Reduplication and Infixation in Yurok: Morphology, Semantics, and Diachrony

Andrew Garrett

REDUPLICATION AND INFIXATION IN YUROK: MORPHOLOGY, SEMANTICS, AND DIACHRONY[1]

ANDREW GARRETT

UNIVERSITY OF CALIFORNIA, BERKELEY

1. Introduction. In this paper I investigate two Yurok formations whose meanings fall in the general area of habituality, iterativity, and repetition. One formation, documented in Robins's (1958) grammar, involves infixation or ablaut, depending on the precise context; the other, which Robins did not identify as such, involves verbal reduplication. My main goals here are to describe the morphology and semantics of the two formations as precisely as possible, based on analysis of texts, and to determine their historical origins. Both formations have Algonquian cognates and are inherited from Algic (Algonquian-Ritwan), but I shall argue, against the standard view, that the infix was not inherited from an Algic infix and that it is not related to Algonquian "initial change." What follows may therefore also be of interest to those concerned with the development of infixes generally.

I refer to the two formations under discussion as the "intensive" and the "repetitive" and organize the paper as follows. Necessary background information about Yurok phonology and morphology is presented in **2**. The intensive and repetitive are described morphologically in **3** and semantically in **4**. An account of their origin, Algonquian cognates, and evolution in Yurok is proposed in **5**. Two putative cognates of the intensive are examined in **6**, and **7** contains a brief conclusion.

2. Background and basics. The Yurok language is spoken in northwestern California by fewer than a dozen fluent elders as well as younger language learners. Yurok has six short vowels, viz. *i e a o u* and a central

retroflex vowel *ɹ*, and five long vowels, *i: ɹ: a: o: u:* (but not *e:*). The consonant inventory is shown in (1).

(1) *p, p'*   *t, t'*   *c, c'*   *k, k'*   *kʷ, k'ʷ*   *ʔ*

      s, s', ɬ, ɬ'   *š*   *x, g*   *h*

  m, w   *n, l, r*   *y*

Note that *g* is phonetically a fricative [γ] and that Robins writes *sʔ* and *ɬʔ* for what I here treat phonologically as glottalized fricatives. The fricatives *š* and *x* seem to have become phonemic only recently: *š* is derived from *s* in almost all cases, while *x* occurs in only a few words and apparently arose as a conditioned variant of *g*.[2]

Yurok morphology is mainly suffixing.[3] Verbal suffixes are either medial suffixes, final suffixes, or inflectional endings. Medial suffixes typically have classificatory or lexical functions (e.g., *-oks-* 'flat things', *-eʔwey-* 'face'), while final suffixes manipulate argument structure, aktionsart, and the like. Inflectional endings mark categories like person, number, voice, reflexivity, and mood. It is important to note that tense and aspect categories are marked not by verbal suffixes but (usually) by preverbal particles; there are about 50 preverbal particles, and they often occur clustered.

Exceptions to the generalization that the morphology is suffixing include prefixes and the infix found in the intensive. The prefixes are of three types: pronominal prefixes, which mark verbal subjects (and nominal possessors); a directional prefix *la:-* 'along' (now grammaticalized but still identifiable as a relic of compounding); and reduplication. The primary type of reduplication in Yurok, and perhaps the only productive type, is found in the repetitive.

Two diagnostics suggest that roots together with their (medial, final, and inflectional) suffixes comprise a domain I call the "phonological stem," and that prefixes fall outside this domain. The first diagnostic is the "laryngeal increment" identified by Berman (1981:257–59). In word-initial open syllables, a nonhistorical *h* is inserted after any short *a* or *o* that would otherwise be followed by a voiceless (nonglottalized) obstruent. Robins (1958:8)

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perfect; PL = plural; PRES = present; PRO = pronoun; PTCL = particle; Q = question; REP = repetitive; SG = singular; and 1, 2, 3, = first, second, third person.

   [2] Robins (1958) and Berman (1982a) cite only *ʔwaʔalox* 'guts', where *x* is said to have a phonaesthetic value (R 5), and two other examples that suggest a sporadic final devoicing process: the locative of *melox* 'excrement' is *melogoɬ*, and *mɹʔɹx* 'gills' is surely related to *mɹ:gen* 'lungs'. In the Yurok variety recorded in Sapir (2001) and cited in a few examples below, *s* and *š* had merged as (what Sapir recorded as) *š*.

   [3] For more detail, see Robins (1958) and Proulx (1985b). I follow their segmentation of stem vowels as part of what follows rather than what precedes; either notation raises familiar descriptive problems.

reports that initial syllables are slightly longer than others and that after short *e* a brief *y* glide is audible. In light of this, the laryngeal increment after short *a* and *o* should perhaps be interpreted as a glide-like manifestation of the prominence of stressed open syllables with nonhigh vowels.[4]

Yurok affixes can be divided into two classes: those whose presence does affect the distribution of laryngeal increments and those whose presence does not. Affixes of the first class are attached "before" laryngeal increment insertion, as it were, and affixes of the second class are attached "after" laryngeal increment insertion. Alternations involving medial and inflectional suffixes show that suffixes are attached "before" laryngeal increment insertion. As seen in (2), for example, the medial suffix -*op*- 'water' surfaces as -*ohp*- precisely in a word-initial syllable. The stem *plohp*- will always surface either before a vowel-initial inflectional suffix (in which case the initial syllable would be open without *h*) or in forms marked only by glottalization of the final consonant (in which case the *h* does not surface).

(2) *ka:m-op-*   'to be rough water'   *ka:m-oʔmol-*   'to stink'

  skew-op-   'to be calm (water)'   *skew-oʔmol-*   'to smell good'

  pekoy-op-   'to be red (water)'   *pekoy-oks-*   'to be red (flat things)'

  pl-ohp-   'to be in spate, to flood'   *pl-oks-*   'to be big (flat things)'

The paradigms of monosyllabic and polysyllabic *o*-stem verbs, partially shown in (3), likewise reveal *h* insertion precisely in initial syllables.

(3) *ʔ-ohcek'*   'I give you (sg.)'   *koʔmoy-ocek'*   'I hear you (sg.)'

  ʔ-ohsek'   'I give her, him'   *koʔmoy-osek'*   'I hear him'

  ʔ-ohpaʔ   'you (sg.) give me'   *koʔmoy-opaʔ*   'you (sg.) hear him'

If laryngeal increments manifest accentual prominence at some level (perhaps an earlier stage of Yurok), then certain final suffixes must be analyzed as accent-shifting. This will explain most of the relatively few cases where preconsonantal *h* occurs in a noninitial syllable. For instance, the transitive suffix illustrated in (4) always occurs with a laryngeal increment.

(4) *cegeʔl*   'seaweed'   *cegeʔl-ohs-*   'to gather seaweed'

  peg-on   'to split' (intr.)   *peg-ohs-*   'to split' (trans.)

  tep-on   'to be fixed'   *tep-ohs-*   'to fix'

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[4] It is cross-linguistically mundane for open-syllable lengthening processes to be restricted to the nonhigh vowels. This view of Yurok laryngeal increments is supported by the finding that they arose only in "words which could be stressed" (Berman 1981:258). Note that glottal stops

In these examples we may assume that accentual prominence shifted to the suffixal syllable. The point is that the position of a laryngeal increment (and by hypothesis the position of accentual prominence) cannot be computed in the absence of suffixing morphology.

By contrast, prefixation does not affect laryngeal increment position. As the forms in (5) show, pronominal prefixes can freely be added to nouns and verbs with initial-syllable increments (R 54, 57, 178, 191).

(5) *kohcew-* 'to catch'   *(ʔ)ne-kohcew-ocekʼ* 'I caught you'

    lohp-   'to come in   *ʔwe-lohp-ekʼ*   'it comes in
              lumps'   lumps'

    mohkaʔ 'gooseberry'   *ʔu-mohkaʔ*   'its gooseberry'

    rohp-   'to float   *(ʔ)we-rohp-ekʼ*   'it floated upward'
              upward'

A laryngeal increment likewise surfaces even with the directional prefix *la:-* 'along'. The only example cited by Robins (1958:15) is *la:-hohkum-* 'to build alongside' (*hohkum-* 'to make'), but it seems clear that this is the regular pattern. If the default position of the laryngeal increment is initial, the domain in which this is computed—what I am calling the phonological stem—must exclude prefixes.

An alternation between *-VʔV-* and *-V:-* sequences provides a second test for initial position in the phonological stem. Yurok has a number of pairs of the type in (6), where a *-VʔV-* sequence with identical vowels (always *a*, *o*, or *ʌ*) occurs in one form apparently related to another with a long vowel; in a few cases the two are by-forms.

(6) *ca:nun*   'young shoot   *caʔanar*   'to be new'
               of a plant'

    ca:nu:ks 'young child,
               baby'

    ca:geł   'mattress'   *caʔageł*   'mattress'

    co:neʔn 'four (body   *coʔoneʔn*   'four (body parts,
               parts, etc.)'   etc.)'

    mʌ:gen   'lungs'   *mʌʔʌx*   'gills'

    no:ł   'then'   *noʔoł*   'then'

    wo:meł   'acorn'   *woʔomeł*   'shelled acorn'

    yʌ:nʌʔ   'barnacle, shell   *yʌʔʌnʌʔ*   'halitosis'
               of shellfish'

also function as laryngeal increments (inserted in place of *h* before glottalized consonants), though they will not be relevant here.

Significantly, this alternation is restricted to initial syllables. Moreover, according to published lexical data, almost all -*VʔV*- sequences with identical vowels occur in initial disyllables. Surface exceptions are mostly forms with pronominal prefixes, as in (7).[5]

(7) *maʔahskeł*   'spear'   *ʔu-maʔahskeł*   'his spear'   (R 98)

 paʔah   'water'   *ʔu-paʔah*   'its water'   (R 65)

 saʔawor   'shadow'   *(ʔ)we-saʔawor*   'its shadow'   (R 101)

The generalization is that -*VʔV*- sequences occur in initial disyllables of phonological stems. It is therefore reasonable to suggest that the alternation in (6) reflects a (no longer productive) process whereby -*VʔV*- > -*V:*- in unstressed (or noninitial) contexts.[6]

The proposed interpretation is confirmed by internal analysis. As shown in (8) by an array of numeral forms (R 87–89), the Yurok numeral 'four' has three stems: *toʔon-*, *coʔon-*, and *co:n-*. The initial consonant alternation is sound-symbolic, so only the two stems *toʔon-* and **to:n-* need be considered.

	'THREE'	'FOUR'
(8a) 'human beings'	*nahks-eył*	*coʔon-eył*
(8b) 'round things'	*nahks-oh*	*toʔon-oh*
(8c) 'body parts, etc.'	*nahks-eʔn*	*coʔon-eʔn, co:n-eʔn*
(8d) 'worms, etc.'	*nahks-ek'*	*toʔon-ek'*
(8e) 'flat things'	*nahks-ok's*	*toʔon-ok's*
(8f) 'times'	*nahks-emi*	*co:n-aʔmi, coʔon-emi*
(8g) 'be somewhere x many days'	*nahks-emoʔ-*	*co:n-aʔmoʔ-*

Note that the monosyllabic stem **to:n-* (*co:n-*) appears before the suffixes -*aʔmi* and -*aʔmoʔ-*, i.e., both -*aʔ*-initial suffixes, and that a suffixal -*aʔ*-/-*e*- alternation is correlated with the **to:n-/toʔon-* alternation. Berman (1982*b*: 413) has proposed on independent grounds that *a/e* alternations in Yurok may reflect a sound change whereby Proto-Ritwan **a* ordinarily became *e* but remained *a* under stress.[7] The 'four times' variants in (8*f*) then confirm that the -*VʔV*- > -*V:*- change was accentually conditioned.

[5] Other exceptions occur in compounds; e.g., *lemol-* 'to fish for eels' shows that *lemoloʔoł* 'eel hook' is a compound, so the semantically and formally similar *pkʷegenoʔoł* 'quill, needle' must also be a compound, even though **pkʷegen-* (presumably the intensive of **pkʷen-*) is otherwise unknown.

[6] In principle, this predicts the possible existence of examples where, because of noninitial stress, the -*VʔV*- > -*V:*- change is attested in an initial syllable together with a laryngeal increment in a noninitial syllable. I have not yet identified any such examples.

[7] Probably with other contextual restrictions as well. On the evolution of Yurok vocalism, see also **5.1** below.

Moreover, etymological evidence shows that the disyllabic (-V?V-) forms are historically prior. A clear case is the -o:-/-o?o- alternation discussed in **3.2** for no?op- 'to be tall (round things, etc.)', whose no?- reflects earlier *not- (Wiyot dot- 'be large'). The Yurok numeral 'four' (above) may be a second example, if to?on- continues an earlier *tok- (with a similar debuccalization, though not independently documented for *k).[8] For most examples we have no etymologies, but the evidence as a whole indicates that the -V?V-/-V:- alternation arose through a -V?V- > -V:- change, and that -V?V- sequences are diagnostic of the initial disyllables of phonological stems.

3. Intensive and repetitive morphology. I discuss the formation of intensives in **3.1** and of repetitives in **3.2**. Note that I use the term "intensive" to be consistent with Robins's grammar, a choice implying nothing about the meaning of the formation. I argue in **4** that its uses do not include the expression of "intensity."

3.1. The intensive. The intensive has two basic allomorphs (or classes of allomorphs). Its most frequent form is an infix -eg-, positioned as in (9) "between the initial consonant or consonant cluster and the first vowel of the stem" (R 80).

(9)   BASE VERB   INTENSIVE

    la:y-   'to pass'   *l-eg-a:y-*

    łkyork^w-   'to watch'   *łky-eg-ork^w-*

    ko?moy-   'to hear'   *k-eg-o?moy-*

    trahk-   'to fetch water'   *tr-eg-ahk-*

    tewomeł   'to be glad'   *t-eg-ewomeł*

If the stem's first vowel is *ɹ* (e.g., *kɹtk-* 'to fish for trout'), a regular harmony process converts the infix into -ɹg- (so, e.g., *k-ɹg-ɹtk-*).[9]

The intensive also has a class of vowel-changing allomorphs that affect only stems whose initial syllable has the vowel *e* or *ɹ*. Not all such stems are affected, but the vowel-changing form of the intensive must represent the original formation for stems with initial-syllable *e*. That is, verbs like

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[8] Yurok 'four' has resisted etymological analysis, but hypothetical *tok- would precisely match Proto-Algonquian *ša:ka 'four' (Siebert 1975:310) according to the correspondences established by Berman (1982b). The etymology of no?op- is due to Berman (1990:432), though my analysis of the -V?V-/-V:- alternation differs.

[9] A further detail is that verbs whose initial-syllable vowel is preceded by a glottal stop "infix -e?g-, or -ɹ?g-, if the first vowel is *ɹ*" (R 81); e.g., ?ahsp- 'to drink' and ?ɹp- 'to tell' form intensives ?-e?g-ahsp- and ?-ɹ?g-ɹp-. I have no account of this phenomenon, which must be related to the insertion of ? before g in possessed forms of nouns in hVg- (R 26–27).

tewomeł in (9) show an infix rather than vowel change as a result of anal-
ogy: the generalization of the productive *-eg-* infix.

The central type of vowel-changing intensive, seen in (10), turns a base *e*
into *i:*. In some such cases the base itself may be the result of intensive
infixation, and in fact there has been a tendency to use this double intensive
(in *-i:g-*) in lieu of the ordinary intensive (in *-eg-*) for some verbs.

(10) BASE VERB   INTENSIVE

   kʷeget   'to visit'   *kʷi:get*

   leko:(t-) 'to stab'   *li:ko:(t-)*

   nek-   'to put'   *ni:k-*

   tmeg-   'to hunt' (intensive   *tmi:g-*
                   form)

The vowel change in (10) must have arisen via a series of changes whereby
-ege- (or its ancestor) became *-iyi- > -i:-* (e.g., *ni:k- < *niyik- < *n-eg-ek-*
based on *nek-* 'to put'). These changes are discussed in more detail by Ber-
man (1982*b*:416) and Proulx (1984:170).[10]

Before *w* or *kʷ*, the vowel change in (10) yields *u:* rather than *i:*. This al-
ternation, seen in (11), obviously reflects an assimilatory process.[11]

(11) BASE VERB   INTENSIVE

   lekʷoł- 'to fall, fill the air' *lu:kʷoł-*

   new-   'to see'   *nu:woy-*   (intensive passive)

   pew(om)- 'to cook'   *pu:wom-*

In a few cases, parallel to those in (10) and (11), "verb stems in which the
vowel of the initial syllable is *ʌ* were found to have intensive forms with
i: . . . or *u:*." (R 85). One mark of diminutive sound symbolism is an *e → ʌ*
vowel change, and Robins is surely right to assume that examples like
those in (12) point to an earlier or unattested base verb with *e* rather than *ʌ*
vocalism. High vowels do not undergo the diminutive shift to *ʌ*.

(12) ATTESTED VERB   HYPOTHETICAL BASE   INTENSIVE

   cʌwʌhs- 'to point'   *cewehs-*   *cu:wʌh(s-)*

   tʌgʌw   'to speak . . .'   *tegew*   *ti:gʌw*

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[10] The change to *-i:-* probably occurred only before velars (as Proulx suggests), since in
virtually all bases of this type, as in (10), the *e* precedes a velar stop. After *ʔ*, what surfaces
is *-iʔi-*, not *-i:-* (e.g., the intensive of *ʔekʼeroʔ* 'to light' is *ʔiʔikʼeroʔ*). Presumably, *ʔ-eʔg-e- >
ʔ-iʔy-i- > ʔiʔi- or the like.

[11] Verbs of this type should have intensives in *-uʔu-*, not *-u:-*, if the root *e* is preceded by
a glottal stop, though no relevant examples are attested.

The original locus of the vowel-changing type of intensive formation is thus verb stems whose initial syllables have *e*, and the attested changed vowels reflect further developments of *-ege-*. In short, the infix *-eg-* underlies all realizations of the intensive.

It is worth noting that intensive markers, though infixed into a verbal root, are nonetheless outside the phonological stem described in **2**. In other words, as shown by one example in (9) and by further examples in (13) and (14), laryngeal increments and *-VʔV-* sequences are unaffected by intensive formation.

(13) BASE VERB   INTENSIVE

    ťohkoł   'to thunder'   *ť-eg-ohkoł*

    rohsim-   'to spear'   *r-eg-ohsim-*

    ʔahtemar   'to write, to draw'   *ʔ-eʔg-ahtemar*

(14) BASE VERB   INTENSIVE

    hoʔomah   'to make a fire'   *h-eg-oʔomah*

    maʔah(sk-) 'to spear'   *m-iːg-aʔah*

    noʔomełk- 'to stay somewhere' *n-eg-oʔomełk-*

Any historical account of the intensive should take this pattern into account.

3.2. The repetitive. Though Robins (1958:13–14) does mention reduplication in general terms, citing examples that are mostly of this type, he nowhere identifies it as a type or describes any of its morphological or semantic characteristics. In verbs of this type, a bimoraic reduplicant is prefixed to the verbal stem. The reduplicant may be a single *CVC* (or *CCVC*) syllable, a single *CV:* syllable, or two light syllables (i.e., *CVCV*). The structure of the base determines which reduplicating option is chosen. If the base begins with a *CVʔV-* sequence, then the reduplicant has a long vowel (*CV:*). Examples of this type appear in (15).[12]

(15) *maʔepet-*   'to tie up'   **maːmaʔepet-** 'to tie right up'

    moʔohkeloyt 'to make into a **moːmoʔohkeloyt** 'to make several
               ball'   balls'

    noʔop-   'to be tall (round **noːnoʔ(op-)** (reduplicated
               things, etc.)'   form)

    waʔapah   'to lean'   **waːwaʔapah**   (reduplicated
                                                form)

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[12] I do not know whether the translaryngeal vowel identity in three of the four forms in (15) is accidental or somehow significant.

Robins (1958:93, 231) and Berman (1982*a*:219) identify no semantic differences between the base forms *no?op-* and *wa?apah* and the reduplicated forms based on them, but because of the form of their reduplications I assume that they do belong to the class of repetitives. In the former case it seems possible that base and derivative have simply collapsed semantically; the difference may not have been noted in the latter case.

If a verb stem begins with a sonorant but the second consonant is not a glottal stop, then the reduplicant is disyllabic. Examples of this type appear in (16).[13]

(16)	*lo?moh*	'to pummel'	*lo?molomoh*	'to pummel repeatedly, to knead'
	meno:?	'pull (anything)'	*menomeno:tek'*	'I repeatedly pull'
	*mokʷ-		*mokʷomokʷoc-*	'to bark'
	mʌkʷʌɬ	'peak'	*mʌkʷʌmʌkʷʌɬ*	'series of peaks, mountain chain'
	yegohs-	'to squeeze, to press'	*ye?goyegoh*	'to squeeze repeatedly'
	yekʷoh(s-)	'to fold'	*yekʷoyekʷoh*	'to fold several things'

Note too that one pair in (16) is nominal rather than verbal, and that the base of 'bark' is not directly attested; the root **mokʷ-* can be inferred from the word *megokʷ* 'dog' (< 'barker'), itself derived via intensive infixation.

If a verb stem begins with an obstruent, its repetitive has a monosyllabic *C(C)VC* reduplicant. This pattern is well attested, and I divide the examples cited here into three groups. First, in (17), I cite cases where the final consonant of the reduplicant is a sonorant.[14]

(17)	*ckem*	'to count'	*ckemckem*	'to make small tatoo marks'
	kʷʌyʌwʌk'	'I whistle once'	*kʷʌykʷʌyurowok'*	'I whistle a song'

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[13] The base and repetitive forms of 'pull' are cited from Proulx (1980:notebook 4, p. 21). Two related verbs, *sweton-* 'to crack' and *swecoh-* 'to tear' (with diminutive sound symbolism), show an irregular variant of the pattern in (16): their repetitives are *swetowetoh* 'to crack several places' and *swecowecoh* 'to tear up', with disyllabic reduplication but loss of *s* in the base. I cannot explain the irregular behavior of glottalization in the forms of 'pummel' and the repetitive of 'squeeze'.

[14] The forms of 'I whistle' in (17) are cited from Proulx (1980:notebook 4, p. 6). Robins (1958) does record related forms, but the precise glosses provided to Proulx by the late Florence Shaughnessy are instructive.

łkeroh(s-)	'to thump'	*łkerłkeroh(s-)*	'to thump repeatedly'
smemoł	'to break' (intr.)	*smemsmemoł*	'to break up, to slide'
spʌyʌ:	'to blow a whistle'	*spʌyspʌyʌ:*	'to blow a whistle repeatedly'
		syewsyew	'to lap (of small waves), to rattle (of strings of shells)'
t'k'eroh(s-)	'to thump . . .'	*tk'ert'k'eroh(s-)*	'to thump repeatedly'
*twenoh		*t'weʔnt'wenoh*	'to (try to) pry up repeatedly'

Note that the base of *syewsyew-* 'to lap . . .' is unattested. The base **twenoh* can be inferred from *twenohs-* 'to pry up'; its repetitive shows unexpected glottalization as well as the intrusive glottal stop also seen in some examples in (16).

In table 1, I cite examples of the same type where the reduplicant's final consonant is an obstruent. Note that one example involves a noun and that the base is unattested in two cases.[15] Finally, in (18), I cite five forms where the final consonant of the reduplicant is not in the base. In two cases the base is inferred: *to:ps-* 'to slap' points to a **to:p-*, of which **co:p'-*, **tʌ:p-*, and for that matter *s'o:p-* are different diminutive variants.[16]

(18)
*co:p'-		*cokco:p'aʔr*	'to drum'
sya:łk-	'to kick'	*syaʔsya:łk-*	'to kick repeatedly'
s'o:ponem-	'to hit with the fist'	*s'oks'o:ponem-*	'to hit . . . repeatedly'
s'o:peʔweʔy	'to be hit in the face'	*s'oks'o:peʔwey*	'to be hit . . . repeatedly'
*tʌ:p-		*tʌktʌ:pʌtew-*	'clap the hands'

Unlike the repetitives in (15)–(17) and table 1, these all have bases with long vowels, which presumably (to use informal terms) makes the consonant

[15] The base of 'to have a cold' can be inferred from *kʷes'oyew-* 'to treat (used of prayer doctor)'. I conjecture that **kʷes-* is derived from **kʷet-* (*kʷetoyos* 'pear-shaped piece of wood put near fire in wishing ill on someone') by means of the $t \rightarrow s$ diminutivization process elucidated by Berman (1986); *kʷeskʷes-* would then originally have meant 'to have a lot of sniffles' or the like.

[16] Glottalization in tandem with sound-symbolic diminutivization is also found in *kʷes'oyew-* (see n. 15) and has been suggested for Yurok by Blevins (2000).

TABLE 1
YUROK REPETITIVES WITH OBSTRUENT-FINAL REDUPLICANTS

kep'eł	'housepit'	**kep'kep'eł**	'there are several housepits'
keťey	'to park, moor'	**keť'keťey-**	'to lie (boats)'
keťul-	'there's a lake'	**keť'keťul-**	'there's a series of lakes'
		kotkoti?r	'to jump up and down'
*kʷes-		**kʷeskʷes-**	'to have a cold'
pegon-	'to split'	**pegpegon-**	'to split in several places'
pʌkʷʌh(s-)	'to peck or knock'	**pʌkʷpʌkʷʌh(s-)**	'to peck or knock repeatedly'
scep'	'to land (of a boat)'	**scep'scep'oh**	'to land several times'
sitoh(s-)	'to splinter' (trans.)	*sitsitoh(s-)*	'to splinter several times'
siton-	'to crack' (intr.)	*sitsiton-*	'to crack several times'
-slekʷ	'clothes' (one set)	**-slekʷslekʷ**	'clothes' (generally)
		slepslepoh	'to slip in (e.g., letters into a slot)'
tek(toy-)	'to grow' (of plants)	**tektekon-**	'to grow in tufts'
tekun-	'to be stuck together'	**tektekun-**	'to be stuck together in several places'
tekʷs-	'to cut'	**tekʷtekʷs-**	'to cut up'
tikʷohs-	'to break' (trans.)	**tikʷtikʷohs-**	'to break in pieces'
tikʷoł	'there is a canyon'	**tikʷtikʷoł**	'there is much sliding'
tikʷon-	'to be broken'	**tikʷtikʷon-**	'to be broken in pieces'
tkekoh(s-)	'to jab'	**tkektkekoh(s-)**	'to jab repeatedly'

following it inaccessible for reduplication. I do not know why the inserted consonant is usually k but once ?.[17]

A priori, the most reasonable historical analysis of the reduplication patterns associated with the repetitive is that they reflect an original disyllabic pattern. The type seen in (16)—*mokʷomokʷoc-* 'to bark', etc.—represents the original pattern, and the other patterns have in some way deviated. The essential change by which these other patterns came to exist was vowel loss (syncope), and the synchronic patterns should therefore cast light on the details of syncope.

Syncope in various contexts is well motivated as a historical change in Yurok. The examples in (19) and (20) show by comparison with Algonquian that Yurok has lost some originally initial-syllable and word-final vowels, respectively.[18]

[17] Unexpected *CVk-* reduplication is also found in *toktomoy-* 'to be in bits', based on *tomoy-* 'to be a particular age' (underlyingly 'to be a certain amount' or the like); we would expect **tomtomoy-* like *ckemckem* in (15).

[18] The comparisons in (19) and (20) are cited by Goddard (1975; 1990), Berman (1982b; 1984; 1990), and Blevins (2000); on Yurok 'liver', see Berman (1990:432). My analysis of

(19) Proto-Algonquian   Yurok

     *ke-t-   second-person prefix   k'- < *kt- second-person prefix

     *ne-t-   first-person prefix   ʔn- < *nt- first-person prefix

     *pekiwa   'gum, pitch, resin'   pkenc   'pitch'

     *taxkw-   'short'   tkʷ-   'short'

     *watapya   'spruce root'   ʔwohpeg 'spruce root'

(20) Proto-Algonquian   Yurok

     *kiːla   'you (sg.)'   keʔl   'you (sg.)'

     *mexkaːči 'someone's leg'   meckah   'someone's foot'

     *weθkani   'his bone'   ʔwʌłkʌʔ 'his bone'

     *weθkweni 'his liver'   ʔwełkʷʌn 'his liver'

The point of these examples is not to establish the rules of syncope but to show that syncope in some form did occur. The precise details remain to be determined.

Likewise, we may infer from the patterning of repetitive reduplication that syncope did occur in the second syllable of reduplicants. Presumably, such syllables were unstressed, as were the syllables of pronominal prefixes. Sample derivations are shown in (21).

(21a) *smemosmemoł   > smemsmemoł   'to break up, to slide'; cf. (17)

(21b) *tikʷotikʷohs-   > tikʷtikʷohs-   'to break in pieces'; cf. table 1

To explain the repetitive reduplication patterns in (15) and (16), I propose that syncope was blocked when the target vowel was followed by a sonorant, as in (22).

(22a) *mokʷomokʷoc-   > mokʷomokʷoc-   'to bark'; cf. (16)

(22b) *moʔomoʔohkeloyt > *moʔomoʔohkeloyt 'to make several balls'; cf. (15)

'short' differs from that of Berman (1984:338), who treats *taxkw- as an originally reduplicated formation *tatkw- whose base *tkw- corresponds to Yurok tkʷ-; but Algonquian *xk need not reflect *tk, and initial-syllable syncope (here with cluster simplification) is also found in other classified adjectives in Yurok. Note also that Proto-Algonquian *pekiwa is not an exact cognate of Yurok pkenc 'pitch' but is just somehow related. Final vowel loss is also synchronically present in some sense if, as the e-stem and o-stem indicative forms 1 sg. -ek', -ok', 2 sg. -eʔm, -oʔm suggest, 3 sg. -ʔ should be analyzed as underlying e-stem /-e-ʔ/, o-stem /-o-ʔ/ with short vowel loss / __(ʔ) #.

Several considerations support the plausibility of this condition on syncope. First, note that the consonant following a syncopated vowel is an obstruent in the examples in (19). Moreover, while Yurok has numerous initial obstruent + C clusters and medial C + obstruent clusters, medially it has few oral C + sonorant clusters (apart from those created by compounding), and there is no evidence for syncope in any of these examples. It may well be that such clusters did not exist at the time of syncope. To be sure, any statements about Yurok syncope must remain preliminary, but the developments in (21) and (22) seem plausible.

In (22*b*), the result *mo?omo?ohkeloyt* differs from the attested form *mo:mo?ohkeloyt* in (15). The explanation for this difference has already been discussed (in 2). The sequence *V?V* was retained in initial disyllables of phonological stems, but elsewhere (or at any rate in unstressed contexts) it was reduced to *V:* via *?* loss and vowel contraction. The long-vowel reduplication pattern in (15) confirms that repetitive reduplicants, like other prefixes and the intensive infix, lie outside the phonological stem. Except for the pattern in (18), whose history is obscure, all the reduplication patterns in the repetitive are thus explained historically.

3.3. Summary. Based on internal reconstruction, it is possible to recover the earliest forms of the intensive and the repetitive. The earliest intensive type recoverable from Yurok evidence alone is the type with infixed *-eg-*, from which the other types have developed. The earliest recoverable repetitive marker is a disyllabic (*CVCV-*) reduplicant, from which the other markers have arisen through loss of the second vowel and other changes. Both forms (the infix and the reduplicant) behave like prefixes inasmuch as they do not affect the placement of laryngeal increments or *V?V* sequences. It is these forms, together with the meanings of the intensive and repetitive, that must be the basis for any further reconstruction.

4. Semantics. The Yurok intensive and repetitive formations fall squarely within the semantic area of distributivity, iterativity, and verbal plurality, classically analyzed in detail for Takelma and Southern Paiute by Sapir (1922:127–34; 1930:148–59, 236–41, 256–62) and treated more recently by Cusic (1981), Mithun (1988), and Lasersohn (1995:238–66). A basic contrast in this semantic area is between what Cusic calls "repetitive" and "repeated" action, respectively expressing "event-internal" and "event-external" verbal plurality. In repetitive action, according to Cusic, "the units of action are conceived of as confined to a single occasion, and to a single event on that occasion. . . . [T]he index of repetitions is usually considered to be large or uncountable (i.e. mass-like)." In repeated action, by contrast, "the units of action are potentially distributable, though not neces-

sarily distributed, over multiple occasions" (Cusic 1981:78–79). These two types of verbal plurals are widespread cross-linguistically, and I suggest in **4.1** and **4.2** that the Yurok intensive and repetitive formations mark, respectively, repeated and repetitive action in roughly the sense discussed by Cusic (and in comparable terms by others). In both formations an essential element is general or indefinite repetition; an important difference is that the repeated actions comprise a single event in the repetitive formation, while in the intensive formation it is an event of some type that is generally or indefinitely repeated on different occasions.

4.1. The repetitive. The meaning of repetitive reduplication seems fairly clear from the glosses in **3.2**. This formation indicates that an action is repeated a number of times in a relatively short time. Most of the verbs with documented repetitives have meanings that involve sudden action—verbs of breaking, hitting, and the like being prominent—because such sudden actions lend themselves to quick repetition. The fundamental sense conveyed by this formation is of a series of iterated or repeated instances of whatever the base denotes, including a series of lakes, mountain peaks, or single whistles comprising a song.

Repetitives are not common in texts, but examples can be quoted. In some examples there are near-minimal repetitive and nonrepetitive pairs. For instance, the narration in (23a) is part of Robert Spott's tale of the first salmon ceremony at Welkʷew, as told by Florence Shaughnessy (R 182–83); the highlighted sentences are given in Yurok in (23b) and (23c).

(23a) For five more days sturgeon, salmon, and eels must only be cooked on a fire; when the fish has been split **then it is to be cut once down the middle**. . . . [Later:] The gills and the guts, the back, the head, and the tail of the salmon was none of it cooked; **the girl cut this up** and scattered it at the mouth of the river where the waves break along the shore.

(23b) *kesi   ʔo   kohcemi tekʷs-i   la:-wogi*
       FUT   LOC   once   cut-PASS3SG along-in.the.middle

       'It is to be cut once down the middle'

(23c) *tuʔ   weʔyon   wiš   ho   tekʷ-tekʷs-oʔm*
       but   girl   PRO   PAST   REP-cut-3SG

       'The girl cut this up'

Of interest in (23) is the contrast between the first event—a single cut down the middle—and the later event in which a number of salmon parts are cut into pieces and scattered. The single cut is expressed by the simple verb *tekʷs-*, while the dicing is expressed by the repetitive form *tekʷ-tekʷs-*.

A second contrast is illustrated in (24) and (25). The example in (24) is also from the account of the first Weɫkʷew salmon ceremony (R 172–73); the sentence in (25) is cited without context.

(24a) At that time one of the houses was burnt down where the pipes were kept, and one pipe was broken (*tmohkeli?*) in two places. The old man who made the pipes . . . was afraid that the other pipe might go away because **its mate had been broken**. So he made another pipe just like the one that was broken (*tikʷoni*).

(24b) kic   tikʷoʔn   ku   ʔu-ʔwahpemew
      PERF be.broken.3SG ART 3-spouse

      'Its mate had been broken'

(25) nahksey ne-ʔyoc we-tikʷ-tikʷ-on-eɫ   ho   so: ka:meg
     three   1-boat   3-REP-be.broken-3PL PAST so   be.bad.weather

     'Three of my boats have been broken it was such bad
          weather'   (R 112)

Note in (24) that the pipe has been broken only in two places, not repeatedly, while the repetitive form is used in (25) for what are presumably the repeated blows of a violent storm.

In (26) and (27), note the contrast between two forms of *maʔepet-* 'to tie up'. The sentence in (26) appears in the same text as (23) and (24); the passage in (27) is from "The Young Man from Serper" (R 168–69).

(26) no:ɫ nepeʔwišneg ʔu-ʔwʌs ʔemeɫ maʔepoyew ku   ʔwe-ʔlep
     then otter   3-skin   CIRC   tie.up.PASS ART 3-hair

     '(Then he combed his hair), and then his hair was tied up with an
          otter skin'   (R 176–77)

(27a) And then they saw . . . that something was being dragged along there. It was Coyote being dragged along; **he was all tied up**, and thrown into the boat, because people were fed up with Coyote ever since he had been there.

(27b) kʷelekʷ kic   ko:si   ma:-maʔepoyew
      well   PERF all over REP-tie.up.PASS

      'He was all tied up'

Repeated tying ('all over') is needed to restrain Coyote in (27), while in (26) there is no reason to posit any similar iteration.[19]

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[19] The only repetitive form documented in the Yurok texts collected by Sapir (2001) appears in the following context: "Coyote . . . said, 'I'll kill the Sun'. . . . Next morning . . . he jumped on him, Coyote did. He hit him [repetitive *tekʷ-tekʷo:hš-oʔm*] with the rock. Then that Sun fell on the ground." While the translation does not suggest any repetition, the context

4.2. The intensive. In contrast to the repetitive, the Yurok intensive is not used for iterated or multiple actions that occur in quick succession and are therefore presented as single events. The intensive marks iterated or multiple events: "repeated action" in the terms used by Cusic (1981).

Functions of the intensive have previously been cited by three authors. Robins (1958:82) makes the following relevant claims: "The commonest meaning is plurality, intensity, or iteration of the action, state, or process denoted by the verb . . . With a negative preverbal particle . . . the negation is intensified . . . Sometimes the plurality refers to the subject of the verb . . . [or] to the object." I shall return below to the assertion that "intensity" characterizes this formation. Meanwhile, note that Robins's examples are presented out of context (so that their precise force cannot be discerned) and mostly have translations involving the words 'always', 'often', and 'regularly'.

A. L. Kroeber, whose exposure to Yurok far exceeded that of any other scholar, unfortunately never wrote an account of the intensive, but he regularly called it "iterative."[20] His associate T. T. Waterman, in a sketch "based on text material supplied by Kroeber, together with additional notes made by myself in the field," characterized the intensive as follows: "Its significance is clear. With verbs it means *often* or *habitually*, adding the idea of frequent or customary occurrence" (Waterman 1923:369, 380). It seems fair to conclude that the consensus of the earliest work is that iterativity or the like is central to the meaning of this category.

The Yurok intensive most commonly occurs in habitual or characterizing contexts. Some clear isolated examples are quoted in (28).

(28a) yo? kʷelekʷ we-?e?goroyew-ek' kic meł ka?a:l
      he well 3-be.in.debt.INT-SG PERF CIRC slave

      'He has become a slave through being continually in debt' (R 131)

(28b) meł megenep' we-yah mi? ko?mi tegenpe?y
      CIRC ache.3SG 3-stomach because very eat.much.INT.3SG

      'His stomach aches because he regularly overeats' (R 148)

(28c) kʷelekʷ kic cpa:ni wi? meł regurow-o:?m
      well PERF long (time) PRO CIRC sing.INT-PL

      '(The songs you sing,) they have been singing them for ages'
        (R 140)

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is consistent with Coyote hitting the Sun repeatedly, since he assaults the Sun rather than throwing the rock.

[20] See, e.g., Spott and Kroeber (1942:216) and Kroeber (1976:312, 405). Kroeber worked with Yuroks for much of his professional life, and Theodora Kroeber reports having witnessed "longish exchanges between Kroeber and a Yurok, both speaking Yurok" (Kroeber 1976:xv).

In each case the intensive verb denotes not just a repeated event but a habitually repeated event: the respective subjects of (28a)–(28c) habitually owe, overeat, and sing certain songs. The longer but still isolated example in (29) shows a nice aspectual contrast.

(29)   k'i kʷen coʔ kic   no:ɬ ri:gohs-oni   nepuy tuʔ cpi
       whatever   PERF long spear.INT-PASS3SG salmon and only

       koʔr ʔo:ɬ   niki   merkuʔm
       one   person CONS eat.up.3SG

       'All the time salmon have been speared only one man has eaten it
       all up'   (R 142)

The salmon spearing is habitual—hence intensive ri:gohsoni—but the eating was episodic.

Text passages where intensive and nonintensive verbs alternate give a particularly clear sense of the functions of the intensive. For instance, the intensive is used twice in Florence Shaughnessy's brief story, "The Fox and the Coon" (R 164–65), as highlighted in (30).[21]

(30a) In those days way back in this creek a log lay across the water, and **a fox used to cross over on it** and was often running there. Once as he was crossing over it he saw something right in the middle of it. . . . [T]he coon said, " . . . [Y]ou have your own fishing place underneath and **are always stealing there**. You eat nothing but trout."

(30b) wiʔi:t ri:gayoʔr   ku   wʌgʌs
      this   run.past.INT ART fox

      'A fox used to cross over on it'

(30c) wi   ʔo   kegemol-eʔm
      PRO   LOC steal.INT-2SG

      'You are always stealing there'

The intensives in (30) are not used for single events, whether back-grounded ('as he was crossing') or foregrounded ('he saw'), nor even for extended states that lack internal temporal structure ('lay across the water'). They appear only in contexts where some potentially repeated event (crossing, stealing) is characteristic of a period of time.

Another set of examples is from Mabel Brantner's story, "Wohpekumew and the Salmon" (R 162–63), whose narrative concludes as in (31a). The

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[21] Again, 'used to' and 'always' are English translation devices meant to render the intensive verbs. 'Often' renders Yurok k'enogoʔɬ 'frequently', itself a fossilized intensive: k'e- is the 2 sg. pronominal prefix, and -n-eg-oʔɬ is related to the adverbs no:ɬ 'then, far, long' and noʔoɬ 'then' (which takes pronominal prefixes).

second half of (31a) is given in Yurok in (31b) and (31c), whose three
verbs are the only intensives in the entire story.

(31a) That is how it came about that today the bends in the river are
sharp because he knew that she was coming after him. "And
now," he said, "it shall come to pass that the salmon shall go
down to the sea, and that they shall return, because they are
homesick, to the head of the river." And today we Indians eat
salmon regularly from the river.

(31b) ki   kʷegomł-eʔm miʔ   kegesomewt-eł   so mɹʔwɹmɹy
FUT return.INT-PL because be.homesick.INT-3PL to head.of.river

' . . . and that they shall return, because they are homesick, to the
head of the river'

(31c) tuʔ weʔyk'oh nekah k'i   ʔo:ł   k'i   la:yoh meł
and today   we   ART people ART river CIRC

negep-iʔm-oh nepuy
eat.INT-PL-1PL salmon

'And today we Indians eat salmon regularly from the river'

As in (30), the intensives are habitual (they characterize the present day)
and describe potentially repeated situations (e.g., salmon returning, Indians
eating salmon). Note that being homesick is a state, just like lying across
the water in (30), with both states characteristic of their respective time pe-
riods. The difference is that the characteristic state in (31) has internal
structure: it is iterated because indefinitely many salmon are homesick.

A final passage can be quoted from a text collected by Sapir (2001) from
Mary Marshall. The only intensive in the passage in (32a) occurs in the last
sentence, given in Yurok in (32b).

(32a) One year went by, again she sat down there. . . . She looked
towards the water. She saw that cap floating back. She picked up
that cap, looked inside of it, and saw in it there lay something
very small. It was Indian money. She took the money out and put
it into the water. That money was there in the water where she
was always sitting.

(32b) wiʔ   ʔo   paʔaʔn   ku   ʔo   cyegu:k'ʷiʔn
there LOC there.is.water.3SG ART LOC sit.INT.3SG

'That money was there in the water where she was always sitting'

Note the long series of episodic situations that precede and contrast with
the habitual situation described at the end of the passage.

An important context where intensives have a habitual (or characteriz-
ing) force is in nominal derivatives such as agent nouns and place-names.

Yurok has many occupational and descriptive terms meaning 'one who habitually does an action', 'place where an action is habitually done', or the like. The place-names in (33) are representative of many others that could be adduced; *ʔo* is a locative particle. Added comments highlight the Yurok interpretations of place-names.

(33a) *ʔlepoyɬ ʔo pkʷ-eg-ec* 'hair emerges there' (*pkʷec-* 'to sprout, to 'come out'; cf. *ʔleptoyɬ* 'hair')

'A reef, around which the water "boils." It is said that deer-hair, bear-hair, and elk-hair come out on top of this water' (Waterman 1920:J53 *lépoiɬ-o-pkwégets*)

(33b) *ʔo ɬk-eg-oʔ* 'one gathers acorns there' (*ɬk-* 'to gather acorns')

'A hillside with a heavy growth of oaks. The acorns were very plentiful here, and anyone could go there' (Waterman 1920:D65 *o-ɬkégo*)

(33c) *ʔo pyu:weg* 'one dances the deerskin dance there' (*pyeweg* 'to perform the deerskin dance')

'A large town . . . [whose name] refers to the celebration here of a jumping dance' (Waterman 1920:I35 *o-pyú:weg*)

(33d) *ʔo sl-eg-oyc* 'one descends there' (*sloyc-* 'to descend')

'A declivity where the trail leads from the hillside down toward a ford' (Waterman 1920:D92 *o-slegóits*)

Representative animal names and a plant name and an agent noun are given in (34) with their transparent sources.

(34)

h-eg-aʔp'oh	'cottonwood tree'	*haʔp'oh*	'resin, pitch'
h-eg-eʔm	'go-between in marriage transactions'	*heʔm*	's/he says'
m-eg-esik	'mink'	*mesik-*	'to be thin' (worms, etc.)
m-eg-okʷ	'dog'	*mokʷo-mokʷoc-*	'to bark'
t-eg-eʔy	'flea' (with 3 sg. -ʔ-)	*teykelum-*	'to bite'
t-eg-iʔn	'canary'	*tiʔnpelah*	'to be yellow'

Compare finally the exchange in (35) reported by Kroeber (1902:80, transcription updated).

(35) *megeskʷos-eʔm*   *hes? ʔey, toʔ ki meskʷos-ek'*
      make.medicine.INT-2SG Q   yes then FUT make.medicine-1SG

'Are you a doctor?' 'Yes, I will make medicine'

The intensive form of 'make medicine' is translated 'be a doctor' precisely because a doctor makes medicine habitually (as her occupation).

Though habitual and similar contexts predominate in examples of the intensive, it can appear elsewhere. In particular, as in (36), the intensive is used to depict a repeated situation as ongoing.

(36a) weʔyk'oh kʷelekʷ ʔocka: tm-eg-oʔ
      now   well   PRES   shoot-INT-3SG

      'At present he is out hunting'   (R 101)

(36b) yoʔ cwegin   woʔn   ho   moʔok'ʷ   we-sew
      he   say.INT   until   there.is.not   3-breath

      'He went on talking until he had no breathing (i.e., until his last
          breath)'   (R 149)

Here, the actions of shooting and talking are iterated and are presented as ongoing: the subject in (36a) is still hunting (iteratively shooting), and the subject of (36b) continued to talk.

An example in context can be cited from Robert Spott's narrative, "Brave from the Thunders." The twelve Thunders are asked where they have been, and each in turn tells his story. The report of the second oldest is given in (37).[22]

(37) nek kʷelekʷ k'i   ni   segepolah   ni   molo cyi:gu:kʷen-ek'
      I   well   ART   LOC   prairie.INT   LOC   PTCL sit.INT-1SG

      'I was sitting about on the prairies, (receiving everything in this
          world that they blow out [the tobacco offered to
          spirits])'   (Spott and Kroeber 1942:230)

An intensive appears here because the action is iterated (sitting on the prairies). The intensive infix also appears in the noun 'prairies', a use to be discussed below.

From another narrative, a striking minimal pair is cited in (38).[23]

(38) cu   ki   niʔi:n-oʔ   toʔ   kic   ni   negiʔi:n-oʔ
      HORT FUT   be.two-PL   and   PERF   LOC   be.two.INT-PL

      'Let us cohabit. We have been going together all this time'
          (Spott and Kroeber 1942:234)

The special senses 'cohabit' and 'go together' are idiomatic, but the aspectual force of the ordinary and intensive forms of 'be two' is clear. The first

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[22] Spott and Kroeber print *Nekwelek' ki-ni-sege'pola nimolotsigūkwinek'*. The preverbal particle(s) *molo* correspond(s) to nothing identified by Robins (1958) as far as I can tell.

[23] In their *Tsukini'ino'* and *Tokitsninegi'ino'* I interpret *-oʔ* as a noninflecting plural ending; alternatively, perhaps the ending is first-person dual *-oh*.

verb appears in its ordinary form because cohabiting is a state with no internal temporal structure; in the absence of iteration an intensive would be inappropriate. The second verb is intensive because of its iterative interpretation (repeated going).

As noted above, Robins (1958:82) mentions "intensity" as a meaning of the category he refers to as the intensive. In the actual examples he cites, however, plurality and iteration are almost always present. He cites only two kinds of examples without plural arguments or a meaning like 'always', 'often', or 'regularly': agent expressions and negatives. In the former type (e.g., *kegemol-* 'to be a thief' from *kemol-* 'to steal'), the force is clearly habitual; note the discussion of (32) and (33) above. A thief is someone who characteristically steals just as a dog is an animal that characteristically barks.

Intensives with negation require special comment. "With a negative preverbal particle," Robins (1958:82) writes, "the negation is intensified." The sense of a negative is 'not', and the intensive can mean 'characteristically, habitually, often'. Together they should mean 'not often', but they are actually used together to mean 'never', as seen in (39*a*) and (39*b*). In (39*c*), the meaning is not 'you will not usually work hard' but 'you will not (be able to) work hard'.

> (39*a*) *nimi ?u   mep kego?moy-ok' wi?i:t we-so:k*
>   NEG   PAST   PAST hear.INT-1SG PRO   3-sort
>
>   'I have never heard anything like it'   (R 127)

> (39*b*) *nišku: nimi nu:wo?m   ku   we?yon   ?o*
>   after.a.while NEG   see.INT.3SG ART young.woman LOC
>
>   *cinomewoš*
>   young.man
>
>   'After a while, a young man did not see that maiden any
>   longer'   (Sapir 2001)

> (39*c*) *mos ki   koma hegohkum-e?m*
>   NEG FUT   very   work.INT-PL
>
>   'You cannot work hard (when you are old)'   (R 128)

Since this is the only class of examples specifically called "intensive" by Robins, it is evidently where he saw such a meaning most clearly. In fact, though, the interpretations in (39) have a different explanation. Krifka et al. (1995:123) note that "*Cows do not eat nettles* can mean either that cows do not have the habit of eating nettles, or that they have the habit of not eating nettles (that is, in situations that contain nettles, they do not eat them)." The latter interpretation arises quite regularly and seems to reflect what Horn (1989:308) describes as "the availability of a lower-clause reading or understanding for a higher-clause negation." While the syntax of sentences

like (39a) suggests that negation should have scope over the intensive ('not usually'), in actual practice the intensive has scope over negation. This ought to yield meanings like 'usually not', but a semantic shift in such a context from 'usually not' to 'never' is simple and also is well documented elsewhere.[24]

The "intensive" function of Yurok intensives in negative contexts thus follows from the general behavior of negation, and is not a special property of the meaning of the Yurok formation. The "negative strengthening" effect seen in (39) is quite real and must be described, but it does not justify the term Robins chose for this formation. The Yurok "intensive" does not in any valuable sense function as an intensifier.

A final set of intensive uses must be described briefly. The intensive infix is usually found as a verbal marker, but due to the ease of category conversion it occasionally marks other categories in Yurok. Nouns do not distinguish number morphologically, but a small set of nouns have plurals, and Robins (1958:23) identifies three (*perey* 'old woman', *mewimor* 'old man', *sepolah* 'field, prairie') whose plurals are formed with the intensive infix (*pegerey*, *mu:wimor*, *segepolah*). Even so, "singular forms . . . were often used as plurals, the use of the plural being described as 'very careful'" (R 23). The plural *segepolah* 'prairies' was used in (37), and *pegerey* 'old women' and *mu:wimor* 'old men' are seen in (40).

(40) *k'i   numi mu:wimor   ʔemsi pegerey   woʔł tuʔ cpi*
      ART very old.man.INT and old.woman.INT they and only

        wiš ki   nep-iʔm-eł
        they FUT   eat-PL-3

      'Only very old men and very old women could eat salmon
          then'   (R 172–73)

All three infix plurals have generic interpretations: only old men and women IN GENERAL could eat salmon in (40), and in (37) Spott and Kroeber translate 'sitting about on THE prairies', not some particular prairies. Compare (41), where *weʔyon* 'girl' is used, even though a distinct plural form *weʔyonoʔ* does exist.

(41) *kʷesi no:ł ku   niʔi:n weʔyon wi   ʔela nu:ʔm*
      and   then ART two   girl   PRO PAST come.PL

      'And then two girls arrived there'   (R 168–69)

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[24] See Garrett (1998) on the development from a habitual to the periphrastic (*do*-support) use of *do* in the history of English. On intensive scope interactions in Yurok, compare the following example noted without context by Kroeber (n.d., reel 130, frame 413, *citmegoli*): *si tmego:liʔ* 'He came near being shot more than once', where the irrealis particle *si* can be translated 'almost' ('he was almost shot') and *tmego:liʔ* is the 3 sg. passive intensive of 'shoot'. Here iterativity has scope over *si* rather than the reverse.

"Intensive" plurals are evidently not used for specific (plural) numbers of people or things but to refer to indefinitely many of them.

4.3. Summary. I have argued that the intensive and repetitive are distinguished aspectually: both are pluractional markers, but the intensive is specifically a multiple-event marker and is hence common in habitual and ongoing contexts; the repetitive views a series of actions as a single undifferentiated event. Note that terms like "iterated" and "multiple" do not mean the same thing as "plural." As seen in (41) and (42), not all plurals are cast in the intensive or repetitive.[25]

(42a) *nahksemi   ho   kʷeget no:ɬ ʔesi   koʔmoy-okʼ*
    three.times PAST visit   then PAST hear-1SG

    'I visited her three times before I heard it' (literally 'and then I heard it')

(42b) *weɬowa: nima   kohci   siyoʔw   ʔo*
    ten (times) NUM   once   break.through.waves.3SG LOC

    pulekw
    at.the.river.mouth

    'Eleven times it [a boat] broke through the waves at the mouth of the river'

In (41) the verb is plural but there is only one event, since the girls arrive together. Examples like (42a) and (42b) do show multiple events—an action is repeated some specified number of times—but do not have intensives. In all intensive and repetitive examples above, as with the nominal 'plural' use of the *-eg-* infix in (40), the repetition is either general or indefinite.

5. Diachrony. To recapitulate, the two Yurok categories under consideration are as follows: the repetitive, an event-internal pluractional marker characterized by disyllabic prefixal reduplication; and the intensive, a multiple-event marker whose most archaic form within Yurok is the *-eg-* infix. Since the history of *e* and *g* must be understood before possible sources of this infix can be assessed, I discuss relevant problems of historical phonology in **5.1** and **5.2**. In **5.3** I return to the repetitive and intensive formations themselves, their origins, and their relations with comparable categories in Algonquian.

5.1. Yurok *e*. The regular correspondences between Wiyot and Yurok short vowels have been established by Teeter (1964), Berman (1982b;

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[25] These examples are from Robins (1958:101, 167). A sentence translated 'we went hunting ten times last month' with intensive *tmi:goʔ* (R 145) is not a counterexample, since it is the iterated situation itself (the hunting) that is repeated ten times.

1984; 1990), and others, leading to a plausible reconstruction of Proto-Ritwan vocalism as shown in (43).[26]

(43)

Yurok	Wiyot	Proto-Ritwan	Proto-Algonquian
i	*i*	*$*i$ (< ?)	(no correspondence)
e	*i*	*$*e$ (< *$*i$)	*$*i:$
e	*a*	*$*a$ (< *$*e$)	*$*e, *e:$
o	*o*	*$*o$ (< *$*a$)	*$*a, *a:$
u	*u*	*$*u$ (< *$*o$)	*$*o:$

Berman (1982*b*) argues convincingly that Yurok long vowels probably result from contraction and other changes within Ritwan, and do not justify a reconstructed set of Proto-Ritwan long vowels to be compared directly with Algonquian long vowels. The regular shortening of (Algic) long vowels is thus one change underlying Proto-Ritwan vocalism. What resulted from this vowel shortening was a four-vowel system, *$*i *e *a *o$*, reconfigured as *$*e *a *o *u$*, with the addition of the new vowel *$*i$ in Proto-Ritwan. Though this is not shown in (43), note that Ritwan *$*a$ yields Yurok *a* (instead of regular *e*) as a conditioned change.

The only detail in (43) not already established by Berman is the equation of Proto-Algonquian *$*e:$ and Ritwan *$*a$. This equation is justified by the comparison of Proto-Algonquian *$*ne:w$-* 'see' and Yurok *new-* 'see' (Proulx 1984:181), and it is expected on systematic grounds in view of the merger of *$*a$ and *$*a:$ as Ritwan *$*o:$.[27] In principle, then, the vowel of the Yurok intensive infix *-eg-* can correspond to Algonquian *$*i:$, *e*, or *$*e:$.

5.2. Yurok *g*. The Yurok fricative *g* should be considered together with *h*. A few examples are given in (44)–(46).

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[26] What follows is cast as if Wiyot and Yurok comprise a distinct "Ritwan" branch of Algic, but it could easily be set in an alternative framework that does not assume this. On the other hand, the specific vowel correspondences and systematic developments posited by Berman for Yurok and its relatives are not compatible with the system developed by Proulx (1984).

[27] I am unpersuaded by the other comparisons Proulx cites or by his analysis of the Yurok polarity question particle *hes* (Proulx 1985*a*:87). Note that Berman (1982*b*:415) suggests that "in words with good Ritwan cognates [Proto-Algonquian *$*e:$] always occurs before *$*w$, where it is the result of an earlier sound change of *$*a:w$ to *$*e:w$." Yet even accepting a pre-Algonquian *$*a:w > *e:w$ sound change, we need not assume that every Algonquian *$*e:w$ reflects *$*a:w$. In view of its systematic support, I see no reason not to take the *new-*/*$*ne:w-$ comparison at face value. (Berman's [1984:340] alternative explanation could only be persuasive in the context of a full account of the morphology of *o*-stem verbs.) If in the end this comparison is unacceptable, it might be possible (despite numerous problems) to revive Haas's (1958) comparison of Proto-Algonquian *$*na:pe:w-$ 'male, man' with the root *$*peg-$ underlying the Yurok word for 'man': *pegɹk* (Robins 1958) or *pegerk* (Berman 1982*a*).

(44) *ca:geł*   'mattress'   *sweget-*   'to be tired of'

   wo:gin   'someone else' *ʔʌʔgʌ:k*   'sweathouse'

(45) *haʔp'eł*   'to forget'   *hegol-*   'to say, to tell'

   hopkek-   'to begin'   *hʌkʷtʌks*   'small basket . . . '

(46) *ceyohpin-* 'to hide'   *kahselum-*   'to forget'

   kʷahłey   'to be taboo'   *nʌhpʌy*   'berry'

Typically, *g* occurs in intervocalic position, as in (44), including V?_V
position, while *h* is often either word-initial or (as a laryngeal increment)
medial before a voiceless obstruent. These are systematic differences. For
example, *g* is never underlyingly word-initial and it is preconsonantal only
in a few reduplicated (repetitive) derivatives of **peg-* (e.g., *pegpegon-* 'to
split in several places').

   Yurok *h* does occur intervocalically, but only in the onomatopoeic word
huhuhurcin 'wren' and in certain derived contexts. As in (47) and (48), re-
spectively (R 27, 51), intervocalic *h* may arise when *la:-* 'along' is prefixed
or when pronominal prefixes are added to stems beginning with *hi-*.[28]

(47) *hoh(kum-)*   'to make, to   *la:hohkum-*   'to build alongside'
                   build'

(48) *hinkʌh*   'small acorn'   *k'ehinkʌh*   'your small acorn'

   himo:reyow-   'to hurry'   *ʔnehimo:reyowok* 'I hurry'

If we ignore *huhuhurcin*, we can say that *g* and *h* are in partial complemen-
tary distribution: *g* is intervocalic, while *h* is word-initial and preconsonan-
tal; surface exceptions are morphologically derived.[29]

   Their partial complementary distribution suggests, at least as a possibil-
ity to be explored, that some instances of intervocalic *g* may be derived
from *h* or from its historical source.[30] In fact, a synchronic *h → g* process is
well documented in Yurok. Word-initially, "when preceded without pause"
(R 9) by a vowel-final word, *h* is often realized as *y* after the high front
vowel and as *g* after other vowels. Examples are shown in (49) and (50)
with the article *k'i* and the locative preverbal particles *ʔi* and *ʔo*.

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[28] In the latter context, a stem-initial *h* is deleted if followed by any vowel other than *i*.
Intervocalic *h* is probably derived in the two examples given by Berman (1982a:205): *k'oho:*
'unmarried mother' and *k'oho:lop* 'a liquid in the process of solidifying'. The verb *ho:lop'in*
'to stir' shows that *k'o-* is segmentable in the second example, and we may assume the same
for the first example (perhaps based on *ho:* 'to go, to travel').

[29] The peripheral status of *huhuhurcin* is supported by the existence of the alternative pro-
nunciations *(hur)hurhurcin*, *hohocin*, and *hurhurhurcim* (Berman 1982a:201).

[30] A priori, we would not expect an [h] to lenite as [γ] via purely phonetic processes, but it
is hardly clear what the phonetic value of *h* was prior to the introduction of *x* in Yurok.

(49) /k'i **hunowoni**/ → *k'i yunowoni*   'things that grow'   (R 9)

  /ʔi **heʔm**/   → *ʔi yeʔm*   'there s/he said'   (R 156)

(50) /ʔo **heʔm**/   → *ʔo geʔm*   'there s/he said'   (R 157)

  /ʔo **ho:k'ʷc'**/   → *ʔo go:k'ʷc'*   'there s/he gambled' (R 155)

These processes are synchronically productive only across word bound-
aries, but it is a familiar expectation that such processes may once have had
a wider distribution and may have operated also within words.

For the $h \rightarrow g$ process in (50), there are two types of potential counter-
argument to the view that this reflects an erstwhile regular sound change
that originally also applied word-internally. The first is that intervocalic h
does exist in Yurok, contrary to expectation if a general intervocalic $*h > g$
change took place. As seen in (47) and (48) above, though, intervocalic h
arises only in a well-defined set of productive morphological contexts; all
this shows is that the putative word-internal process is no longer produc-
tive, and that analogical leveling has (re)introduced intervocalic h.

The second potential counterargument is based on apparent evidence that
intervocalic h is lost, not changed to g. The pronominal prefixes are *ʔne-*,
k'e-, and *ʔwe-* (first, second, and third person, respectively), and when one
of these is added to a stem beginning with h followed by any vowel other
than i, what Robins (1958:26) calls "substitution" takes place: h is replaced
by the initial consonant or cluster of the prefix. Some examples of pronom-
inal prefixes with consonant-initial stems and h-initial stems are shown in
(51) and (52), respectively (R 25–27, 50–51).

(51) *tmo:l-*   'to shoot'   **ʔne-tmo:lok'** 'I shoot'

  skewip'- 'to put in order' **k'e-skewip'ak'** 'you (sg.) put in order'

  tepo: 'tree'   **ʔwe-tepo:**   'her, his, etc. tree'

(52) **helomey-** 'to dance'   *ʔnelomeyek'*   'I dance'

  hunkeks- 'to open'   *ʔnunkeksok'*   'I open'

  ho:loh 'basket'   *k'o:loh*   'your basket'

  haʔa:g 'rock'   *ʔwaʔa:g*   'her, his, etc. rock'

If the "substitution" process in (52) is analyzed as intervocalic h deletion
(with prefix vowel loss), there is an alternative to the $h \rightarrow g$ process. Which
alternative reflects the genuine historical treatment of an intervocalic h?

The solution here is to recognize that h is historically secondary in
Yurok, while the pronominal prefixation process in (51) and (52) is as old as
Proto-Algic. The secondary status of h is accepted by all authorities: for ex-
ample, Yurok (and Wiyot) preconsonantal h arose as a laryngeal increment
in certain contexts (discussed in **2** above), and word-final -Vh sequences

probably reflect earlier final short vowels (Proulx 1984:192). Most important here, Wiyot and Yurok words beginning with *h* correspond systematically to vowel-initial words in Algonquian (Berman 1984:336), and Wiyot and Yurok have no vowel-initial words.

On the other hand, the pronominal prefix system is the most famous comparandum between Algonquian and the Ritwan languages (Goddard 1975; 1986), and undoubtedly reflects an Algic system of prefixation. Therefore, at the time when **ne-*, **ke-*, and **we-* were first prefixed to verbs (and nouns), these included vowel-initial forms. In that context, an inserted **-t-* appeared (the ancestor of the Yurok glottalization), yielding schematic **ne-t-V-*, **ke-t-V-*, and **we-t-V-*. Initial-syllable syncope (and glottalization) yield present-day Yurok **ʔn-v-*, **kʼ-V-*, and **ʔw-v-*, as in (51). In short, initial *h* seems to disappear with the pronominal prefixes because it was never there; it was added to originally vowel-initial words in unprefixed contexts.[31]

The synchronic existence of apparent *h* loss therefore casts no light on the expected historical development of an actual intervocalic **h*, and there is no compelling argument against positing a general intervocalic **h > g* change. To be sure, an intervocalic **h* would itself require explanation, since intervocalic position is not among the contexts where *h* insertion is posited; I return to this question in the next section. For the moment, suffice it to say that internal evidence shows that an earlier intervocalic **h* (if it did arise) would have become *g* in Yurok.

Yurok *g* has one other known source.[32] In a very small number of cases, it may correspond to Algonquian **y* (which usually corresponds to Yurok *y*). Goddard (1990:111, n. 20) calls this "well established," but in (53) I list the only two convincing cases I have seen.[33]

(53a) 'spruce root': Yurok *ʔwohpeg* : Wiyot *tóp* : Proto-Algonquian **watapya*

(53b) Yurok **-ɬketeg* (*ʔweɬketeg* 'nail, claw') : Proto-Algonquian **-škašya* 'fingernail' (Siebert 1975:323)

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[31] The same considerations apply mutatis mutandis to an argument based on *h*-loss in compounds like *tenunow-* 'to grow thickly, to grow in clumps', based on *ten-* 'to be much' and *hunow-* 'to grow' (R 15). The pattern (or indeed the specific examples) arose prior to the introduction of initial *h* in formerly vowel-initial words.

[32] Haas (1958) suggested that Yurok *g* sometimes corresponds to Algonquian **w*, but the suggestion has not won acceptance. Proulx (1984) reconstructs a Proto-Algic **g* as the main source of Yurok *g*, but the distribution of *g* in Yurok and the status of a voiced fricative in the Algic phonological system argue against this reconstruction; alleged examples of Proto-Algic **g* mainly involve the Yurok intensive infix.

[33] The example in (53a) is from Goddard (1990:109) and the example in (53b) is from Proulx (1984:179); Aubin (1975:#2200) also compares Wiyot *watkan-* 'nail' (subordinative theme *watkanag-*). Other cases are less persuasive. The proposed comparison of Wiyot

The only other relevant case is Yurok intensive -eg- itself, whose etymology is precisely the object of discussion here.

For 'spruce root' in (53), the Yurok development would have been *watapya > *wotopyo > *wtopyo > *ʔwopyo > *ʔwohpeg or the like. The only uncertainty here is the final *-pyo > -peg change; a sensible interpretation is that the final vowel was lost regularly with later epenthetic e in a stop-glide cluster (as elsewhere). For 'nail', Yurok ʔwe- may be a reinterpreted pronominal prefix, the t/*š correspondence is regular, and the ɬ/*š correspondence may be justifiable, but the medial e/*a vowel equation is ad hoc; Yurok o would be expected (as in 'spruce root').

Yet even if convincing, the comparanda in (53) cast no light on the source of the g in the -eg- infix. It is significant that each Yurok g in (53) is word-final, corresponding to an Algonquian postconsonantal y. Perhaps these examples show that a postconsonantal *y > g change occurred (with later epenthesis), but the g of the intensive infix is always intervocalic and (as discussed in **6.2**) the only proposed Algonquian *y etymology has an intervocalic glide.

Moreover, the development of g in words like 'spruce root' is demonstrably secondary. The Yurok word for 'spruce root' is in fact not ʔwohpeg but ʔwohpey. Thus it is spelled wopei in Exline's (n.d.) dictionary, and Haas (1966) recorded it as wohpey (plus devoicing of the glide) in work with Yurok elder Maggie Pilgrim. Robins's form with final g merely reflects a low-level coda y → g change occasionally recorded in Yurok speech. From Pilgrim, for instance, Haas recorded a form wogeg 'white man' (standard ʔwo:gey), and she recorded kelok 'goose' as keglok in earlier field notes (Haas 1950). In the latter case g has a demonstrably low-level source: Robins (1958:6) writes that the vowel "e is often pronounced with a slight y-offglide giving the phonetic effect of a diphthong, but with the duration of a short vowel." Since this low-level y → g change is only documented in coda position (word-finally or before a consonant), it cannot have anything to do with the intervocalic g of the -eg- infix.

In sum, while Yurok e has several known or plausible sources (including Algic *e and *e:), an intervocalic g has only one clear source: Yurok h,

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dičag- 'behind' and a Proto-Algonquian *wetay- (Proulx 1985a:92) shows an irregular (initial) consonant correspondence and one or two irregular vowel correspondences. In the case of 'gull'—Proto-Algonquian *keya:škwa (Siebert 1975:346), Yurok kegoʔsneg—Proulx (1984: 199–200) takes a transparent Yurok-internal analysis as folk etymology; he himself refers to a further case involving inflectional morphology as "tenuous" (Proulx 1982:406). Finally, a comparison between Yurok meleg 'excrement' (Waterman 1920:B9) or melox (Robins 1958) and Proto-Algonquian *mi:čy- (Proulx 1984:182) or *mi:ty- (via consonant mutation as per Goddard 1977) is undermined both by its phonological irregularity and by the existence of an apparently more basic *mi:t- 'defecate' (Aubin 1975:#1311).

itself a recently introduced segment.[34] This is a situation that may seem to pose a serious problem for an attempt to reconstruct the ancestor of the Yurok -*eg*- infix. I now turn to this paper's original diachronic proposals.

5.3. Reduplication and infixation. Historically underlying the Yurok repetitive is a disyllabic reduplicative formation (*CVCV*- schematically), and I suggest that monosyllabic reduplication underlies the Yurok intensive. The intensive can be schematically reconstructed as in (54).

(54)   Intensive reduplication: Yurok *$C(C)e$- < Ritwan *$C(C)a$- <
        Algic $C(C)e$:-

As shown in **5.1**, reduplication with original -*e*:- vocalism would have been inherited in Yurok with -*e*- vocalism. In this section I show how a $C(C)e$-reduplicant could straightforwardly have been transformed into the attested -*eg*- infix, and in **5.4** I relate its ancestor to other formations in the Algic languages.

Assume for the moment, therefore, that Yurok did inherit an intensive formation marked by $C(C)e$- reduplication: a stem was preceded by a light syllable consisting of a copy of the initial-syllable onset and the fixed vowel *e*. If this formation was productive (as the Yurok intensive is), then a reduplicated intensive could be formed from verbs beginning with any segment, including *h*. Stems beginning with *h* correspond to Algonquian vowel-initial stems; other stems correspond to Algonquian consonant-initial stems. For a hypothetical time when the intensive was formed by reduplication, the ordinary pattern of intensive formation is shown in (55*a*) and the pattern for *h*-initial stems is shown in (55*b*).

(55*a*) Original *C*-initial stems:
         verb *C_1VC_2- → intensive *C_1e-C_1VC_2-

         Pronominal prefixes:
         *$ʔne$-C_1VC_2- (etc.) → intensive *$ʔne$-C_1e-C_1VC_2- (etc.)

(55*b*) Original *V*-initial stems:
         verb *hVC- → intensive *he-hVC-

         Pronominal prefixes:
         *$ʔn$-VC- (etc.) → intensive *$ʔn$-e-hVC- (etc.)

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[34] This raises the question of the historical source of Yurok *g* apart from the intensive infix. I cannot give analyses of all Yurok words with *g* here, but it is worth noting that the infix may underlie many examples of *g* in what do not seem like intensives. For instance, *g* is final in a trisyllabic word in *meʔupeg* 'hole in the ground', but this is derived from *meʔw(omec-)* 'to come out, to come from a place' + *pegar(k-)* 'to dwell, to inhabit', with regular truncation of the second part of the compound. Though there is no direct evidence, it is perfectly possible that *pegar(k-)* is historically an intensive based on a lost base verb.

Also shown in (55) are schematic base and intensive forms with pronominal prefixes (e.g., 1 sg. *$?ne$-). Recall from (52) above that the onset of a pronominal prefix in effect replaces initial h in most h-initial verbs. Therefore, as shown schematically in (55b), a prefixed intensive form would be (1 sg.) *$?n$-e-hVC-.

With the operation of the intervocalic *$h > g$ change discussed in **5.2**, the intensive formation patterns in (55) would be transformed into the patterns in (56).

(56a) Original C-initial stems:
      verb *C_1VC_2- → intensive *$C_1eC_1VC_2$-

      Pronominal prefixes:
      *$?neC_1VC_2$- (etc.) → intensive *$?neC_1eC_1VC_2$- (etc.)

(56b) Original V-initial stems:
      verb *hVC- → intensive *$heg VC$-

      Pronominal prefixes:
      *$?n VC$- (etc.) → intensive *$?neg VC$- (etc.)

In (56), as a result of this change, h-initial stems seem to form their intensives by -eg- infixation. Original *$hehVC$- has become *$heg VC$- in unprefixed forms, and in prefixed intensives the medial g is the only trace of initial *h.

I suggest that the Yurok -eg- infix, the marker underlying all the present-day realizations of the intensive, was created by generalization of the apparent infixation pattern in (56b). This is stated in schematic terms in (57).

(57a) Intensive *$heg VC$- and prefixed intensive *$?neg VC$- were
      reinterpreted as h-**eg**-VC- and $?n$-**eg**-VC-, respectively.

(57b) Infix -eg- was generalized to other C-initial verbs, hence
      intensive C-**eg**-VC- (replacing *$C_1eC_1VC_2$-) and prefixed
      intensive $?ne$-C-**eg**-VC- (replacing *$?neC_1eC_1VC_2$-).

There were originally two verb types—consonant-initial verbs and vowel-initial verbs—and the change in (57) was in effect a generalization of the pattern of vowel-initial verbs (in Yurok terms h-initial verbs) to all verbs. For h-initial verbs themselves, as shown in (58), intensive formation has not changed at all.

(58) BASE VERB   INTENSIVE

    he?wonił- 'to wake up' (intr.) *he-$he?wonił$ > *$hege?wonił$ >
                                    $hu:?wonił$-

    hohkum- 'to make'   *he-$hohkum$- > $hegohkum$-

hoʔomah	'to make fire together'	**he-hoʔomah* > *hegoʔomah*
ho:kʷc-	'to gamble'	**he-ho:kʷc-* > *hego:kʷc-*

Though no longer synchronically derived by reduplication, the intensives of *h*-initial verbs are the direct reflexes of reduplicated forms, with no morphological change at all.

Changes of the proposed type are quite common cross-linguistically; prefixal reduplication that has become opaque is often reinterpreted as infixation or internal vowel change (ablaut). Thus, in the prehistory of Sanskrit (Brugmann 1916:454–55), an **az* > **ay* > *e* change caused *sad-* 'sit' and *yat-* 'stretch' to have the so-called weak (C_1a-C_1C_2-) reduplicated perfects **sa-sd-* > **sazd-* > *sed-* and **ya-yt-* > *yet-*, respectively. From exactly three verbs of this type, the apparent synchronic *sad-* → *sed-* ablaut relationship was generalized to become the productive marker of weak perfects (e.g., *pat-* 'fly' → *pet-*). A second example comes from the history of Trukese (Goodenough 1963:79–80), where the loss of word-initial **k* caused a disturbance in (C_1VC_1-) durative reduplication: verbs with original initial **k* formed duratives in **kVk-k-* > **Vkk-*. A contextually restricted *w* prothesis then created synchronic alternations of the pattern (base) *wV-* → (durative) *wVkkV-*, with the resulting apparent *-Vkk-* infix generalized to originally vowel-initial verbs (e.g., **inu* > *wɨn* 'drink' → durative *w-ɨkk-ɨn*).

The point of such comparanda is that reduplicative morphology is often obscured or made opaque by independent changes, and that one typical linguistic response is extension of the resulting pattern. This is a common pathway by which infixes evolve. In Yurok, at least two factors may have helped obscure the reduplicative structure of intensives like *hegohkum-* 'to make'. First, as seen in (52), initial *h* does not surface in forms with pronominal prefixes. The *Ce-* reduplicant is therefore not at all obvious in prefixed intensives like *ʔnegohkum-* (1 sg., vs. simple *ʔnohkum-*), and prefixed verbs are common in texts.

Second, the transparency of the *h* → *g* derivation was lost when initial *h* was extended into the prefixed contexts in (47) and (48). The existence of *la:-hohkum-* 'to build alongside', analogically restored from expected **la:-gohkum-*, makes it impossible to treat *hegohkum-* as the expected surface manifestation of reduplication with a *Ce-* prefix. This opacity could have been resolved by restoration of **he-hohkum-* (like *la:-hohkum-*), of course, but this solution would not have eliminated the problem of the prefixed intensives. Given two possible analogical directions (*h* restoration vs. generalization of *-eg-* infix), the course yielding greater surface transparency was selected.

With the account I have proposed, it is to be expected that Yurok would preserve some relics of the *Ce-* intensive reduplication pattern. There

should be isolated verbs (or nouns) that were originally formed as inten-
sives with *Ce-* reduplication but that are no longer analyzed as intensives
and have therefore escaped replacement by forms with the productive *-eg-*
infix. Some such forms do exist, and for verbs the clearest cases are listed
in (59).[35] The glosses 'repeatedly' and 'several things' are taken from Rob-
ins's (1958) lexicon, but without actual examples in context they do not
contribute much to our understanding of the precise aspectual force of *Ce-*
reduplication.

(59) *ckɹkɹːʔ*   'to pierce'   ***ckɹckɹkɹːʔ*** 'to pierce repeatedly'

kelomen- 'to turn' (trans.)   ***kekelomen-*** 'to turn several things'

*keʔy-   ***kekeʔy(eł-)*** 'to shine'

*lek-   'to fall down'   ***łetken-***   'to throw, to scatter'

ʔekol-   'to hover'   ***ʔeʔekol-***   'to hover repeatedly'

The root **lek-* is inferred from *lekol-* 'to fall down' and its irregular 3 sg.
lekoʔn.[36] Likewise, a root **keʔy-* having to do with light is inferred from
kegeʔy(peł-) 'there is lightning'. Note that the latter is a productive intensive
derivative of **keʔy-* (lightning is an iterated form of light), while *kekeʔy(eł-)*
must be an archaic (reduplicated) intensive derivative of the same root.
Note too that *ckɹkɹːʔ* 'to pierce' is derived from the root **tkek-* of *tkekoh(s-)*
'to jab' in table 1 above, and so has underlying *e* vocalism. In fact, **tke-*
tkekoːʔ (underlying *ckɹckɹkɹːʔ*) and *tkek-tkekoh(s-)* in table 1 are, respec-
tively, the historical intensive and repetitive formations based on this root.

A second set of apparently reduplicated verbs includes *cecomeyoʔr* 'to
run at a trot', *cɹcɹmɹkɹł* 'to gnaw', *k'nek'nek* 'to pulse, to beat (of the heart)',
sesomen- 'to scratch', *tetomen-* 'to scratch repeatedly', *tetuskoh* 'to swim
with difficulty through shallow water (of fish)', and *t'et'oyah* 'to quiver, to
scuffle'. These examples are less certain because their unreduplicated bases
are not documented, but their meanings are generally consistent with an in-
tensive origin.

Apparent *Ce-* reduplication is also expected in nouns in view of the pat-
tern of deverbal nouns like *megokʷ* 'dog' (< 'barker') with *-eg-* infixation.
Examples include *neniʔr* 'black salmonberry', *pepuʔr* 'freckles, pockmarks',
teton 'rush (plant)', and *wewolon* 'noise in the air, high piercing hollow
windy sound (bad omen)', all of which are speculative in that they cannot

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[35] Admittedly, *t'ot'oł* 'to crackle repeatedly' from *t'oł(kon-)* 'to crackle' shows a different
pattern.

[36] I do not know why the reduplicated form shows syncope of the root vowel, nor how to
connect these forms with the certainly related *lekʷoł-* 'to fall in (buildings), to fill the air
(noises)'; cf. *łetkoːʔ* 'to fall, to be heard (noises)'. A singular/plural relationship between these
unreduplicated and reduplicated forms was also observed by Kroeber (n.d.:reel 130, frame 444,
citing "A 35.1").

be compared with unreduplicated forms.[37] A clearer case is *cecek^w* 'fin of a fish', where there is evidence for an underlying root **cek^w-* (or **tek^w-*).[38]

In sum, it would be plausible for the intensive infix to have originated by reinterpretation of prefixed *Ce-* reduplication on the basis of an ambiguity arising in originally vowel-initial (Yurok *h*-initial) verb stems. There are apparent relic forms with *Ce-* reduplication in the right function, and the proposed change itself is a cross-linguistically natural source of infixes. As a coda it may be worth adding that the proposed account gives a simple explanation for the fact (established in **3.1**) that the Yurok intensive infix is apparently outside the phonological stem: the infix is like prefixes because it originated as a prefix. In the next section I elucidate the ultimate source and Algonquian connections of intensive reduplication as I have reconstructed it.

5.4. The intensive, the repetitive, and Algonquian. Dahlstrom (1997) has examined two types of reduplication in the Algonquian language Fox (Mesquakie). In disyllabic reduplication, seen in (60), a two-syllable reduplicant is prefixed to the stem.

(60) BASE VERB   DISYLLABIC REDUPLICATION

  kanawi-wa 'he speaks' ***kana**-kanawi-wa* (p. 215)

  nepe:-wa 'he sleeps' ***nepe**-nepe:-wa* (p. 206)

  pye:taw-e:wa 'he brings it ***pye:ta**-pye:taw-e:wa* (p. 217)
         for him'

  wa:pam-e:wa 'he looks at ***wa:pa**-wa:pam-e-wa* (p. 206)
         him'

  ka:škehtaw-e:wa 'he hears him' ***ka:ške**-ka:škehtaw-e:wa* (p. 217)

Disyllabic reduplication does not always copy the first two syllables of the base, and Dahlstrom suggests that "the prosodic constituent dominating . . . [the] prefix is in fact the minimal word" (1997:207). In the second syllable of the reduplicant, therefore, "long vowels are shortened and codas are deleted" (1997:215). This is seen in two of the examples in (60).

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[37] The infix poses a similar problem; in some cases a noun is demonstrably derived via intensive infixation, but other nouns with comparable structures (e.g., *k^{w}egeru^ʔ* 'hog', *negenic* 'mouse') lack known verbal bases. In ambiguous examples like *hegoyek^w* 'flying squirrel', it is impossible to distinguish between *Ce-* reduplication or *-eg-* infixation; the base would be unattested **hoyek^w* in either case.

[38] The evidence is conflicting. Proulx (1984:178) suggests that *tu:k* 'fish tail' reflects **tu:k^w* via final delabialization after *u*. Then **tu:k^w* < **tegek^w* would be derived via intensive infixation from **tek^w-*, and (reduplicated) *cecek^w* would essentially be the (sound-symbolic) diminutive of (infixed) *tu:k*. There is no other evidence for the final delabialization process, however, and a connection with *cek^{w}cek^{w}ah* 'vertical stripes round a basket' is also possible. Note that *cecek^w* also means 'fish bone' according to Berman (1982a:198).

In monosyllabic reduplication, "a single open heavy syllable [is] pre-fixed to the base" (Dahlstrom 1997:207). Examples appear in (61) and (62).

(61) BASE VERB   MONOSYLLABIC REDUPLICATION

    kʷa:škʷat-amwa   'he drops it   ***kʷa:-kʷa:škʷat-amwa***   (p. 211)
                   [food] while eating'

    mo:hki:htaw-e:wa 'he attacks him' ***ma:-mo:hki:htaw-e:wa*** (p. 211)

    nowi:-wa   'he goes out'   ***na:-nowi:-wa***   (p. 211)

    wa:pam-e:wa   'he looks at   ***wa:-wa:pam-e:wa***   (p. 206)
                   him'

    wi:tamaw-e:wa   'he tells him'   ***wa:-wi:tamaw-e:wa***   (p. 206)

(62) BASE VERB   MONOSYLLABIC REDUPLICATION

    nepe:-wa   'he sleeps'   ***ne:-nepe:-wa***   (p. 206)

    pesetaw-e:wa   'he listens to   ***pe:-pesetaw-e:wa***   (p. 211)
                   him'

    pye:taw-e:wa   'he brings it   ***p(y)e:-pye:taw-e:wa***   (p. 212)
                   for him'

As seen here, the reduplicant has the vowel -*e:*- if the base has -*e(:)*- in its initial syllable, and the reduplicant otherwise has -*a:*-. Noninitial glides are optionally copied. If the base begins with a vowel, the glide -*y*- appears between the reduplicant and the base (e.g., *a:-imo-wa* 'he tells a story' → *a:-y-a:-imo-wa* [Dahlstrom 1997: 213]).

Dahlstrom (1997:206) describes the functions of the two verbal reduplication types in Fox as follows: monosyllabic reduplication "generally indicates continuative or habitual aspect," while disyllabic reduplication "indicates iterative aspect, either an action repeated over a period of time or action distributed over a group of subjects or objects." A footnote offers an instructive further comment (1997:206, n. 6): "consider the two reduplicated forms of *nakiškaw-e:wa* 'he meets him/them'. . . . In a situation such as a family reunion, the speaker might emphasize the distributed or iterative nature of the event, meeting one person after another, and choose the [disyllabic] reduplicated form. Alternatively, the speaker might choose to view the family reunion as an event extending over an interval of time and use the monosyllabic reduplicated form to indicate that people were continually meeting one another throughout the interval." Monosyllabic reduplication is apparently used for iterated events that are seen as continuous or habitual, while disyllabic reduplication is used for iterated events that merely occur in succession.[39]

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[39] Examples of the Fox disyllabic reduplication type cited by Jones (1911:814–15) include forms glossed 'he kept on weeping', 'it opens and closes alternately', and 'he looked at him a long

In (63), the Fox reduplication patterns are compared with the patterns I have reconstructed in this paper for the Yurok intensive and repetitive.

(63) FOX (MESQUAKIE)	YUROK (RECONSTRUCTED)
(63*a*) Monosyllabic reduplication	Intensive
Ca:- or *Ce:-* prefix	**Ce-* < **Ce:-* prefixed reduplication
'continuative or habitual aspect'	repeated action (event-external repetition), commonly habitual or ongoing
(63*b*) Disyllabic reduplication	Repetitive < **CVCV-* reduplication
'iterative aspect . . . repeated . . . or . . . distributed'	repetitive action (event-internal repetition)

The Yurok repetitive, originally marked by disyllabic reduplication, closely matches Fox disyllabic reduplication in both form and function. Likewise, the Yurok intensive marker, reconstructed as a reduplicative prefix which can in principle directly reflect Proto-Algic **Ce:-*, matches in form and function Fox *e:-* vocalism monosyllabic reduplication.

These resemblances are unlikely to be accidental, and I suggest that the Algonquian and Yurok formations are therefore cognate. The Algic proto-language had a disyllabic reduplication type along the semantic lines of its Fox or Yurok descendant, and it had a monosyllabic pattern expressing event-internal repetition. I shall consider these formations in turn, but a caveat is first in order: "The comparative study of the complex patterns of reduplication exhibited by many [Algonquian] languages is hampered by the dearth of descriptive material. It is clear that some patterns are old, while others become productive only in one or another language" (Goddard 1979:92–93). What follows is not based on primary research in any Algonquian languages, and it is certainly subject to change as our knowledge improves.

Outside Fox, I have seen no direct Algonquian evidence for the disyllabic reduplication type described by Dahlstrom. As she observes, the Plains Cree "heavy reduplication" pattern identified by Ahenakew and Wolfart (1983) is semantically comparable to Fox disyllabic reduplication (and to the Yurok repetitive). Formally, though, Plains Cree heavy reduplication recalls the monosyllabic Fox type, since it consists of a monosyllable with invariant *-a:-* vocalism followed by devoicing, as in *pakamahw-* 'hit some-

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time'; examples of the monosyllabic type are glossed 'he always went well dressed', 'he is always hungry', 'they came flying out one after the other', and 'they made long stops on the journey.'

one, beat someone' → *ni-pa:h-pakamahwa:w* 'I beat [the drum] with a slow, hard beat' (Ahenakew and Wolfart 1983:372). The sole formal similarity to the Fox disyllabic type, illustrated in (64), is that *-h-* appears before vowel-initial stems in both cases.[40]

  (64)   BASE   REDUPLICATED FORM

      Fox   *a:-imo-wa* 'he tells a story' *a:-i-**h**-a:-imo-wa*

      Plains Cree *a:cimo-*   'tell (a story)'   *a:**h**-a:cimowak* 'they tell one story after another'

By my account, the Fox disyllabic pattern is archaic within Algonquian, and the Plains Cree type may result from a reduction ("loss" of the second syllable of the reduplicant) whose nature and cause are unclear. Ahenakew and Wolfart (1983:373) do mention the existence of "several further reduplication types which are less than fully productive," one of which also copies initial-syllable coda *s*. Relic closed-syllable reduplications are perhaps to be expected (as intermediate developments) if heavy reduplication in Plains Cree somehow resulted from simplification of an original disyllabic pattern.[41] In any event, a full documentation of the unproductive patterns may cast light on the development of the productive ones.

    Semantically, many uses of Plains Cree heavy reduplication do seem to match the disyllabic reduplication types found in Fox and reconstructible from Yurok. Ahenakew and Wolfart suggest that the Plains Cree formation refers fundamentally to a "discontinuous or intermittent" action or state, including one with a "scattered distribution in time or space" (1983:370, 375).[42] Some of their examples appear in (65).

  (65*a*) *wa:, ni**ma:h**-minihkwe:sina:n o:m e:wako*

      'Well, we were having a few little drinks of this'

  (65*b*) *ma:**h**-minahe:w maskihkiwa:poy ke:hte:-aya*

      'He gives the elders tea to drink off and on (several pots)'
      'He gives the elders tea to drink (and there are several of them)'

  (65*c*) *ka:**h**-ki:wike:wak*

      'They visit from time to time'
      'They visit here and there'

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[40] These examples are cited from Ahenakew and Wolfart (1983:371) and Dahlstrom (1997:215).

[41] Ahenakew and Wolfart's example is *kwe:skapi-* 'turn while sitting' → *e:-**kwe:s**-kwe:skapit* 'he sat there turning back and forth', and Blain (1992:42) cites similar Ojibwa examples from Nichols (1980), including *nin-ka:ska'a:n* 'I scrape it' → *nin-**ka:s**-ka:ska'a:n* 'I scrape it all over'.

[42] Other uses are "intensive" for stative verbs (e.g., 'be beautiful' → 'be very beautiful') and distributive (e.g., 'he gives tea to each of the elders' as a translation of 65*b*).

These Plains Cree examples (and Dahlstrom's hypothetical Fox example) show a longer-duration repetition than the quickly iterated Yurok repetitive examples quoted in **4.1**, but the comparison seems reasonable nonetheless. Pending a thorough synchronic and historical study of Algonquian reduplication patterns, I suggest reconstructing a disyllabic repetitive type for Proto-Algonquian and Proto-Algic.

Unlike the disyllabic type, the monosyllabic reduplication type found in Fox is well documented in Algonquian. Bloomfield (1946:122) identifies a "regular type of reduplication" with an open-syllable prefix and *-a:- vocalism, though it is unclear whether he means the term "regular" to apply only to some Algonquian daughter languages or to the reconstructed proto-language. The general type is widespread in any case. Thus, the usual Menominee pattern involves an open-syllable prefix with -a:- vocalism, as in **ma:-mekew** 'it [dog] barks over and over' from *meke-* 'bark' (Macaulay 2000). I have not examined Menominee texts, but the glosses given by Bloomfield (1962:428–29) are consistent with Fox light reduplication (and the Yurok intensive): 'repeatedly changes his seat', 'stays warming himself', 'stays hunting, repeatedly hunts', 'keeps sitting, remains seated', etc.

In Ojibwe, "distributive" reduplication involves an open-syllable prefix with either -a- or -e- vocalism. In particular, according to Blain (1992), the reduplicant has -e:- if the initial syllable of the base has -e:-; otherwise the reduplicant has -a- if the initial syllable of the base has a short vowel and -a:- if it has a long vowel. (Ojibwe has no short *e*.) These patterns are shown in (66)–(68) with examples cited by Blain (1992) from Nichols (1980).

(66) *te:pwe:ttam*   'he believes'   ***te:-te:pwe:ttam*** 'he believes from time to time'

     niwe:pina:nan 'I throw them'   ***ni-we:-we:pina:nan*** 'I throw them one after another'

(67) *waniššin*   'he is lost'   ***wa-waniššin***   'he gets lost here and there'

     kittike: 'he plants'   ***ka-kittike:***   'he keeps planting [or farming]'

     koškosi   'he gets up'   ***ka-koškosi***   'he gets [wakes] up off and on'

(68) *ko:ki*   'he dives'   ***ka:-ko:ki***   'he dives here and there'

     pi:ntike: 'he comes in' ***pa:-pi:ntike:***   'he keeps coming in'

     twa:'ippi   'he cuts a hole in the ice' ***ta:-twa:'ippi***   'he cuts holes in the ice here and there'

Formally, it seems plausible that short-vowel reduplication is an Ojibwe innovation. Semantically, the Ojibwe reduplication type in (66)–(68) is most often what Malone (1997) calls "durative," that is, either repetitive (e.g., *nā-nāsi'kąng* 'kept on going after more'), continuative (e.g., *ąni-pa-bimusät* 'as he went walking along'), or distributive (e.g., *ka-bā-bā'tąninum* 'you shall be many on a side').[43] The Ojibwe formation is thus similar to both Fox monosyllabic reduplication and its Menominee counterpart, as well as the Yurok intensive.

Though not always explicitly characterized in the literature, similar reduplication patterns clearly do occur elsewhere in Algonquian. The Shawnee pattern seen in *nit-a:-y-a:-imo* 'I always talk' vs. *ha:-imo* 'he talks' (Costa 1996:70, n. 77) is manifestly comparable, and it is likely that the Blackfoot preverb *-a:-* (Taylor 1969) or *-á-* (Frantz 1991) has the same origin, since it means "that the action of the verb is actually in progress . . . [or] occurs generally" (Taylor 1969:300), i.e., that it is continuous or habitual.[44] The comparable Cree pattern has a short vowel, and though Ahenakew and Wolfart (1983:370) conclude simply that this short-vowel reduplication expresses an "ongoing action or state," Atikamekw examples correspond well to the functions of Fox monosyllabic reduplication or the Yurok intensive. The Atikamekw forms in (69) are cited with their sentential context from a story told by Suzanne Dubé (Beland 1978:303–39).

(69a) ***a-y**-ešiwikopanen* 'adventures would have happened to him many times' (1978:309): 'Wissakecakw, again that one to whom so many adventures would have happened, would have gone to kill a goose'

(69b) ***a-y**-erini:ska:ke* 'whenever there will be men' (1978:330): '"Look-at-my-blood" it will be named so when there will begin to be men . . .'

In sum, a monosyllabic heavy open-syllable reduplication type is clearly reconstructible for Proto-Algonquian. Moreover, at least three Central Algonquian languages—Fox, Ojibwe, and Potawatomi (Hockett 1948:141)—point to a system in which **Ce:-* reduplication before roots with *-e-* vocalism alternated with **Ca:-* reduplication elsewhere. This formation is functionally comparable to the Yurok intensive, and I have suggested that the two are cognate.

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[43] Malone's analysis is based on data from texts edited by Jones (1919), whose transcription is retained here. Other less frequent functions identified by Malone are inceptive and what he calls "handicaptive" (e.g., *ąnīn-dcā-dcāgisä* 'I am lame') and "energic" (i.e., intensive).

[44] According to this analysis, note that the reduplicant of vowel-initial stems (i.e., without initial **C-*) has been generalized in Blackfoot, exactly as in Yurok.

Given the historical phonology discussed in **5.1**, Algonquian *Ca:-* and *Ce:-* reduplication should correspond to Yurok *Co-* and *Ce-* reduplication, respectively. I have argued that Yurok intensive infixation arose by reanalysis of an earlier *Ce-* reduplication type—precisely the expected counterpart of Algonquian *Ce:-* reduplication. The original basis of the alternation between *a:* and *e:* vocalism would have been obscured by Yurok vowel changes. After the merger of Algic *e, *e:,* and *i:* in Yurok as *e*, roots in *i*, *o*, and *u* and some roots in *e* would have had reduplicants in *o* (Algonquian *a:*), while other roots in *e* would have reduplicated with *e* (Algonquian *e:*).[45] The distribution of *e* and *o* reduplication would no longer be transparent, and one or the other would have to be generalized. Evidently the *Ce-* reduplication type (the source of the *-eg-* infix) was selected.[46]

According to this account, Yurok might also preserve a few archaic remnants of the *Ca:-* reduplication type—intensive forms that became isolated and survived as unanalyzed verbs (or derived nouns) with initial-syllable *o* flanked by identical consonants.[47] Theoretically possible examples of this type include *lolkey-* 'to marry again', *nonow-* 'to fetch', *pop-ului* 'skunk cabbage', *ror-* 'to snow' (with *rorir* 'snow'), *rork^wil* 'the waves break', and *rorowen* 'to fish', though none of these can be proved. In any case, such forms would merely establish that Algic had a *Ca:-* reduplication type like the one found in Algonquian, not that this was connected with or replaced by the ancestor of the Yurok intensive.

5.5. Summary. I have argued that Proto-Algic had two complementary verbal reduplication patterns expressing iterative aspect. Disyllabic (e.g., *CVCV-*) reduplication marked what I have described as event-internal repetition. Within Algonquian this reduplication type is preserved in Fox, perhaps (with reduction) in Plains Cree, and conceivably elsewhere, and with regular loss of the second vowel it is also preserved in Yurok as the repetitive. Monosyllabic reduplication with *-a:-* or *-e:-* vocalism (e.g., *Ca:-* or *Ce:-*) marked multiple-event pluractionality. This formation is

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[45] Since Yurok historical phonology is very poorly understood, it is likely enough that other conditioned changes further disturbed the transparent relationship between base and reduplicant vocalism.

[46] Ideally, we should be able to explain why one form and not the other (i.e., *Ca-*) was generalized. Perhaps it is relevant that *e* is also the epenthetic vowel inserted in clusters like *nw*.

[47] Such relic reduplicated forms in *CoC-* < *Ca:-C-* must be distinguished from the counterparts of Algonquian plural adjectival verbs like Menominee *ka-ka:nw-* 'long', *ma-ma:hk-* 'big', *ta-ta:skw-* 'short', etc. (Bloomfield 1962:428) and comparable forms elsewhere. These too are found in Yurok *ko-konew-* 'long' < *ka-ka:nw-* and *po-pel-, po-pol-* 'big'.

widespread in Algonquian, and it is also the ancestor of Yurok intensive infixation.

I now summarize the specific changes I assume in the history of the Yurok intensive. First, presumably in the prehistory of Yurok but conceivably as early as Proto-Ritwan, the descendant of the *$Ce:$- reduplicant was generalized to all contexts, replacing the *$Ca:$- reduplicant. In Yurok terms this means the generalization of a *Ce- reduplicant, though if this happened early enough the vowel might not yet have been *e*. Verbs corresponding to Algonquian vowel-initial verbs were *h*-initial, and so their intensives began with the sequence *$hegV$-. For the reasons discussed in **5.3**, then, the second change consisted of the generalization of an infix -*eg*- abstracted from (originally reduplicated) intensives in *$hegV$-. As discussed in **3.1**, this -*eg*- infix is responsible for all the synchronic realizations of the Yurok intensive.

6. False cognates. In this section I discuss two formations elsewhere in Algic that have been compared with the Yurok intensive infix -*eg*-. The comparisons seem superficially reasonable in different ways, but I argue that they do not withstand careful scrutiny. The closer of the two comparisons (i.e., a Ritwan comparison) is with a Wiyot "intensive" suffix; the broader comparison is with initial change in Algonquian.

6.1. Wiyot "intensives." Teeter (1964:52) identifies a Wiyot verbal suffix -*ag* whose function he calls "intensive." This has naturally been compared (Proulx 1982:406) with what Robins had called the Yurok "intensive" infix -*eg*-. The comparison would be interesting if correct: it would establish a Ritwan *-*ag*- whose development as an infix (on the analysis proposed here) would constitute a common morphological innovation of Wiyot and Yurok. Moreover, a typologically distinctive shift from infix to suffix would have occurred in Wiyot.[48]

Yet the comparison of Wiyot -*ag* is unconvincing. It should not be completely ruled out until all currently unpublished data are available (in particular the full Reichard and Teeter corpora), but it has little positive support beyond the similarity of a pair of *VC* affixes with a consonant in common. The main problem is semantic. The Yurok formation marks multiple-event pluractional aspect (as shown above), but to judge from published data, Wiyot -*ag* has a very different function.

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[48] In principle, one could imagine a Yurok suffix-to-infix shift, but since the two competing etymologies invoke a prefix (reduplication) and an infix (Algonquian initial change, discussed in **6.2**), a Ritwan suffix seems unlikely on any analysis.

The only examples of the "intensive" suffix cited by Teeter (1964:52) are given in (70).[49]

(70) BASE   INTENSIVE

     laɬ-   'pick' (e.g., apples)   *laɬag-*   'pull up by the roots'
                                                 (e.g., beets)

     haraw- 'all'   *harawag-* 'entirely all'

Consider first the contrast between *laɬ-* and *laɬag-*. These two stems occur in close proximity in the contexts quoted in (71) and (72) from a single text (Teeter and Nichols 1993*b*:173–74).

(71) *wu   tóskapoʔla, kowa   láɬ-an-abil,*
     this apples   Inchoative 3-Df pulls off 3-Obj by hand

     photawáʔɬokw, hitákwil
     on a ladder   3-Df goes up

     '(It looks like he's going to start picking them.) He starts to pull off apples, he's up on a ladder'.

(72) *hawígadak, kowa   laɬ-ag-án-abil*
     weed   Inchoative 3Df pulls up 3-Obj by the roots

     '(It looks like that man is working. . . .) He's starting to pull up the weeds'.

In both verb forms, *-án* is a medial suffix 'by hand' and the sequence *-abil* is inflectional. From context there is no evidence at all that *láɬanabil* and *laɬagánabil* differ in "intensity," and there is certainly no echo of the functions of Yurok *-eg-*. In each example above, the subject grabs something (apples, weeds) by the hand and completely removes it from what it had been attached to (a tree, the ground). There are salient differences between the two examples, however, including direction (the apples are pulled *down*, the weeds are pulled *up*) and surface Gestalt (the weeds are pulled *out* of what encloses them, the apples are not).

Turning to the 'all' words in (70), according to Teeter and Nichols (1993*a*:99) the simple form *haraw-* occurs compounded in at least the words in table 2.[50] From these examples it emerges that the sense of completeness imparted by *haraw-* is always construed with a verbal argument: the subject; the direct object; or the verbal action, if a predicate is telic.

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[49] I was unable to find any additional examples in Teeter (1964) or Teeter and Nichols (1993*a*; 1993*b*). The suffix is not mentioned by Kroeber (1911) or Reichard (1925), and in their published work I found no clear word or stem pairs whose analysis required positing the suffix.

[50] Other relevant forms include *harukucadakwiʔ* 'all kinds of them', *harulolanabakwiɬ* 'all those valuables', and *harawag-ator-* 'run out entirely' (cf. *harawathoʔr* in table 2).

TABLE 2
WIYOT *haraw-* 'ALL'

harawatho?r	'it's all thrown away'	'all' = subject
haraweto?r	'everybody goes'	'all' = subject
harawipokadad	'they (fires) all go out'	'all' = subject
harawoyawi?mad	'it (wood) is all washed away'	'all' = subject
harubotali	'all of them drowned'	'all' = subject
harukani?wod	'all heard about it'	'all' = subject
harulagił	'they all go'	'all' = subject
harawatho?rabił	'he threw it all away'	'all' = direct object
harutuł	'he puts everything up'	'all' = direct object
harowotuł	'he puts up everything'	'all' = direct object
harawakhu?nad	'it got completely dark'	'all' = verbal action
harulokad	'one puts it all together'	'all' = verbal action

Compare in (73) the sole textual example of *harawag-* (Teeter and Nichols 1993*b*:69).

(73) 'Then he [an Indian devil] jumped again; then they hit him with something (an oar) on the face, I guess on the nose'.

> *čawo   kitko kosbe   tadólił,   harawagitadólił,*
> that's when gonna then + over 3Df jumps 3-Df jumps all the way
>
> *dotadi bó,   tó   lutolił*
> above all the way to, beyond Durative 3-Df lands

'Then he jumped again, he jumped all the way and landed up above'

In this case 'all' is not construed with the (singular) subject, and it cannot be construed with the atelic predicate 'jump', since one cannot jump completely. The actual interpretation is shown by Teeter and Nichols's translation 'jump all the way': the sense of completion is construed with some added directional element. In other words, what is completed here is not the jumping itself, but the jumping *up* to a specific point. If the suffix *-ag* had an essentially spatial function (jumping *up*, pulling the weeds *up*), then *haraw-* 'all' would also make sense: it would be construed with the spatial meaning imparted by *-ag*.

In sum, a description "intensive" is not well justified by the published corpus of examples of the Wiyot suffix *-ag*. Direction or Gestalt is the main difference between forms with and without *-ag*: actions modified by *-ag* go up or out. I therefore see no reason to assume that Wiyot *-ag* has any connection at all with Yurok *-eg-*. A medial suffix with the proposed function would be perfectly at home in Wiyot (or for that matter Yurok) morphology,

and the only reason to pursue a Yurok connection is the obviously trivial fact that -*ag* looks somewhat like -*eg*-. Both languages have a number of suffixes with generally similar (-*Vg*) shapes, and chance is a satisfactory explanation.

6.2. Algonquian initial change. A standard view is that the Yurok intensive infix is cognate with the process called "initial change" by Algonquianists.[51] This is a process that targets the initial syllables of verb stems in certain morphological contexts. Its effects in Proto-Algonquian as reconstructed by Costa (1996) are schematized in (74).

(74) STEM-INITIAL SEQUENCE   CHANGED SEQUENCE

   (*C*)*a*-   (*C*)*e:*-

   Ce-   *Ce:*-

   e-   *ye:*-

   (*C*)*V:*- (for *V = a, e,* or *o*) (*C*)*ayV:*-

   (*C*)*i:*-   (*C*)*a:*-

Various changes disturbed these patterns in particular Algonquian languages, but for our purposes it suffices to say that it would be plausible in principle for initial change to be cognate with a process—a putative ancestor of the Yurok intensive—in which initial-syllable short vowels were converted to a long vowel (e.g., *-*e:*-) while *-*ay*- was infixed before long vowels. The question is whether such a process, with a function corresponding to the function of initial change, could possibly be ancestral to the Yurok intensive.

The assumed mechanism of change is fairly straightforward. Since the intensive is a *VC* infix, the only plausible connection in (74) is with the Algonquian *-*ay*- infix. One would have to say, reasonably enough, that the cognate of the *-*ay*- infix was generalized in the history of Yurok and replaced conversion to *-*e:*-. The latter would of course have become somewhat opaque after the merger of short and long vowels in Ritwan. This *-*ay*- infix, according to the standard view, then simply became Yurok -*eg*-.

Though attractively simple, this view suffers from three serious problems: Algic *a (the ancestor of Algonquian *a) does not become *e* in

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[51] This view is expressed by Pentland (1979:409) and Proulx (1984:170; 1985a:64–65), is implicit in Berman's (1982b:416) reference to "the intensive infix (initial change)," and was apparently proposed by Eric Hamp in an unpublished paper delivered in 1978 (mentioned by Proulx 1982:406, n. 15). The connection between Algonquian initial change and the Yurok intensive was rejected in a brief discussion by Costa (1996:64), who also makes the suggestion (here developed in detail) that Yurok -*eg*- could somehow be related to Algonquian reduplication.

Yurok; intervocalic Algic *y does not become g in Yurok; and the function of initial change in Algonquian does not correspond to the actual function of the Yurok intensive. The first two points were established in **5.1–5.2**; the expected counterpart of an Algonquian *-ay- infix in Yurok would be *-oy-, not -eg-. The third point requires discussion.

Algonquian verb forms "fall into five *orders*"—the independent, imperative, prohibitive, interrogative, and conjunct orders—each of which "consists of one or more *modes*, each with a full set of forms" (Bloomfield 1946:97). The conjunct order as a whole consists of forms "used only in subordinate clauses and as participles" (1946:97), and initial change occurs only in certain modes of the conjunct order. The conjunct modes that do and do not require initial change are summarized in (75) and (76), respectively.

(75)   Conjunct modes with initial change (Bloomfield 1946:100–101)

(75a)   Changed conjunct: "used in *when*-clauses of a single past
           occurrence, and as a *relative* conjunct," e.g., *ne:qlenči* 'when
           he was killed' (vs. *neqla:wa* 'he was killed')[52]

(75b)   Iterative: "used in clauses of repeated occurrence," e.g., Fox
           pe:ma:tesičini 'whenever one lives'

(75c)   Conjunct participle, e.g., Fox *pe:ma:tesita* 'one who lives'
           (cf. Goddard 1987)

(76)   Conjunct modes without initial change (Bloomfield 1946: 100–101)

(76a)   Conjunct indicative: "used in ordinary subordinate clauses," e.g.,
           Fox *pema:tesiči* 'that he lives; when he lives'

(76b)   Subjunctive: "used in subordinate clauses of events which have
           not yet occurred," e.g., Fox *ki:ši-nepa:te* 'when he has gone to
           sleep'

A striking generalization here is that initial change occurs in presupposed subordinate clauses (those referring to events that have happened or do happen), but hypothetical subordinate clauses (e.g., those referring to future events) lack initial change.

This basic principle seems to govern the distribution of initial change in particular Algonquian languages. For example, in Massachusett, the conjunct order has both changed and unchanged subjunctive forms. Representative examples appear in (77) and (78), with the form itself given first and then the context in translation (cited by text and line number in Goddard and Bragdon 1988).

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[52] The forms in (75a) are cited as per Goddard (1997).

(77)   Massachusett (unchanged) subjunctives

(77a)   *nuppon* 'when I die'

> G & B 7.11–12: 'Each one shall take, **after I die**, what I have not
> yet used'.

(77b)   *touwahpishshond* 'when it goes into the water'

> G & B 3.18–19: 'Then **when it has gone into the water**, then it
> turns toward the north as far as it goes along the shore'.

(78)   Massachusett changed subjunctives

(78a)   *nabuk* 'when he died'

> G & B 93.4–6: 'Before, it was once the property of Thoma[s]
> Tray. Then, **when he died**, afterwards Benjamen
> Wawobequnnont'.

(78b)   *weechiyeumunnog* 'when I was with you'

> G & B 140.11–13: 'When I came there in September, **when I
> went to be with you** in the feast of the Lord Jesus Christ . . . I
> made an offense that Sabbath . . . '.

Insofar as initial change marks the distinction between the Massachusett
changed and unchanged subjunctive, its function here is clearly to express
realized as opposed to hypothetical conditions.

In short, neither in Algonquian generally nor in individual languages
does initial change show any real hint of the aspectual functions of the in-
tensive in Yurok. Undoubtedly it would be possible to develop a historical
scenario relating these two formations. For instance, their putative Algic
ancestor might have been iterative; for some reason Algonquian might
have restricted the formation to presupposed subordinate contexts and later
extended it to noniterative contexts. Each link in any such diachronic chain
would need to be defended, though, and in any case the ultimate purpose
would be to yoke a pair of fundamentally incongruous categories. Relevant
incongruities are listed in (79).

(79)   Incongruities between the Yurok intensive and Algonquian
          initial change

(79a)   Yurok *e* and Algonquian *$*a$ do not correspond.

(79b)   Yurok *g* and Algonquian *$*y$ do not correspond intervocalically.

(79c)   The Yurok intensive expresses multiple-event pluractional
          aspect; Algonquian initial change marks certain (presupposed
          or realized) subordinate clauses.

The comparison is without merit, and it should be abandoned in favor of a comparison between Yurok and Algonquian categories that can actually be equated in form and function.

7. Conclusion. I have argued that Yurok has two grammatical categories, the repetitive and the intensive, whose respective functions are to express event-internal and multiple-event iterative (or pluractional) aspect. Underlying the repetitive is a disyllabic *(CVCV-)* reduplicative formation; the intensive, an infix synchronically, arose from the reinterpretation of a monosyllabic *(Ce-)* reduplicative formation. These two reduplicative formations, the disyllabic *(CVCV-)* repetitive and the monosyllabic *(Ce-)* intensive, correspond in both form and function to Algonquian disyllabic and monosyllabic reduplication types and must continue a comparable pair of reduplicative structures in the Algic proto-language.

REFERENCES

AHENAKEW, F., AND H. C. WOLFART. 1983. Productive reduplication in Plains Cree. Actes du Quatorzième Congrès des Algonquinistes, ed. William Cowan, pp. 369–77. Ottawa: Carleton University.

AUBIN, GEORGE F. 1975. A Proto-Algonquian Dictionary. National Museum of Man Mercury Series, Canadian Ethnology Service Paper 29. Ottawa: National Museum of Canada.

BELAND, JEAN PIERRE. 1978. Atikamekw morphology and lexicon. Ph.D. dissertation, University of California, Berkeley.

BERMAN, HOWARD. 1981. [Review of] The Languages of Native America: Historical and Comparative Assessment, edited by Lyle Campbell and Marianne Mithun. IJAL 47:248–62.

_____. 1982a. A supplement to Robins's Yurok-English lexicon. IJAL 48:197–241.

_____. 1982b. Two phonological innovations in Ritwan. IJAL 48:412–20.

_____. 1984. Proto-Algonquian-Ritwan verbal roots. IJAL 50:335–42.

_____. 1986. A note on the Yurok diminutive. IJAL 52:419–31.

_____. 1990. New Algonquian-Ritwan cognate sets. IJAL 56:431–34.

BLAIN, ELEANOR M. 1992. A prosodic look at Ojibwa reduplication. Papers of the Twenty-third Algonquian Conference, ed. William Cowan, pp. 22–44. Ottawa: Carleton University.

BLEVINS, JULIETTE. 2000. Notes on sources of Yurok glottalized consonants. Ms., University of Luton.

BLOOMFIELD, LEONARD. 1946. Algonquian. Linguistic Structures of North America, ed. Harry Hoijer et al., pp. 85–129. New York: Viking Fund.

_____. 1962. The Menomini Language. New Haven, Conn.: Yale University Press.

BRUGMANN, KARL. 1916. Vergleichende Laut-, Stammbildungs- und Flexionslehre nebst Lehre vom Gebrauch der Wortformen der indogermanischen Sprachen. Vol. 2: Lehre von den Wortformen und ihrem Gebrauch, part 3/1. 2d ed. Strassburg: Karl J. Trübner.

COMRIE, BERNARD. 1976. Aspect. [Corrected reprint 1981.] Cambridge: Cambridge University Press.

COSTA, DAVID. 1996. Reconstructing initial change in Algonquian. Anthropological Linguistics 38:39–72.

CUSIC, DAVID DOWEL. 1981. Verbal plurality and aspect. Ph.D. dissertation, Stanford University.

DAHLSTROM, AMY. 1997. Fox (Mesquakie) reduplication. IJAL 63:205–26.

EXLINE, JESSIE. n.d. Yurok dictionary. [Eureka, Calif.:] Yurok Tribe.

FRANTZ, DONALD G. 1991. Blackfoot Grammar. Toronto: University of Toronto Press.

GARRETT, ANDREW. 1998. On the origin of auxiliary *do*. English Language and Linguistics 2: 283–330.

GODDARD, IVES. 1975. Algonquian, Wiyot, and Yurok: proving a distant genetic relationship. Linguistics and Anthropology: In Honor of C. F. Voegelin, ed. M. Dale Kinkade, Kenneth L. Hale, and Oswald Werner, pp. 249–26. Lisse: Peter de Ridder.

———. 1977. The morphologization of Algonquian consonant mutation. Proceedings of the Third Annual Meeting of the Berkeley Linguistics Society, February 19–21, 1977, ed. Kenneth Whistler et al., pp. 241–50. Berkeley, Calif.: Berkeley Linguistics Society.

———. 1979. Comparative Algonquian. The Languages of Native America: Historical and Comparative Assessment, ed. Lyle Campbell and Marianne Mithun, pp. 70–131. Austin: University of Texas Press.

———. 1986. Sapir's comparative method. New Perspectives in Language, Culture, and Personality: Proceedings of the Edward Sapir Centenary Conference (Ottawa, October 1–3, 1984), ed. William Cowan, Michael K. Koster, and Konrad Koerner, pp. 191–210. Amsterdam: John Benjamins.

———. 1987. Fox participles. Native American Languages and Grammatical Typology, ed. Paul D. Kroeber and Robert E. Moore, pp. 105–18. Bloomington: Indiana University Linguistics Club.

———. 1990. Algonquian linguistic change and reconstruction. Linguistic Change and Reconstruction Methodology, ed. Philip Baldi, pp. 99–114. Berlin: Walter de Gruyter.

———. 1997. Addenda and corrigenda for Leonard Bloomfield, "Algonquian" (1946). Algonquian and Iroquoian Linguistics 22, no. 4:31–36.

GODDARD, IVES, AND KATHLEEN J. BRAGDON. 1988. Native Writings in Massachusett. American Philosophical Society Memoir 185. Philadelphia: American Philosophical Society.

GOODENOUGH, WARD H. 1963. The long or double consonants of Trukese. Proceedings of the Ninth Pacific Science Congress of the Pacific Science Association, vol. 1, Introductory and International Cooperation in Science, pp. 77–80. Bangkok: Department of Science.

HAAS, MARY R. 1950. Photocopy of Yurok field notes. Ms., Survey of California and Other Indian Languages, University of California, Berkeley.

———. 1958. Algonkian-Ritwan: the end of a controversy. IJAL 24:159–73.

———. 1966. Photocopy of Yurok field notes. Ms., Survey of California and Other Indian Languages, University of California, Berkeley.

HOCKETT, CHARLES F. 1948. Potawatomi III: the verb complex. IJAL 14:139–49.

HORN, LAURENCE R. 1989. A Natural History of Negation. Chicago: University of Chicago Press.

JONES, WILLIAM. 1911. Algonquian (Fox). Revised by Truman Michelson. Handbook of American Indian Languages, ed. Franz Boas, vol. 1, pp. 735–873. Washington, D.C.: Government Printing Office.

———. 1919. Ojibwa Texts. Part 2, ed. Truman Michelson. New York: G. E. Stechert.

KRIFKA, MANFRED; F. J. PELLETIER; G. N. CARLSON; ALICE TER MEULEN; G. LINK; AND GENNARO CHIERCHIA. 1995. Genericity: an introduction. The Generic Book, ed. G. N. Carlson and F. J. Pelletier, pp. 1–124. Chicago: University of Chicago Press.

KROEBER, A. L. 1902. Field notebook 40: Yurok. Ms. (BANC MSS C-B 925, carton 12, folder 15), Bancroft Library, University of California, Berkeley.

_____. 1911. The languages of the coast of California north of San Francisco. University of California Publications in American Archaeology and Ethnology 9:273–435.

_____. 1976. Yurok Myths. Berkeley and Los Angeles: University of California Press.

_____. n.d. Yurok: notes on linguistics. Ms. (BANC MSS C-B 925), Bancroft Library, University of California, Berkeley. [Cited from microfilm copy = BANC FILM 2049.]

LASERSOHN, PETER. 1995. Plurality, Conjunction and Events. Dordrecht: Kluwer.

MACAULAY, MONICA. 2000. Reduplication in Menominee. Ms., University of Wisconsin—Madison.

MALONE, JOSEPH L. 1997. On reduplication in Ojibwa. Anthropological Linguistics 39:437–56.

MITHUN, MARIANNE. 1988. Lexical categories and the evolution of number marking. Theoretical Morphology: Approaches in Modern Linguistics, ed. Michael Hammond and Michael Noonan, pp. 211–34. San Diego: Academic Press.

NICHOLS, JOHN D. 1980. Ojibwe morphology. Ph.D. dissertation, Harvard University.

PENTLAND, DAVID H. 1979. Algonquian historical phonology. Ph.D. dissertation, University of Toronto.

PROULX, PAUL. 1980. Photocopy of Yurok field notes. Ms., Survey of California and Other Indian Languages, University of California, Berkeley.

_____. 1982. The origin of the absolute verbs of the Algonquian independent order. IJAL 48:394–411.

_____. 1984. Proto-Algic I: phonological sketch. IJAL 50:165–207.

_____. 1985a. Proto-Algic II: verbs. IJAL 51:59–93.

_____. 1985b. Notes on Yurok derivation. Kansas Working Papers in Linguistics 10, no. 2: 101–44.

REICHARD, GLADYS A. 1925. Wiyot grammar and texts. University of California Publications in American Archaeology and Ethnology 22:1–215.

ROBINS, R. H. 1958. The Yurok Language: Grammar, Texts, Lexicon. UCPL 15. Berkeley: University of California Press.

_____. n.d. Transcription of Yurok text recordings. Ms., Survey of California and Other Indian Languages, University of California, Berkeley.

SAPIR, EDWARD. 1922. The Takelma language of southwestern Oregon. Handbook of American Indian Languages, ed. Franz Boas, vol. 2, pp. 1–296. Washington, D.C.: Government Printing Office.

_____. 1930. Southern Paiute, a Shoshonean language. Proceedings of the American Academy of Arts and Sciences 65:1–296.

_____. 2001. Yurok texts. Edited by Howard Berman. Collected Works of Edward Sapir, vol. 14, Northwest California Linguistics, ed. Victor K. Golla and Sean O'Neill. Berlin: Mouton de Gruyter.

SIEBERT, FRANK T., JR. 1975. Resurrecting Virginia Algonquian from the dead: the reconstituted and historical phonology of Powhatan. Studies in Southeastern Indian Languages, ed. James M. Crawford, pp. 285–453. Athens: University of Georgia Press.

SPOTT, ROBERT, AND A. L. KROEBER. 1942. Yurok narratives. University of California Publications in American Archaeology and Ethnology 35:143–256.

TAYLOR, ALLAN ROSS. 1969. A grammar of Blackfoot. Ph.D. dissertation, University of California, Berkeley.

TEETER, KARL V. 1964. The Wiyot Language. UCPL 37. Berkeley and Los Angeles: University of California Press.

TEETER, KARL V., AND JOHN D. NICHOLS. 1993a. Wiyot Handbook I: Glossary and Concordance. Algonquian and Iroquoian Linguistics Memoir 10. Winnipeg: Algonquian and Iroquoian Linguistics.

_____. 1993*b*. Wiyot Handbook II: Interlinear Translation and English Index. Algonquian and Iroquoian Linguistics Memoir 11. Winnipeg: Algonquian and Iroquoian Linguistics.

WATERMAN, T. T. 1920. Yurok geography. University of California Publications in American Archaeology and Ethnology 16:177–314.

_____. 1923. Yurok affixes. University of California Publications in American Archaeology and Ethnology 20:367–86.

XRAKOVSKIJ, VIKTOR S. 1997. Semantic types of the plurality of situations and their natural classification. Typology of Iterative Constructions, ed. Viktor S. Xrakovskij, pp. 3–64. Munich: Lincom Europa.