yurok.

Note that *hego'l* in (24*b*) is the same verb which seems to have a lexicalized nonspecific meaning in modern Yurok. However, other verbs are found with *-o'l* inflection in similar contexts with vague, nonspecific, or approximate (as opposed to specific) locational reference. The examples in (25) are taken from a longer text, "The Young Man from Serper" (Robins 1958:165–71). Here there are nine third singular indicative *-ok'w* forms (not including instances of presentational *'ok'w* 'there is') and five third singular *-o'l* forms.

(25) *oo-* subclass (*iii*) third singulars from "The Young Man from Serper" (Robins 1958:165–71)

(25*a*) *-ok'w* forms

[1] *Noohl hikon pechik ho* ***'ok'w*** *perey, tu' wo'oot ho 'ok'ws 'u-k'ep'ew.*

'Once upon a time an old woman lived up the river, and she had her grandson there with her'.

[3] *K'ehl numi to'm ku mewah, kwesi kit 'o pe'l wit 'o so'n keski chpi ni* ***hegok'w*** *mos wey 'u-krtkrk'.*

'The boy was very small, but as he began to grow up it turned out that all he would do was to go down to the water's edge and was never done with fishing for trout'.

[15] *Kolchi ko'l* ***sootok'w*** *ku chines kem tu' sega'ni poy 'o chi nu raayo'r ku 'u-ka'ar.*

'Whenever the young man went anywhere his pet would often run right on ahead of him'.

[16] *Kich 'o pe'l ku ka'ar, tu' 'o sego'n sega'ani 'o* ***menechok'w***.

'The pet grew up, and it often happened that it disappeared in these runs'.

[20] *Noohl niki 'wooro'r 'we-negii'nowok' kus ki won kich* ***sootok'w***.

'Then he ran straight off to look where else it could have gone'.

[24] *'Eme ha'm, Chu ku niige'yoh ku negii'nowoh; kwelekw kich* ***menechok'w*** *ku 'ne-ka'ar.*

'He said, "Let us both go together and look; my pet has disappeared" '.

[27] *'Owook koy kem 'o nii'n*; *paa mos chitaa ko'l 'o* ***hegok'w***.

'The following morning they looked for it again; but no, there was nothing moving about there'.

[81] *. . . ku 'we-nos noohl wonu noohl ni* ***hegok'w*** *kem tu' ko'l 'i key.*

'. . . her husband would go far up in the hills and sit somewhere there'.

[83] *Kwesi kohchi hinoy 'o* ***'orogok'w*** *ku wenchokws 'ap he'm . . .*

'And one day the woman followed him and said . . .'

(25*b*) *-o'l* forms

[23] *Tu' wooro'r*, *tu' 'ok'ws 'we-rahchin ku chines*, *wishtu' 'o* ***sooto'l***.

'Then he ran off, and the young man had a friend, and so he went off'.

[26] *Chmeyonen 'o he's*, *Nek soo muhlcho' wi'shk'oh* ***neskwecho'l***.

'In the evening he thought, "I believe that maybe it will come back now" '.

[112] *Kem noohl 'o* ***neskwecho'l*** *ho k'i wek 'we-hlkelonah.*

'Then the young man came back again to this part of the world'.

[113] *'O pechus 'iki* ***sooto'l***, *ku 'we-neskwechok' ho pechus 'ap new kwesi . . .*

'At once he went up the river, and when he arrived there he saw that . . .'

[120] *Kem 'ok'w paas wishtu' yo' ni* ***hego'l*** *'wesek' ki . . .*

'Then he does not go around thinking that . . .'

In lines 1, 3, 20, 81, and 83 of (25*a*), a specific location is clear. However, other examples in (25*a*) require some comment. In line 15, *ko'l* ***sootok'w*** is translated as 'go anywhere', but it could just as well be glossed as 'go to

some (specific) place', implying that the pet would then follow to that specific place. Lines 16 and 24 involve the verb stem *menech-* 'to disappear'. This verb is thus far unattested with the *-o'l* suffix; it could well be that the semantics of the stem (*men-* 'away, disappear', *-ech-* 'motion') are incompatible with a specific/nonspecific locational contrast.[26] Finally, in line 27, the gloss 'moving about there', given by Robins, suggests that the action is taking place in a specific location. If there is some notion of specific location or endpoint of a coming or going in relevant *-ok'w* examples, is there a corresponding lack of specificity or lack of focus on endpoint in the *-o'l* forms in (25*b*)? This seems to be the case. With the exception of line 112, all *-o'l* forms occur in contexts where specific endpoints are not mentioned. In line 113, *'o pechus* 'upriver' is a direction, not a specific location. And in 112, Robins's gloss 'to this part of the world' might also be taken as vague in comparison to other possibilities.

One thing that is clear from these passages is that, in general, *-ok'w* and *-o'l* do not appear to be free variants of each other. For certain verbs, like *menech-* 'disappear', *-o'l* forms are unattested, while for other verbs like *heg-*, meanings for *hegok'w* 's/he goes' (to a specific place) and *hego'l* 's/he walks, goes around' are consistently distinguished. For significant differences in meaning or use to be discovered in examples like those in (24) and (25), a much wider study of Yurok textual material needs to be undertaken.[27] I hope that the analysis of Yurok verb classes presented here will facilitate such discoveries in future work.

5. Concluding remarks. The four major verb classes of Yurok along with the minor incremental plural class have central unipersonal indicative paradigms from which all other regular inflectional paradigms in the language can be predicted. Inflected unipersonal indicative verbs consist of tripartite verbs stems, thematic vowels, and inflectional endings. The final element of the verb stem determines thematic vowel and verb class. Verbs may default to *e*-class when finals are absent. If thematic vowels are treated as morphological formatives, morphophonemic rules like those in (16) are required. An alternative is a word-and-paradigm analysis of Yurok, in which inflected forms are stored in model paradigms. These model paradigms have principal parts which allow entire paradigms to be generated by identification of one or more key words. Though it could be otherwise, overall phonotactics

[26] In the current Berkeley Yurok Language Project database of searchable texts, the following *-o'l* third singular indicative forms are found: *'o'l* 's/he is at'; *sooto'l* 's/he goes off, goes out'; *hego'l* 's/he goes around, walks'; *hopkecho'l* 's/he begins (a journey), starts out'; *me'womecho'l* 's/he comes from'; *neskwecho'l* 's/he comes back, returns'; *pkwecho'l* 's/he appears, comes out'.

[27] A list of known Yurok texts, including a catalog of Kroeber's unpublished Yurok notebooks, is available at the Berkeley Yurok Project web site: http://linguistics.berkeley.edu/~yurok.

of verb stems along with transitivity distinctions conspire so that third singulars of *oo*-class verbs can be used as principal parts.

A remarkable feature of Yurok is the *oo*-class of verbs, with three distinct subclasses subcategorized by third singular inflections. A careful study of this class reveals two regularities. First, within this verb class, distinct subclasses differing in third singular inflection are associated with distinctions in argument structure: third singulars with *-o'm* are transitive, while other *oo*-class verbs are intransitive. In addition, third singulars ending in *-ok'w* and *-o'l* subcategorize a recognizable class of locative verbs, though precise differences in meaning for these two inflections must await further text-based studies. The historically unmarked ending *-o'* appears to be a default or 'elsewhere' suffix, occurring with other intransitive verbs. Comparative study along with internal reconstruction suggests that the three unexpected third singular indicative suffixes, *-o'm*, *-ok'w*, and *-o'l*, may continue earlier transitive, motion-locative, and stative-locative suffixes respectively. Full paradigms for transitive and locative *oo*-class verbs may result from secondary derivation from monosyllabic verbs *hl-* and *'-* respectively. If this is so, it suggests an interesting evolution of verb-final to inflectional suffix, as well as the cross-categorial nature of Ritwan **-okw* and **-ol*.

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