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PROTO ALGIC VI: Conditioned Yurok Reflexes of Proto Algic Vowels

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Abstract: Berman (1982) proposed a loss of vowel length as one of two apparent phonological innovations shared by Wiyot and Yurok, but not Algonquian, implying a Ritwan subgrouping within Algic. However, once the Yurok reflexes of Proto Algic vowels are better understood, it is evident that the loss of vowel length proceeded very differently in Wiyot vs Yurok.

1. Introduction.

In general terms the linguistic history of the Algonquian language family is relatively well understood, with the phonology and a good deal of morphological detail laid out in Bloomfield (1946). However, it is only in recent decades that the relationship of Yurok and Wiyot to Proto Algonquian, as part of the Algic family, has been universally accepted. Moreover, working out the details of Proto Algic is a considerably more complex business than in the case of Proto Algonquian, due to the presumed time depth involved (about 8,000 years). There is still no consensus on details of its phonological inventory nor organization.

In a recent paper, 'Reduplication and Infixation in Yurok: Morphology, Semantics, and Diachrony,' Andrew Garrett has presented a set of reconstructed Proto Ritwan vowels (and a few consonants), based on a similar set suggested by Howard Berman some years ago in his paper 'Two Phonological Innovations in Ritwan' (Garrett 2001, Berman 1982). In a cryptic footnote, he dismisses my reconstruction of Proto Algic phonology without a Ritwan subgrouping (Proulx 1984): 'I am unpersuaded by the other comparisons Proulx cites' (Garrett 2001:287). However, he presents no evidence in favor of Ritwan. Garrett also reconstructs Proto Algic reduplication incorrectly, and denies the existence of the Proto Algic iterative infix (Proulx 1984:176), but correcting these additional errors will be the subjects of other papers (Proulx 2002Ms1, 2002Ms2).[1]

On the basis of a short list of verbal roots, Berman (1982) proposed a reconstruction of just enough Algic historical phonology to suggest two apparent innovations shared by Wiyot and Yurok, but not Algonquian. Because Berman's Proto Algic reconstructions are so fundamentally different from mine, readers interested in them should read the original accounts (Berman 1981, 1982, 1984, 1990). Berman's proposed Ritwan innovations are a loss of vowel length, and a merger in the Proto Algic sources of Proto Algonquian *š and *ɪ.

Berman was careful to present his proposal of an innovating Ritwan subgroup of Algic as a working hypothesis. 'I do not claim that these common innovations prove that Wiyot and Yurok form a genetic subgroup' (Berman 1982:418). Garrett too hedges his bets: 'What follows is cast *AS IF* Wiyot and Yurok comprise a distinct 'Ritwan' branch of Algic' (Garrett 2001:287, emphasis added).

Evidently, both authors realized that they were working with an inadequately tested hypothesis. Yet, each in practice used it as his analytical framework, exactly as if it had been well tested. Berman even went on to write papers with such titles as 'Proto-Algonquian-Ritwan Verbal Roots' and 'New Algonquian-Ritwan Cognate Sets' (Berman 1984, 1990), still without having presented further evidence of his hypothesis, nor having shown that the more plausible alternatives to it were unlikely to be correct.

This is perhaps understandable. The genetic relationship between Wiyot and Yurok was discovered before their genetic relationship with Algonquian was suspected (Dixon and Kroeber 1913), and so a 'Ritwan' family was postulated which ever since has had a hold on the imagination of scholars. The neighboring geographical location of the two languages, thousands of miles from the Proto Algonquian (PA) homeland, surely also contributed something to this.

In any case, when half a century later Mary Haas (1958) wrote her famous paper on comparative Algic phonology, she entitled it 'Algonkian-Ritwan: The End of a Controversy,' and the term Algonquian-Ritwan has continued to be widely used ever since. It is as if the existence of a Ritwan grouping within Algic were so self evident that linguistic evidence was really superfluous. It isn't.

Methodologically, there is no justification for admitting that no Ritwan grouping has been demonstrated, and then going on to treat it exactly as one does an established entity. When scholars use such terms as Algonquian-Ritwan, they show that they do in fact believe that Ritwan existed, even as they admit the weakness of the evidence.

As long as scholars continue to believe that Wiyot and Yurok form a subgroup within Algic, they will tend to fall victims to the circular logic of projecting Algonquian innovations back to Proto Algic, and explaining the corresponding retained features in Wiyot and Yurok as Ritwan innovations. Having done so, they will feel this confirms the Ritwan hypothesis. This complacency is a serious mistake, since it will tend to preclude any serious examination of alternative hypotheses. A correct reconstruction of Proto Algic will never be possible until we are able to subgroup the Algic languages correctly, or to conclude that no subgrouping existed.

Substantively, the Ritwan hypothesis is linguistically supported only by the two alleged phonological innovations proposed by Berman. As Berman well knew, the occasional cognate lexical item or grammatical feature in Wiyot and Yurok only is not evidence. These may be shared retentions, reflecting only chance survivals

from Proto Algic. Genetic grouping depends upon shared innovations. Berman was quite right to base his case exclusively on what he took to be innovations.

Berman's proposal of a shared Ritwan loss of vowel length can only be assessed within a detailed reconstruction of the whole Proto Algic vowel system, and its main developments in the daughter languages, as vowels and their features are defined by their contrasts. By way of comparison, vowel length in Latin can be inferred from the Proto Romance vowel system seen as a system (10 vowels, obviously paired in some way), but not from the phonetics of Romance languages (none has inherited vowel length).

At the time depth of Proto Algic, the usual shortcuts used in comparative reconstruction are not available. One can rarely, for example, find such close and abundant agreement among the daughter languages as to make the reconstruction of an isolated proto feature intuitively obvious. One inevitably must reconstruct systems and subsystems of various kinds, within which a feature is defined by its contrasts. The Proto Algic vowel system is a topic about which I have learned a great deal since I first described Proto Algic phonology in 1984, both from my own research and from a careful study of the works of others, notably Berman (1981, 1982, 1984, 1990), and Blevins (2002, 2003).

In this paper, I will show that the alleged Proto Ritwan loss of Proto Algic vowel length is an illusion fostered by insufficient knowledge of Algic phonology.

2. Vowel Correspondences.

Most of the main correspondences among Algic vowels have long been known (Proulx 1984:181), but only recently has Juliette Blevins discovered several important conditioning environments (Blevins 2002, 2003), hereafter called Blevins Environments. The main correspondences are listed in table 1, with Teeter's idiosyncratic Wiyot transcription in parentheses, and a slash (/) dividing the PA reflexes of first versus later syllables.

Proto Algic had 8 vowels, 4 long and 4 short: *a:, *a, *e:, *e, *i:, *i, *o:, *o.[2] This appears to be the same system found in Proto Central Algonquian (hereafter, PCA), but it is not, despite the superficial similarity.[3]

At some stage, pre-PA contrasted neither *[i:] vs *[i], nor *[o:] vs *[o]. The long variants of pre-PA *i(:) were in the first syllable of a noun base, counting obligatory prefixes as part of the base. The long variants of pre-PA *o(:) were in the same position, but *NOT* counting even obligatory prefixes as part of the base. The short variants of these two vowels were found elsewhere. This produced related base-initial vs non-initial pairs such as the following: initial *me-to:ni 'someone's mouth' with indefinite possessor prefix *me- vs medial *-ton 'mouth', initial *o:ɬ- 'canoe' vs medial *-oɬ, initial *wi:ki 'dwelling' vs medial *-wik, *či:me:- 'paddle' (*či:ma:ni 'canoe') vs *-čim, and *mi:ni 'berry' vs *-min (see Siebert 1967:54).

Proto Algic	PA	Wiyot	Yurok	Example numbers:
*o:	*o:/o	u	u	48, 115, 118, 226, 321, 437
closed syllable			o	98, 118, 133
*o	*-/o	ə (a)	o [ɔ]	49, 120, 320, 360, 445
*a:	*a:	a (o)	o [ɔ]	10, 12, 16,17, 70, 101, 103, 104, 106, 107, 120, 125, 373
*a	*a	ə (a)	ə	11, 22, 26, 69, 91, 134, 229, 237, 315a
before g, y, w			o	52, 53, 54
*i:	*i:/i	i	i	7; 41, 44, 45, 61, 87, 107, 114, GrFa, 100, 313
lowered			e	423, 424, 425, 426, 427, 428, 429, 430, 431, 432
*i	*e/i	i	i	9, 41, 87, 94, 121, 123, 124
before h, ?			a [ɛ]	32, 46, 99, 111; 47, 67, 361
*e:	*e:	a (o)	e	42, 50, 420, 421, 422
monosyllable		é		43, 422
*e	*e	ə (a)	e	2, 16, 21, 23, 24, 26, 28, 38, 39, 40, 49, 82, 83, 90, 101, 115, 121, 124, 125, 228
lowered			a [ɛ]	276
*a/e grades	*a		e	14, 39, 59, 72, 80, 113, 231, 330, 360, 363
*e/a grades	*e		ə	38, (see 35 for Proto Algic alt.)
archaic ablaut	16	16, 18, 102	41, 105	436

Table 1. Proto Algic Vowels.

Evidently, Proto Algic *i: and *o: merged with their short counterparts outside a first base syllable in pre-PA, while in a first base syllable *i gave PA *e. Proto Algic *o was rare, and I have no example of it in a first base syllable.

In any case, in terms of classical phonemic theory pre-PA had a 6 vowel system (Berman 1982:414). It again became a full 8 vowel system in PCA, mainly through the development of a short closed *o and *i in a first syllable of a word (*we ---> *o, *e ---> *i in word initial position). Indeed, it was probably already an 8 vowel system in PA times, albeit only on the strength of a few very marginal contrasts. *ALTHOUGH THE PCA 8 VOWEL SYSTEM DID RESEMBLE THE PROTO ALGIC ONE TYPOLOGICALLY, IT IS IMPORTANT TO REMEMBER THAT IT WAS NOT DIRECTLY INHERITED FROM IT.*

The principal mergers of Proto Algic vowels in Yurok were of *a: and *o to o, of *i: and *i to i, and of *e: and *e to e. Those of Wiyot were of *a, *e, and *o to a, of *i: and *i to i, and unconditionally of *e: and *a: to a (rather than conditioned by a following *w, as I earlier proposed). Examples of Wiyot a from *e: not followed by *w are as follows.[4] New or revised reconstructions continue in numerical sequence from my last Algic paper (Proulx 1994), to facilitate abbreviated reference by number only.

(420) *he:lem-, root *he:š- 'feel, think': Wiyot halb- 'feel so' (Teeter 1964:111), and medial PA *-e:lem- 'by thought, think', both with the stem extension *-Vm 'by feeling, thought', and the root Yurok hes-, has- 'think' (with optional lowering, see Blevins 2002, number 12, 2003, number 13a).

(421) *s?e:g?- 'madrone': Wiyot šág(ičha?n) 'madrone berries', Yurok s?e?goh 'madrone tree', with Wiyot -ith 'round body, belly', -an 'it is', -? 'nominalizer' (Teeter 1964:76, 64-65); and Yurok -oh 'round thing'.

Proto Algic *e: evidently gave Wiyot e as I suggested in 1984, but only in stressed monosyllabic Wiyot words.[5] There I matched Wiyot khé 'might' with changed PA *ke: 'shall, ought to' (Proulx 1984:181).[6] A better example is:

(422) *-ce:k- 'mother, woman's child': Wiyot cék 'child' and Yurok -cekos 'mother', the latter with the senior kin suffix -os. Wiyot had suffixed forms reflecting cékad-, but the vowel in these was likely analogical to that of the more frequent monosyllabic form of the stem.

Since Proto Algic *i: and *i do not contrast in any of the three branches of the family, it might superficially appear that they might not have contrasted in Proto Algic either. However, their differing patterns of merger do preserve the contrast in PA first syllables, and in some lowering environments in Yurok, which I describe below.

3. The Lowering of *i: in Yurok.

There are some important conditioned reflexes of front vowels in Yurok. Their exact history is complex, and I did not fully understand it until I recently read a paper by Juliette Blevins (2002, revised in 2003). Blevins internally reconstructed Yurok a as having resulted from a split in pre-Yurok *e. According to Blevins (2002, section 2, rule 6; 2003, rules 8, 9), pre-Yurok *e gave Yurok a in the following lowering (opening) environments:

(6a-b) Pre-Yurok *e?e and its contraction *e: respectively gave Yurok a?a and a:.

(6c-d) Pre-Yurok *eh and *e? respectively gave Yurok ah and a?.

(6e) Pre-Yurok *e optionally gave Yurok a before Yurok r, ?r, w, ?w, s, c, and l.

In an environment analogous to the one specified by Blevins for *e in her rule 6a-b, Proto Algic *i: opened to Yurok a (*i:Te ---> *i:?e ---> e?e ---> a?a). This

sequence is found in *ni:Tema:K 'for two days': Wiyot díṭəbák 'for two days', and Yurok na?amo?- 'be somewhere for two days'. For the vowel length, compare grade 3 PA *ni:š- 'two', from Proto Algic *ni:č-. (For Algic consonant grade alternations like *t/c/č and *l/r, see Proulx 1984:172-176, 1994:116-117).

More importantly, indirect evidence suggests that, essentially in the environments specified by Blevins in her optional rule 6e, Proto Algic *i: opened to pre-Yurok *e: (giving Yurok e). However, pre-Yurok *r and *c are grade 2 consonants, and the vowel shift they conditioned evidently spread to their grade 1 counteraprts, and thence analogically to all instances of pre-Yurok *i:l and *i:r outside of monosyllabic words. As a result, generally it is respectively Yurok l and r, rather than their grade 2 variants r and c found on Blevins' list, that are present in my examples.

Exceptionally, this lowering did not take place in stressible monosyllabic words (for example, the Yurok preverb kic from grade 2/3 of *ki:r- 'complete, finish'). In several cognate sets, Yurok lowering of type 6e and its extentions account for what hitherto had appeared to be an ablaut discrepancy between the first vowels of Yurok stems and their cognates.

(423) *wi:lkw-, grade 3 *wi:škw- 'tie with a strap': PA *wi:hkwe:- and grade 2/3 *wi:škwe:- (both with final *-e:) 'wrap with a bundle strap', and Yurok ?weskul 'strap' with nominalizer *-Vl (Proulx 1992:24). This is a perfect match, and shows lowering before Yurok s. Initial Yurok ? is analogical to ?w- from third person *weT-, since evidently the bundle strap was thought of as a part of a whole, with *wi:lkw- meaning something like 'tie a bundle with its strap; bundle's strap' (see Proulx 1992:35-37).

(424) *ki:la:hka 'goose': PA *wa:pi-ki:la:hkwa 'snow goose', Yurok kelok 'goose'. The Yurok term was presumably not laryngealized because the *a: was still followed by a consonant cluster (Proto Algic *hk) when laryngealization took place, and it doesn't take place before a consonant cluster. The final PA *w is surely analogical. Siebert (1967:14-19) reconstructed 18 PA names for birds, and every one ended in *w. Most of his fish and mammal names did too.

(425) *mi:tl-ay- 'dung': grade 1 PA *mi:t-, PA *mi:čy-, Yurok melog-. Yurok attests the stem extension *-ay, and PA optionally its e-grade variant *-y, from pre-PA *-ey (see Proulx 1985:63, 1992:56). (For the Algic vowel grade alternation, *e/a, see Proulx 1982, 1984:172-176).

(426) *ki:lew- 'you plural': PA *ki:lwa:wa via pre-PA *ki:lewa:wa, grade 2/3 PA *ki:lawa:wa; Wiyot khíl waw; Yurok kelew.

(427) *ki:la 'thou': PA *ki:la,Wiyot khll, Yurok kel-.

(428) *kwi:leli, *kwi:leši 'she or it': Wiyot kwilə́?l, Yurok kwelas (with lowering of Proto Algic *e by rule 6e). Wiyot -ə́?l, and Yurok -as are obviative suffixes.

(429) *wi:Tewi 'her flesh, body': grade 2/3 PA *wi:yawi 'her body', Yurok ?wetew 'her flesh'. Yurok ? in the third person prefix ?w- reflects either replacement of initial *w- by *weT- before the vowel shift, or is analogical to ?w- from third person *weT-. Compare Yurok -et 'flesh' in nestetoyek? 'I've been badly hurt in my flesh', which suggests that the final *aw in *wi:Tawi is the root extension *-Vw (see Proulx 1985:63, 1992:56).[7]

(430) *-pi:t 'tie, string, root': PA *-pit as in *kaškepit- 'tie it shut', Yurok -pet, as in sekipetek? 'I tie it securely in place securely'.

(431) *pi:nt- 'into, inside of': PA *pi:nt- 'into, inside of', grade 2 Yurok pec in pecow, pecik 'upriver'. PA *pi:nt- 'into, inside of' was sometimes used of a river, viewed from the vantage point of a lake it entered: Western Abenaki pidhitəgwa 'it's an entering river, and inlet' (Day 1994), Passamaquoddy pithawiw 'upriver' (LeSourd 1984). This item shows that vowel lowering took place in a Blevins environment after *n dropped as the first member of a consonant cluster.

(432) *wi:sawi 'navel': pseudo-dependent Yurok wəsəh, dependent grade 1 PA *-i:ɬwi (Massachusett menwee, Arapaho méθ, Eastern Abenaki 8iri, Miami awili; and Micmac nili, Western Abenaki nili, Kickapoo neciinwi 'my navel'). This word is truncated in Yurok and in some Algoquian languages, and diminutive vowel harmony is applied to the first syllable (ɛ, o, a ----> ə). The first vowel in pre-Yurok was *ɛ, for it is the only one of the three vowels which undergo diminutive vowel harmony which is not followed by intrusive *h in a first syllable (Berman 1981:259).

In some cases, however, what at first sight might appear to be *i: lowering in Yurok instead turns out to involve an incorporation of the infix into a root before *e in Algonquian, and sometimes Wiyot, and contraction of the resulting *eye to *i:. However, *eye contracts to Wiyot u in labial environments (Proulx 1984:193). For example, Yurok mekwc beside PA *mi:kehsa 'snail' might appear to show lowering of *i: in **mi:kwehca, an unexpected environment for lowering. However, grade 1 Wiyot bukt 'snail' suggests otherwise. Proto Algic *i:kw gives Wiyot ikw, not uk, as in Wiyot hi-tíkwənəbił from *ti:kw- 'break' (Proulx 1984:188). The correct reconstructions of 'snail' are *mekwehca for Yurok, and infixed *meyekwehca to account for the PA and Wiyot forms. Other examples, including reconstructions #433-435, are of less interest to us here.[8]

Finally, in one case even Yurok has the infix. This is in *weyen- 'mention by name': PA *wi:n-, Yurok weyen-. Compare deverbal Wiyot -in in din- 'name so', with d- 'thus, so, that way' as in či hi dáralił 'she went that way' (-ərał 'go').

4. Intrusive h and Lowering in Yurok.

Berman (1981:257-259) internally reconstructed the origins of the same intrusive preconsonantal Yurok h which Blevins identifies as lowering, using Yurok o and ə in specifying his conditioning environments.

Confronting Berman's study with Blevins' produced a logical dilemma, from a diachronic point of view. Blevins used a following Yurok h as an environment producing Yurok a, while Berman essentially had done the reverse. These two internal reconstructions cannot both be diachronically correct. A woman with a family resemblance may be judged to be ego's mother or daughter, but not both. Perhaps Yurok a conditioned Yurok h, or vice versa, but not the two things.

It is clear from several diachronic examples that Proto Algic *i always became Yurok a before h (see #32, 46, 111). Hence, h cannot be explained by the vowel quality of Yurok a. Evidently, *h was inserted after pre-Yurok *i in a first syllable, and only later caused it to open to Yurok a. At this time, *i: was still distinct from *i in a first syllable, since it didn't cause insertion of *h nor open to a. This implies that the loss of vowel length of *i: vs *i came relatively late in Yurok, after the insertion of h.

However, *h was also inserted after Proto Algic *a: and *we, which together with*i do not form a realistic conditioning environment, as they are phonologically diverse. Therefore, the insertion probably took place after *a: and *we had merged with pre-Yurok *o, since *o and *i together do form a homogeneous phonological environment (short closed vowels).

If *a: and *we (and *o) had merged before the insertion of h, this implies the loss of vowel length in this case had also come earlier, while as we've seen it came later for *i: vs *i. That is, there evidently was not just one loss of vowel length in pre-Yurok, but at least two, at different times. Moreover, Wiyot clearly did not share in the pre-Yurok merger of *a: and *o.

The insertion of *h after pre-Yurok *i and *o came mainly in the first syllable of a stem, but there are also some cases of Yurok h after these vowels in word final position. This takes place only in nouns and verbs (not preverbs or particles, which were evidently treated as if their final vowels were long at the time of h insertion). It is found either in short words that retained their final Proto Algic vowel (Yurok ?neyah 'my belly' from *neTeyi, an e-grade of *neTayi), or in truncated ones (Yurok ?ekah 'hat', from *?ekiy-). See Proulx (1984:190, 181) for the reconstructions.

Truncation, a regular Yurok process by which the ends of some Yurok words drop off, explains pairs of inflected and uninflected Yurok verb stems: inflected nosep-, uninflected nosah 'a woman marries' (where the final *p was truncated, and the secondarily final *e was replaced by *i before h-insertion). However, it also explains Garrett's examples of alleged accent-shifting (Garrett 2001:266). In each of Garrett's examples, the inflected stem in derivational -ohs- has an uninflected counterpart in -oh, where the h was automatic after a final *o. The inflected verbs are evidently simply analogical to the uninflected ones in the matter of h. Word final Yurok h evidently had the same opening effects on a preceding *i as did intrusive h.

I have greatly simplified the work of Berman and Blevins here, limiting myself to what is directly relevant to reconstructing the main Algic vowel correspondences. The interested reader should seek out the originals for related matters. They are worth reading. I would certainly never have been able to work out the diachronic vowel problems of Yurok had I not benefited by their painstaking analysis and impressive insight.

5. Reflexes in Monosyllabic Words.

In two respects, stressible monosyllabic words differ phonologically from longer ones. First, as we've seen, some of the rules of sound change did not apply in a monosyllabic word, notably the change of *e: to Wiyot a, and the lowering of *i: to Yurok e. Examples are: Wiyot cék 'child' from *-ce:k- 'mother, woman's child' (422), and Yurok kic 'past action with relevance to the present' from grade 2 of *ki:t- 'complete, finish'. Yurok ke?l 'thou' from *ki:la is exceptional, presumably analogical to Yurok kelew 'ye' and to its own inflected forms like objective kelac.

Second, pre-Wiyot and pre-Yurok evidently *LENGTHENED* a short Proto Algic vowel in monosyllabic phonological words. An example is Wiyot wé?s 'hand', a short form of we?san- as in we?sánə?l 'her hand'. I suppose this stem consists of a cognate to PA *we-, which derives roots from dependent nouns (Bloomfield 1946:sec.103, Teeter 1964:51), plus archaically ablauted *-?sa:ni 'lower arm or leg', replacing nonablauted *-?seni 'arm, hand, finger' (#436). In longer words Proto Algic *e gives Wiyot a, but it was evidently lengthened in monosyllabic wé?s 'hand', from whence the length spread analogically to longer forms of the same word.

(436) *-?sa:ni 'lower arm or leg' beside *-?seni 'arm, hand, finger': PA *-ła:ni 'lower leg' (Proulx 1984:176), grade 3 Wiyot -ə?šan- 'lower arm', -e?san- 'hand'; Yurok mesen 'arm', PA *-łenčyi 'hand' with *-čy- 'round body' incorporated. Wiyot generalized the ablauted form, using link vowels and consonant grades to distinguish 'hand' from 'lower arm'. Both Algonquian and Wiyot use derivatives of 'hand' for 'finger': PA *netaškwe:łenčyi 'my little finger', Wiyot kú?cakhi?sanił 'one finger'.

Another example of a monosyllabic word is the demonstrative pronoun PA *wa 'this animate singular' from Proto Algic *wa, which shows up as Yurok wo- (in wok and wo? 'this personal'). In contrast, outside of monosyllabic words, the unconditioned reflex of Proto Algic *a is regularly Yurok ə (Proulx 1984:181). For example, there is Proto Algic *pakam?- 'club': PA *pakam-, Yurok pəka?m(s)- (with the transitive final *-s). The main exception is that *a is lengthened before *y, *w, and *g, in Wiyot and Yurok, in the absence of contraction (Proulx 1984:182).[9]

Garrett's view that the unconditioned Wiyot and Yurok reflexes of Proto Algic *a are Wiyot a and Yurok o seems to be taken from Berman (1982), who evidently based it on the two monosyllabic reconstructions just mentioned, and perhaps his

comparison of PA *maw- with Wiyot baw- 'cry' (Berman 1984:337). The problem with Berman's Algic vowel correspondences, and Garrett's uncritical reliance on them, is that they are based on too little data (mainly a very short list of monosyllabic verbal roots). Infixing, ablaut, and phonologically conditioned reflexes - not to mention a false cognate or two based on chance similarity - all conspire to make this list an unreliable source of information on the regular Algic vowel correspondences.

6. Conclusions.

On the basis of scanty evidence, Berman thought that Wiyot and Yurok might have shared a loss of vowel length, and that this might have been one of two innovations shared by Wiyot and Yurok, but not Algonquian, suggesting a genetic Proto Ritwan grouping. In fact, the original Proto Algic vowel length was indeed lost as such in these languages, but not in a similar manner. Rather, Wiyot and Yurok each in its own way merged different sets of vowels, and replaced contrasts of length by contrasts of quality. Even the unconditioned merger of *i: with *i found in both languages was not genetically shared, as in Yurok it didn't extend to lowering environments.

The removal of one of the two proposed innovations suggesting a genetic grouping of Wiyot and Yurok makes the poorly supported Ritwan hypothesis even more unlikely. Pending a through investigation of the other, the Ritwan hypothesis cannot be assumed to be correct.

7. Reconstructions in This Paper.

The reconstructions in this paper are: (420) *he:lem-, root *he:š- 'feel, think', (421) *s?e:g?- 'madrone', (422) *-ce:k- 'mother, woman's child', (423) *wi:lkw-, grade 3 *wi:škw- 'tie with a strap', (424) *ki:la:hka 'goose', (425) *mi:tl- 'dung', (426) *ki:lew- 'you plural', (427) *ki:la 'thou', (428) *kwi:leli, *kwi:leši 'she or it', (429) *wi:Tewi 'her flesh, body'. (430) *-pi:t 'tie, string, root', (431) *pi:nt- 'into, inside of', (432) *wi:sawi 'navel', (433) *kečay- 'be daylight', root *keč- 'daytime', (434) *ikhw(e)š- 'laugh', (435) *key- 'turn around, return', stem *keyom-, *Keyew?- 'turn around, return', (436) *-?sa:ni 'lower arm or leg' beside *-?seni 'arm, hand, finger'.

NOTES

[1] The Yurok iterative infix -eg- is cognate to the PA *-ay- of initial change, though demonstrating this beyond a reasonable doubt is a lengthy project (of which the present paper is a part).

[2] Transcription is as in my previous papers. This is essentially the transcription found in the original sources, modified in the direction of the technical alphabet of the Handbook of North American Indians to avoid exotic and phonetically misleading symbols. This conveys the broad phonetics well, and makes comparison and understanding sound changes much easier than would be the case using idiosyncratic symbols for each language. However, I retain g for the weak voiced velar fricative, and use ordinary schwa in Yurok despite its retroflexion in that language.

[3] Central Algonquian is a genetic grouping within Algonquian, including the Central/ Western languages but not the Eastern ones (Proulx 2003Ms4, 2002Ms3). Its proto language is essentially the one reconstructed by Bloomfield (1946). Proto Algonquian (PA) is a proto language about 1000 years older, and the ancestor to the Eastern Algonquian languages, as well as to the Central ones.

[4] Except as otherwise cited, the data presented is from the following sources: for Menominee and Plains Cree, Bloomfield (1975, Ms.); for Western Abenaki, Day (1994); and for the cognate sets underlying Proto Algonquian reconstructions, Hewson (1993). My reconstructions sometimes differ from those suggested by Hewson's computer.

[5] And perhaps in stressed wordfinal position, though the following reconstruction is doubtful. Proto Algic *-ɛ: 'times' in *ni:teme: 'twice' (Wiyot ditbé, Yurok na?ami), and *nikhšeme: 'three times' (Wiyot dikhbé, Yurok nahksemi).

[6] The matching is somewhat doubtful on semantic grounds, and because PA *k is so common and the item so short as to make chance similarity a real possibility. Even if the words are related, one should perhaps be comparing Wiyot khé to an e-grade of unchanged PA *ka rather than to changed *kɛ:. The vowel of a pre-Wiyot *ké would presumably lengthen in a stressed monosyllabic word.

[7] Proto Algic had dialects in which *t was replaced by glottal catch. Words from these dialects turn up mainly in Yurok, where Berman first pointed them out (Berman 1982:417). It also had dialects in which *k was replaced by glottal catch, often, but not always, in the same words (see Proulx 1994). Garrett (2001:269) utilizes the correspondences of glottal catch with *t and *k to explain some Yurok

reduplicated stems, so evidently we agree that a glottal catch may come from these sources, at least in Yurok words. Since short *ɐ drops in many words, and glottal catch migrates across adjacent consonants in Yurok, it is not always easy to spot a correspondence involving Yurok glottal catch. Therefore, where it is helpful to draw attention to one, I reconstruct using upper case *T or *K.

[8] These other examples are:

(433) *kecay- 'be daylight', root *kec- 'daytime': Yurok kecoy- 'be daylight', grade 3 Wiyot kəčhá?y 'daytime'; Wiyot ta ká́čhitw 'I sleep in the daytime'. Compare grade 3 PA *kešy- 'be hot', as if from *kečey-. Infixed, there is also the durative iterative root *keyeč-, in *keyečekhw- 'shine (the sun), be day': grade 1 Wiyot kitəkwh- 'the sun shines' (Berman 1984:336), PA *ki:šekwi 'day, sky' and PA *ki:šokwi 'day, sky', and PA *ki:še?ɬwa and PA *ki:šo?ɬwa 'sun' (Haas 1967), literally 'the one who causes the day', from pre-PA *ki:še/okw- plus *-ɬ 'causative' (Proulx 1985:81) and the agent nominalizer *-wa. Compare PA *ki:šekatwi 'it's day'. In *keyečekhw- 'shine (the sun), be day', Wiyot agrees with Algonquian as to the contracted form of an incorporated infix: PA *ki:w- 'turn back, return, around, in a circle, mistake, crazy, drunk', Wiyot híw-, hí?yəw- 'around, in a circle'.

(435) *key- 'turn around, return', stem *keyom- (with the root extension *-Vm): Yurok keyom- 'turn', and alternative kelom- 'turn', matching Wiyot kələm- 'turn (inside out)'. In some words, *y has optionally been replaced by l in Yurok, and evidently obligatorily so in Wiyot. There is also the stem *Keycw?- 'turn around, return' (with the root extension *-Vw?): PA *ki:w- 'turn back, return, around, in a circle, mistake, crazy, drunk', Wiyot híw-, hí?yəw- 'around, in a circle', as in Wiyot hiyəwa?nākw 'I'm dizzy' and PA *ki:waškwe:- 'be dizzy, silly', and probably Yurok kye?wol- 'capsize' beside PA *ki:wa:t- 'slip up, make a false move'. The initial glottal catch from *K drops in Wiyot.

If the root of Yurok kye?wol- is cognate, the differential loss and retention of the *ɐ in it vs Yurok keyom- is unexplained, unless phrase initial position vs prefixed stems and analogical leveling were involved. The Wiyot laryngeal is elided in all but the last consecutive syllable where it occurs (Teeter 1964:26, 92), and evidently only the last underlying stress in an 'accent phrase' manifests (Teeter 1964:17, 27). However, in Wiyot both an underlying stress and laryngeal are required for the insertion of a following yə (Teeter 1964:26). Wiyot hí?w- is only recorded laryngealized in kawi?yəwétal 'they go around and around' (with kaw- 'begin').

We cannot assume that there was a Yurok lowering of an inherited *i: in the case of Algonquian *wi:lenwa 'fat meat' or *wi:si 'belly fat', even if Yurok wel and welogo: 'fat' are related to the Algonquian words, for there is also evidence of

Algonquian *e in this root. Compare PCA *welakwi:wa 'she is fat' (Shawnee holakw-, Menominee ona:kow, Kickapoo onakwia and Fox anakwi:wa 'she is fat').

Also, the root in Yurok tepohsek? 'I stand it up' should be compared to the one in Naskapi tipiskutipuw 'she is placed upright' (MacKenzie and Jancewicz 1994), i.e., to PCA *tep-, not to Menominee ce:panew 'she stands him upright in something' (correcting Proulx 1984:91). The sense of the latter is etymologically 'to jab or prick', hence, 'to stick something upright in sand or snow'.

[9] It may also be the case that the length of *a: was not always maintained in that environment in Algonquian. In Fox at least, Voorhis says that except across prominent boundaries (where analogical restoration is highly likely), only short a is found before y. Similarly, he speaks of 'instability of vowel quantities before w' (Voorhis 1971:63, 65). Such phonological details don't often receive detailed attention, but Bloomfield records Plains Cree niya 'I' beside 'northern' Cree ni:na, again suggesting a loss of length before y.

Possibly I sometimes erred in assigning the change to Yurok lengthening in this position (Proulx 1984:182). However that may be, the correspondence of PA *a with Yurok o in this position is a highly conditioned one, regardless of which is the innovation in a particular case.

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